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Greening institutional catering in the public sector: barriers and drivers affecting the implementation of the French EGalim law

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Abstract

This article examines greening factors in the institutional catering sector. Based on a general model of organisational greening and 32 interviews in 10 different organisations, the public sector greening model proposed here incorporates drivers and barriers related to their organisational contexts and environments. It shows that greening this sector involves more than making a few adjustments to satisfy minimum legal standards – like the EGalim law for example – because it has an impact on the values of individuals and on all the functions within the organisations concerned, such as procurement, production and budgets, human resources, communications, and information systems. Relationships with external stakeholders are extremely important and, for performance reasons, coordinating the various stakeholders in a particular geographical area calls for public stewardship, especially from local authorities with the relevant territorial management tools.

Keywords

Cool Food Pro, sustainable development, food, school, hospital

Résumé

Cet article examine des facteurs d'écologisation dans le secteur de la restauration collective publique. Basé sur un modèle général d'écologisation des organisations et sur 32 entretiens dans 10 organisations différentes, le modèle d'écologisation de la restauration collective publique proposé intègre des moteurs et des freins liés à leurs contextes organisationnels et à leurs environnements. Il contribue à montrer que l'écologisation de ce secteur ne peut se réduire à quelques ajustements, en vue de satisfaire *a minima* à une obligation légale, comme la loi EGalim. Au contraire, l'écologisation touche les valeurs des individus et toutes les fonctions des organisations concernées : approvisionnements, productions et budgets, mais aussi ressources humaines, communications, systèmes d'information... Les relations avec les parties prenantes externes sont déterminantes et, dans un souci de performance, la coordination des acteurs sur une zone géographique donnée suppose un pilotage public, en particulier de la part des collectivités, qui peuvent actionner des outils de management territorial.

Mots-clés

CoolFood Pro, développement durable, alimentation, école, hôpital

Sustainable development is intended to "meet the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987, p. 26). From this perspective, green management is an organisational process for achieving sustainability by adopting environmentally friendly objectives and strategies. Researcher and practitioner stances on the meaning of green management lie on a continuum ranging from simple ecological programmes for preventing further damage, to complex initiatives for mitigating environmental damage caused in the past (Haden et al., 2009). Despite this fundamental difficulty, research has focused on the factors leading organisations to adopt greening processes in their practices. For Mair & Jago (2010), greening is organisational investment in environmentally friendly facilities and practices, and for Mormont (2013) in France it is the "processes for taking the environment into account in public policy, organisations and professional practices" (p. 159). The Mair & Jago general model of corporate greening (2010) identifies different drivers and barriers in this respect, and the present article will use this model to identify barriers and drivers affecting greening in public sector institutional catering.

The reasons for this objective were two-fold and involve the French EGalim law and the Cool Food Pro project respectively. Firstly, the EGalim law on "balanced trade relations in the agricultural and food sector and healthy, sustainable food accessible to all" opened up new opportunities after the launch of the French National Food Conference (*Etats généraux de l'alimentation*: EGA) in 2017. Since the adoption of the new law in 2018, institutional catering services have been subject to regulations facilitating access to healthier, safer and more sustainable food. In France, the institutional catering industry produces over 3 billion meals per year on over 80,000 sites, generates €18 billion in revenues, and employs circa 300,000 people (Maslanka, 2020). Secondly, the authors responded to a request from the project managers of the Franco-British Cool Food Pro project¹ to analyse the barriers and drivers affecting the adoption of responsible practices in institutional catering. The present research focuses on institutional catering in the public sector.

Cool Food Pro has an overall budget of €1,579,438 of which €1,089,812 is funding from the Interreg France (Channel) England programme. Its mission is to help institutional catering services adopt sustainable practices such as purchasing organic, local, and seasonal products and reducing food waste; this in turn helps the French institutional catering sector to comply with EGalim legislation. In addition to providing specific resources and feedback, it supplements the government's digital tool² with the Cool Food Pro's web application, which measures a range of indicators (carbon savings, biodiversity, food waste, water consumption) in real time. Around 100 organisations in France and the UK are participating in this project whose five partners are the University of Western Brittany (UBO),³ the Organic Farming Centre of Finistère (MAB29),⁴ LABOCEA,⁵ Peterborough Environment City Trust (PECT),⁶ and the Soil Association⁷.

The first part of this article will present a general model for greening organisations and a set of factors that facilitate the adaptation of this model to the institutional catering sector. The research method will then be described, the findings presented and discussed, and conclusions drawn.

¹coolfoodpro.net/fr/.

² https://ma-cantine.agriculture.gouv.fr/accueil.

³ Université de Bretagne Occidentale.

⁴ Maison de l'agriculture bio du Finistère, a non-profit association championing organic farming.

⁵ Public laboratory, analysis, advice, and evaluations (water, environment, food hygiene, autogenous vaccines, etc.).

⁶ Non-profit organisation for environmental protection.

⁷ UK charity promoting alternative farming and providing public nutrition education.

1. General greening model and the specific features of institutional catering

A greening model will be presented, and the parameters for its adaptation to institutional catering in the public sector will be identified.

1.1. Barriers and drivers affecting organisational greening

Environmental practices lie along a continuum ranging from reactive behaviour to ensure minimum compliance with regulatory standards, through to the development of innovative pollution prevention technologies and risk mitigation strategies. Potrich et al. (2019) divide this continuum into four levels:

- 1, lack of commitment to environmental issues, compliance with legislation being the only driver for these practices,

- 2, a department specialising in environmental management through the rational use of resources but with very few links to other departments,

- 3, development of green products, adoption of clean technologies, systematisation of environmental management, team training,

- 4, environmental management with a global dimension involving all employees and senior management.

There is a substantial body of research into the factors leading organisations to adopt greening processes and, according to Mair & Jago (2010), there are three main models in this area. The Marshall et al. (2005) model deals with motivators or drivers of proactive environmental behaviour. It identifies different driver types: primary and secondary (the former having the most impact), and individual and institutional (the former being under the organisation's control, i.e., management attitude, and the latter being imposed on the organisation, i.e., regulatory compliance or market characteristics). The more complex Bansal & Roth (2000) model examines the drivers of greening, the context(s) in which they influence an organisation, and the types of initiatives likely to correspond to these drivers. The model suggests three main drivers: competitiveness, legitimation and environmental responsibility. Lynes & Andrachuk (2008) later identify new drivers: financial profit, competitive advantage, image enhancement, stakeholder pressures, and the desire to delay or avoid regulatory measures.

Taking these three models as a starting point and adding obstacles to change identified by Kuzyk & Lozano (2007) in particular, the Mair & Jago (2010) general model for organisational greening (Figure 1) groups the parameters into categories:

- context,

- drivers, representing the underlying motivations for adopting environmental practices, i.e., seeking a competitive advantage or complying with legislation,

- barriers to the adoption of environmental practices,

- catalysts, encouraging organisational greening. One such example is the eco champion, an internal actor with personal values geared towards protecting the environment, who can influence the adoption of sustainable practices.



Figure 1. Drivers and barriers to greening – a general model

Source: Mair & Jago (2010).

A general model can enhance our understanding of new knowledge and provides a platform for new research, but it also runs the risk of simplistic reductionism that cannot be applied to all contexts. Mair & Jago (2010) therefore recommend adapting their general model to sector-specific models, as they themselves did in this article on the organisation of professional events in the tourism sector. Lecompte & Gentric (2013) adapted it to the hotel industry, and we have now surveyed the literature to find elements which can be used to adapt the general model to institutional catering in the public sector.

1.2. Parameters for greening institutional catering in the public sector

The French public sector today is characterised by general and domain-specific factors that are broadly favourable to greening institutional catering.

1.2.1. Public policies

The French government and local authorities are committed to responsible initiatives, especially since the introduction in 2009 and 2010 of *Grenelle de l'environnement* legislation covering areas such as waste management, town planning, energy, transport, and agriculture. Public organisations' social responsibility (POSR) (Renaud & Bollecker, 2020) therefore contributes to sustainable development. Local authorities play a lead role in the running of schools and colleges, and consequently in the management of canteens in France. Their decisions in this area can support the development of virtuous agricultural practices and, more generally, they have access to sustainable development management tools (Heurteux, 2017) that are used at the regional level to optimise collective decisions and oversee their implementation. In this context, these tools combine environmental monitoring and interaction with external stakeholders: partnerships, networks, project management, consultation, training, etc. (Tissone et al., 2019), and action plans, contractual policies and dashboards (Zardet & Noguera, 2013). Any approach that reduces cognitive distance between stakeholders can be considered a POSR driver (Cappelletti & Khenniche, 2017).

However, as New Public Management is still widely practised in the public sector, short-term financial considerations are often an overriding factor and this lays POSR open to criticism for a lack of operational effectiveness, or even organisational hypocrisy (Heurteux, 2017). Despite the significant challenges, reporting tools are often given priority over strategic planning tools (De Matteis & Borgonovi, 2021), even though, given the difficulties faced by the public sector in dealing with social inequalities, POSR could help to legitimate public authorities (Rousseau, 2008). The implementation of the EGalim law therefore seems to be a topical field of study, and its main parameters in relation to institutional catering are set out below. Under EGalim legislation, catering services in schools,

universities, institutions for children under six years old, care facilities, and public or private social care and health care institutions, must adhere to regulations for providing food for diners and staff that is healthier, safer, and more sustainable, according to the following timetable:

- 30 October 2018: multi-year plan for diversifying protein sources (plant-based alternatives) for facilities serving over 200 covers per day;

- 1 January 2020: compulsory information for diners once a year, a ban on single-use plastic utensils and on making surplus food that is still edible unfit for consumption;

- 20 October 2020: diagnosis and steps to combat food waste; making food donations to accredited voluntary sector organisations if the number of meals provided each day exceeds 3,000;

- 1 January 2022: at least 50% of supplies must be high-quality and sustainable⁸ products, including at least 20% organic products.

This last point is the flagship measure of this section of the law. Its other components (agricultural income, production conditions, animal welfare) are outside the scope of our study.

1.2.2. School and hospital catering

In Northern Italy, research on schools' procurement of sustainable and/or organic products shows that uptake and increases in these procurements are linked to pressure from municipalities, initiatives by catering managers, and policies promoting the relocalisation of supply (Filippini et al., 2018). In France, research on the values and motivations of civil servants implementing sustainable food procurement policies in Avignon state schools has shown the importance of staff motivation. Employees' concern for the common good, their sense of fairness, education and justice, as well as their health concerns and environmental convictions, are decisive factors in these practices, irrespective of financial returns (Sanz et al., 2022). Also in France, ADEME et al. (2021) have identified a series of barriers and levers affecting more sustainable school catering (Table 1).

Table 1. Darners and levers arreeting more sustainable school catering	Table 1. Barriers and	levers affecting more	e sustainable school caterin	g
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Main barriers	 costs incurred for changing practices speed of transformation required lack of job recognition poor skills management
identified	 compartmentalisation of actors, no collective strategies logistics barriers lack of internal and external communication
Main levers identified	 savings (combatting food waste, diversifying protein sources) providing an attractive training programme for catering teams encouraging cooperation between institutions and the pooling of resources developing communication with stakeholders

Source: adapted from ADEME et al. (2021)

Meanwhile, French hospitals are developing processes for analysing and controlling expenditure and streamlining their activities (Krief, 2009). Cost management affects all job categories, including catering, which presents many challenges. Hospital catering provides a comprehensive range of meals for staff and patients, and a hospital's food budget represents a significant proportion of its overall budget, both in absolute and relative values. Furthermore, doctors, pharmacists, dieticians and logistics managers share responsibility for patients' food. Lastly, catering is an intuitive assessment criterion for patients: although it is difficult for them to measure the quality of medical services, they are clearly capable of judging meals (Costin, 2010).

⁸ Organic products, products displaying official quality and origin labels (SIQO), or value-adding references (*Label Rouge* (red label), Ecolabel for sustainable fishing, designation of origin, geographical indication, etc.).

1.2.3. Public service employee values

Stakeholder values are important elements in organisational greening models (Mair & Jago, 2010). Generally speaking, levels of analysis need to be separated into the values displayed by an organisation and those of the individuals within it (Hemingway & Maclagan, 2004). In the public sector, a difference is traditionally made between public value, which an organisation brings to society (Moore, 1995), and public values, which are seen as relatively stable qualities and standards that guide stakeholder behaviour (Bozeman, 2007). Public values, the aspect considered here, are the subject of numerous studies and classifications. We will base our analysis on the Jørgensen & Bozeman (2007) classification which is both a synthesis of previous work and the conceptual framework for a number of subsequent studies (Mériade et al., 2020). Jørgensen & Bozeman (2007) identify constellations of values, within which certain values, which occupy a central position because they are related to many others, are called nodal values. These are presented in Table 2.

Nodal Values	Neighbour values (for explanatory purposes here)
Human dignity	Protection of the rights of the individual, benevolence, long-term thinking
Sustainability, Sustainable	Respect of the common good, ethical consciousness, solidarity
development	
Citizen involvement	Listening, dialogue, responsiveness
Openness	Responsibility, rule of law, accountability
Secrecy, Confidentiality	Rule of law, protection of the rights of the individual, effectiveness
Compromise	Balancing interests, dialogue, adaptability
Integrity	Honesty, fairness, professionalism, loyalty
Robustness	Stability, adaptability

rable 2. Nodal values in the public sector	Table 2	. Nodal	values	in the	public sector
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Adapted from Jørgensen & Bozeman (2007)

In order to adapt the Mair & Jago (2010) general model to the institutional catering sector, we will identify and differentiate the nodal values stated by managers and staff from those declared by organisations.

2. Methodology

Our research objective was to use a series of interviews as a basis from which to study the (positive and negative) factors affecting the implementation of processes that can enable institutional catering in the public sector to achieve EGalim objectives. Findings were to be formalised in a model for greening institutional catering in the public sector based on the Mair & Jago (2010) general model. To get the most out of our interviews we had to develop an interview guide upstream and an analysis grid downstream based on both the Mair & Jago (2010) general model and on the parameters identified in section 1.2 above. These provided a theoretical system.

We then used a comparative approach, which consists of identifying differences and similarities between elements (Vigour, 2005), and grounded theory, a qualitative research method used to generate theories from data collected in the field. By using the data to propose a specific model, we are taking an inductive approach, however, we are not starting from zero since our interview guide and initial analysis grid are based on an earlier theoretical system – a method described by Glaser & Stauss (1967[2010]). Many discussions took place between the authors of this article, to compare their viewpoints and to enrich and coordinate their research, which in turn made it possible to:

- Organize the data by comparing and then linking it (or not) to the parameters of our theoretical system. This phase made it possible to compare data and identify identical, contradictory or specific cases, which may give rise to new parameters.

- Propose a specific model based on the elements identified (Figure 2).

The Cool Food Pro (CFP) project was originally developed with 10 pilot partner institutions (Appendix 1). Our involvement in the project meant that we established a special relationship with these institutions and conducted 32 interviews with them in June 2021. The fact that our sample respondents were linked to the CFP project was both an advantage because our interviewees were familiar with the subject, but also a limitation as we had no freedom of choice. In the CFP-related organisations (with their very diverse types of status, sectors of activity, number of meals/day), individual, semi-directive interviews were conducted with staff who had different responsibilities and types of involvement in projects relating to changing practices. This system contributes to theoretical saturation when there is a lack of available data from which to develop data classifications (Glaser & Stauss, 1967[2010]). The choice of a multi-site study allows for greater generalisation of the findings and an in-depth understanding of the phenomenon being studied. We chose the variable-oriented analysis approach in which "analysts often look for *themes* that cut across cases" (Miles & Huberman, 2003, p. 313), as this corresponds to our research objective.

The interview guide was based on the themes addressed in the literature, in conjunction with CFP members who were experienced project leaders in sustainable food and/or institutional catering in France. The interviews started by presenting the CFP and the interview objectives. Respondents were then asked to describe:

- how work was structured in their organisation in terms of their own role (procurement, menu preparation, waste management, etc.),

- their perception of the EGalim law and its implications.

This interview guide focused on reasons behind the lack of projects or the launch of projects targeting compliance with regulations, changes to the food on offer in organisations, and the role of public authorities. The interviews concluded by focusing on interviewee expectations of the CFP project. The health crisis meant that all interviews were conducted remotely by the lecturer-researchers in charge of the study, and lasted one hour, on average. The data-processing technique used was thematic content analysis, performed using NVivo 12 software with a mixed coding approach.⁹ Thematic analysis was used to focus on the most important information from the interview transcripts in accordance with the coding grid that had been developed.

The coding grid is based on the factors identified in the literature review. It was gradually supplemented with new sub-factors during coding. Coding was carried out by comparing the verbatim interview (all interviews had been transcribed), with the factors identified prior to or during coding. NVivo 12 can be used to associate a verbatim element with a given factor. Coding of all of the interviews gave us a hierarchy of results in the form of factor blocks (Appendix 2). All of the elements we identified for adapting the Mair & Jago (2010) general model of greening to institutional catering in the public sector can be linked to any factor in the general model, and can also add new sub-factors or clarify the original ones. All of these factors make it possible for us to propose a specific model for greening institutional catering in the public sector (Figure 2).

3. Findings

The interview material gathered demonstrates:

- the diverse nature of findings relating to EGalim objectives (offering quality products, diversifying protein sources, providing information, cutting waste, cf. Annexe 3),

- the diversity of the parameters associated with the implementation of EGalim; these parameters are presented here without placing them in order of priority due to the exploratory nature of our research.

⁹ A list of initial codes, progressively updated as interviews are coded.

3.1. Regional policies

Three challenges emerge from our interviews with local authority officials, politicians and administrators, that are interrelated and linked to EGalim:

- Encourage quality local consumption, EGalim can play a part here alongside institutional catering,
- support local agriculture (setup, transmission) and short distribution channels,

- support agriculture that respects the environment (water, climate impact, etc.).

For the people we interviewed, EGalim and environmental issues are closely linked to short distribution channels,¹⁰ which are viewed as an opportunity by local authorities. In this context, land ownership is an important issue, as one elected representative points out (13):¹¹

"We know that farms, including organic ones, find it difficult to attract new buyers, so what's going to happen to this farmland? [...] The [local authority] can adopt a stance, because it has a local development plan (PLU) [...]. We do have some say over whether a sector will remain agricultural or not. That's the first point. And what kind of agriculture do we want? That's a question for local councillors".

If a food-related project is led by a single local authority, scaling it up with more local authorities and economic partners to reach more users may be one possible avenue. But it is a complex process: on the one hand, local authorities may be keen to preserve their respective agricultural and food responsibilities, but may also have a political interest in working with other parties. On the other hand, farmers may find it difficult to change their production and distribution models even though it may be in their economic interests to do so. In practice, charters can be signed between local authorities and other stakeholders to share commitments relating to institutional catering and short distribution channels supporting responsible agriculture. See, for example, the case of an agriculture-food officer in a community of conurbations below (18):

"Convincing farmers to switch to short distribution channels and organic farming at the same time is a big ask. However, not long after changing over to short distribution channels, many farmers start seeing the added value of organic farming. [...] For the conurbation and its elected representatives, this is a phase [...] for rallying the economic stakeholders because it's the only economic sector, apart from land, where elected representatives have considerable decisionmaking power which means that they can align it with their political vision".

In the local authorities studied, extensive greening in the institutional catering sector is the result of a strong political commitment associated with values that have sometimes been in place for a decade or more. As the Deputy Director of Services for a local authority (21) put it: "it is a consciously adopted political decision". Elected representatives behind environmental projects are not members of a green party and this appears to send a strong signal to the other stakeholders. However, this may also indicate that it is difficult for environmentally friendly discourse to transcend its political and social boundaries. For one elected representative (13), if a project, such as organic food in canteens is supported by "somebody who is not known as an ecologist [...], (this) may open more doors, more quickly". This interviewee lamented the fact that elected representatives and business leaders sometimes perceive organic farming to be an activity with less potential for profitability than traditional businesses. In the other organisations studied, the determination shown by managers, also associated with values, is a major driver for the transition towards quality supplies, organic produce, the substitution of animal proteins with plant-based proteins, and reduced plastic use.

¹⁰ Contracts cannot be awarded based on a preference for local suppliers ("freedom of access to public contracts" and "non-discrimination" principles), but the notion of a *short food supply channel* (with a maximum of one intermediary) is legally accepted.

¹¹ The figure in brackets is the interviewee reference in Appendix 1.

3.2. Relationships with users and staff

The client relationship is evolving. In the words of the manager of a centralised kitchen operating under an outsourcing contract (17): "in the space of five years, we've noticed that things are changing, that today's expectations are not the same as in the past [...] we're getting more and more requests for vegetarian meals". However, other factors to contend with include technical limitations at production sites, the need to ensure a balanced diet for clients, and constraints imposed by patient health in a hospital environment. More significantly, client expectations vary. In the school sector, for example, a lack of communication with parents may explain why they are dissatisfied with changes to menus for their children, who, moreover, can quickly become accustomed to highly processed products. For a secondary school principal, in addition to fostering communication with parents, it is important to introduce children to tastes other than highly processed foods; experimentation and explanations will help them learn to appreciate other dishes. Some adults/seniors also struggle to change their eating habits, and traditional local farming practices may also be a factor in their reluctance to eat vegetarian meals, as the head of logistics and supplies for a service provider points out (14):

"[Our clients] tend to be in rural areas and since we are (in a region) with a fair amount of livestock farming, [...] this can be a threat to some people's businesses [...]. We don't necessarily get a lot of take-up for [vegetarian] meals".

Rejecting dietary changes can result in dissatisfaction and waste. To prevent this counter-productive effect, it is important to ensure that the food tastes good, and to use differentiated teaching methods (for adults/children, etc.) to explain the changes and present the products.

For institutional catering workers, new practices involving more fresh produce being processed on site, may mean an additional workload or activities that do not always correspond to their core professional duties, such as sorting waste or more intensive workstation cleaning. The Deputy Director of Logistics at the Regional University Hospital Centre (2) explains:

"[instead of] plastic packaging [...] for starters and desserts [...], one of the problems with moving to crockery is who will do the washing up?

Reluctance may also develop among these employees if they are not involved in decisions about altering their eating habits, or if these changes conflict with their own practices in this area. All of this can have an impact on their professional commitment, especially as operative-level interviewees stressed the lack or shortage of training to help them acquire new skills and/or cook alternative meals. By contrast, the introduction of new food preparation processes, based on fresh produce prepared and cooked on site, seems to have had a positive impact on kitchen staff, whose core activity has been valorised.

3.3. Changing and monitoring procurement

According to the Deputy Director of Services of a municipality (21), the availability of certain quality products is poor, and a supply strategy needs to be developed to increase the proportion of organic products in order to comply with the levels imposed by EGalim:

"A sustainable fishing label? There are only (a few) fisheries in France... We're not going to be able to achieve these levels in the 'fish' category. We're going to try to achieve the 50% through organic farming, and with 50% organic farming, we'll be complying with the law".

Calls for tender from local authorities can have an impact on producers, although the volumes involved must be put into perspective in terms of the food market as a whole. From the point of view of kitchens which are either directly controlled or operated under outsourced contracts, the impact of the demand from local authorities is real, as indicated by a customer manager (16) from a private institutional catering service provider:

"We talk about reducing organic waste and our packaging. [...] Plastic containers are no longer the preferred choice, and we're being asked for a more sustainable option, with reusable packaging. These are big changes for our business, because the centralised kitchen was not designed to work with this type of packaging. We need to find solutions to adapt to these new expectations".

EGalim, which calls for more quantitative data overtime, and change management, both require appropriate information systems. But according to an agriculture and food officer in a community of agglomerations (18):

"Getting statistics from local authorities on their supplies is difficult. [...] Some canteens have a computerised dashboard, so it's not so complicated [...]. But others still use a spiral-bound notebook. [...] With EGalim, they're going to have to buckle down. So we don't know, for example, what percentage of supplies in our region are local or organic products".

Quantification is nonetheless seen as a positive step, as it makes it possible to highlight the actions taken, consider corrective measures, and communicate with stakeholders. All of this helps to make changes in eating habits meaningful.

3.4. Fragmented supply and networking strategies

Sourcing supplies from organic and/or local suppliers on a regular basis was frequently mentioned as problematic by our interviewees. Some suppliers are reluctant to sell to small organisations, such as schools, that represent fragmented demand, preferring instead to sell to manufacturers, thus combining volume and regularity.

At the other end of the spectrum, the Regional University Hospital Centre (CHRU), with 6,400 covers per day, struggles to find local suppliers who are able to cope with these volumes on a regular basis, as indicated by a Quality Manager in charge of stores (5).

"The volumes are so huge that [...] with organic or other methods, you have to find the available tonnage and that's not necessarily easy".

Managing stakeholder relationships over the long term is therefore a key factor for success: established relationships between institutional catering and organic and/or quality producers give producers the confidence to invest, if necessary, in order to meet demand. In this context, bringing supply and demand together, particularly in the case of local authorities and voluntary sector organisations, is a major expectation expressed by respondents, and various methods are mentioned, both direct and intermediated, either in the form of meetings or by circulating tables listing producers and institutional caterers.¹²

Professional networks providing contacts and feedback are important for our respondents. Some municipalities, such as Mouans-Sartoux,¹³ are well-known examples, and many stakeholders are embracing practical measures: the network whose members include Cantines Durables et Territoires Engagés, AMAP (Association pour le maintien d'une agriculture paysanne), MAB (Maison de l'agriculture biologique), chambers of agriculture, Agrilocal, and non-profit associations such as Reseco¹⁴ and Bruded¹⁵. Faced with the risk of fragmentation, some of the people we spoke to saw the

¹²For example, agrilocal.fr connects public sector buyers (schools, colleges, retirement homes, municipalities, communes, communities of communes, etc.) with suppliers from the same region.

¹³The municipality of Alpes-Maritimes has a school canteen that is 100% organic, with food supplied via a local authority-run agricultural scheme.

¹⁴Reseco, which is made up of public sector bodies (local authorities, Departmental Fire and Rescue Services, universities, etc.), promotes dialogue between members and/or other stakeholders (voluntary sector organisations, businesses, etc.) around sustainable public sector procurement, reseco.fr, 25/3/22.

¹⁵Bruded, a local authority network championing sustainable development, bruded.fr, 25/3/22.

Territorial Food Plans (PATs)¹⁸ as institutional benchmarks, contributing to cohesive action between stakeholders; but it is sometimes difficult to find a party willing to take on the responsibility of leading a PAT.

3.5. Costs and investment: the need for a long-term vision

Budgetary issues reflect the challenges described above. Thus interviewees associated low procurement costs with ultra-processed food and concurred about the additional cost of transitioning to organic produce, notably meat. Cutting back on protein from animal sources in favour of plant-based products does not necessarily reduce the overall cost of menus. All these factors mean that some organisations favour quality products (AOC, IGP, etc.) over organic. Furthermore, changes in practices can prompt the forging of relationships with smaller organisations which struggle to match the prices offered by major players that reap the benefit of economies of scale. Price rises are also associated with packaging: recycling and alternatives to plastic are often more expensive than traditional products. For home delivery services, there is also the issue of collecting packaging from clients, as was mentioned by the Centralised Kitchen Manager of a private service provider operating as a contractor for a commune (17):

"we use plastic tubs for home delivery to elderly people. I struggle to see how we can find a solution to this issue on a national level. [...] People will say we should have reusable glass bowls. ... This is virtually impossible to manage."

Changes in working practices would also entail greater investment in equipment and storage spaces: low-temperature cooking equipment (to reduce energy consumption), trolleys equipped for waste sorting, software for relevant indicators, larger cold stores to expand bulk-buying and food produced in-house, areas for washing fresh produce, etc. Price increases could be substantial.

In response to this issue, there are numerous budget strategies. French state intervention comes notably through the National Food Programme (PNA),¹⁹ which can provide financial help to Territorial Food Projects (PATs), thus enabling them to fund local initiatives. However, some interviewees highlight the low levels of funding offered and, more broadly, the problems traditionally associated with the multi-layered French administrative hierarchy (dubbed the *millefeuille*), which tends to compartmentalise initiatives. In local authorities, the additional cost associated with organic and/or quality products can lead to budget trade-offs to avoid impacting users, as is highlighted by an elected member (13):

"this is a political commitment; we didn't want people saying that organic products would lead to an increase in the cost of meals (in schools)".

Our interviewees also cite cost rationalisation levers:

⁻ favouring quality products (AOC, IGP, etc.) over organic products on cost grounds,

⁻ cutting food waste and developing relevant management indicators,

⁻ introducing group buying and production (a centralised kitchen, under local authority management or under an outsourced contract (DSP) can work for state and private sector schools, nurseries, sports centres and home delivery schemes). This can help to ensure food safety via a modern centralised production facility rather than numerous small facilities which may not be fully compliant with standards. In the case of Regional University Hospital Centres (CHRU), this pooling of activity is primarily associated with group purchasing organisations.

¹⁸ A Territorial Food Plan (Projet alimentaire territorial, PAT) brings stakeholders in a local area together to focus on food. [URL: https://agriculture.gouv.fr/plus-de-330-projets-%20alimentaires-territoriaux-reconnus-par-le-ministere-au-1er-janvier-2022], 25/3/22.

¹⁹ The National Food Programme (Programme nationale de l'alimentation, PNA) tackles various aspects relating to food (health, food aid, education, waste, a strong local presence, the circular economy, the environment), agriculture.gouv.fr/programme-national-pour-lalimentation-2019-2023-territoires-en-action, 21/3/22.

Responses to budgetary constraints associated with greening are part of a long-term organisational and strategic vision.

3.6. Public values to address constraints

Despite the organisational, strategic and budgetary constraints mentioned above, some of the organisations studied are exceeding their EGalim obligations, often by a significant margin (cf. Annexe 3). Managers, with political and administrative responsibilities alike, ascribe this situation to personal values notably sustainability, and seeking compromises between user expectations, production constraints, food balance, and caring for the environment. A head chef in a senior school (19) said: "I made a commitment to organic products [...] I was one step ahead of the département", and the Deputy Director of Services in a commune (21) commented: "the most important criterion is the human aspect". Some interviewees reflected more broadly on our collective benchmarks, including a public sector food scientist (31), who claimed: "it's not right that food associated with food systems and poor health should be so cheap [...] what are our values?". The organisational and institutional values most frequently cited by the organisations contacted are: sustainability (with the expansion of the organic sector, and the introduction of seasonal menus), robust processes (based on internal and external audits), and user involvement.

4. Discussion

Implementing EGalim parameters relating to healthy sustainable and accessible food for all, informs research into greening organisations and represents a challenge for institutional catering in the public sector which involves management in these institutions and stakeholders in the sector.

4.1. A model for greening institutional catering

Our findings corroborate research on greening levels (Potrich et al., 2019) by identifying very diverse approaches to implementing EGalim. Annexe 3 allows us to compare the progress made by CFP partners. By extending conceptual greening models (Bansal & Roth, 2000; Marshall et al., 2005; Lynes & Andrachuk, 2008; Mair & Jago, 2010), our findings help to identify parameters acting as barriers or driving forward behavioural change in public sector institutional catering. Comparing responses flags up similarities and differences in categories (Vigour, 2005) in a grounded model (Glaser & Stauss, 1967[2010]). Table 3 focuses on comparing institutions.

Factors	Comparison between types of organisation
investment	Home delivery makes collection of reusable containers more complicated.
logistics	The issue of local supply varies according to the size of organisations: a school may be too small to attract local producers, but a Regional University Hospital Centre involves larger volumes than many of them can fulfil.
information	The availability of quantitative data varied significantly between organisations, depending
systems	on how well equipped they were with appropriate and effectively used information systems.
user reluctance	Responses varied depending on the type of group and organisation: children/parents in schools elderly people in care homes staff in general
pooling	Relates to production tools for educational establishments, and generally to purchasing in the case of hospital.
catalysts	Political commitment from local authorities and a commitment by other establishments to values.

Table 3. Comparisor	of greening factors	between organisations
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Source: the authors

Despite this fragmentation, there is some common ground across organisations and Table 4 offers a descriptive summary of barriers, and factors conducive to greening public sector institutional catering. In the light of these factors, change management can sometimes be carried out in a traditional top-down manner, but it must often be developed with stakeholders to ensure greater acceptance and/or relevance. The diverse nature of the stakeholders (employees, users, farmers, politicians and administrators), requires specialist communication tools (stakeholder information, user education, staff training), consultation (co-construction), and coordinating initiatives.

Table 4. Main barriers a	and levers affecting gr	reening of public secto	r institutional catering
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Parameters	Description
Barriers identified	 direct and indirect costs associated with new, less highly processed and more environmentally friendly eating habits supply chains which may sometimes be fragmented and/or unstable diner reticence about a change in eating habits and/or agricultural production methods employee reticence (new work burdens, moving away from core duties, lack of training and involvement in decision-making, personal habits)
Favourable factors	 developments in the legal environment (EGalim) support from political leaders (local political choices, PNA, PAT) professional and voluntary sector networks management and staff commitment aligned with their values education around changes in diet, professional training

Source: author

These parameters can be integrated into the Mair & Jago (2010) model to produce a version tailored to public sector institutional catering (Figure 2).





Source: authors, adapted from the Mair & Jago (2010) general model and supplemented with new elements identified in relation to public institutional catering (in bold type), and material added to the general model (in brackets)

4.2. Management recommendations

From a territorial management perspective, Territorial Food Plans (PATs) emerge as a key tool for coordinating diverse stakeholders (local authorities, public and private stakeholders from the agricultural and economic sectors, voluntary sector organisations, etc.), but they are underused as they are difficult to manage, both with respect to choosing a programme leader and from a financial point of view. This led one of our interviewees (18) to suggest two aspects to address when coordinating stakeholders and funding:

- what level of management is required for relocalising food for institutional catering? Could the Regional authorities contemplate implementing it with CRALIM¹⁹ as is suggested in EGalim?;

- how can European and national funding in this area be more effectively coordinated? Could the Regional authority also be an appropriate level given its central position?

The issue remains open, but it is possible that local authorities are not focusing on local development due to a lack of coordination, and that by placing themselves in a competitive situation they are avoiding the main challenge: protecting the environment. The issue of the appropriate level of action therefore seems to be a key factor in the context of states which are struggling to act despite the growing volume of scientific warnings and the limitations, with respect to resources and effectiveness, of initiatives at a local level, however well-intended.

In terms of managing institutional catering organisations, user information is a significant factor in the successful introduction of new food offerings, and the diverse range of customers suggests that they should be segmented to ensure appropriate communications. For employees, the adoption of new organisational practices depends to an extent on their human capital.¹⁹ Analysis of interviews shows that a rise in procurement from short distribution channels and in the amount of food produced onsite appears to be driven by skills rather than by working facilities, as is highlighted by the Deputy Director of Services of a commune (21):

"I know people who don't have the tools that we have and are doing a great job. On the other hand, that involves commitment and spending a lot of time working with the products".

Consequently, change management must include training for professional staff to help them adopt an alternative cuisine with all its challenges. Staff motivation also involves providing recognition for their skills and creations. Furthermore, managing change requires relevant measurement tools. Software is being developed, and products designed to monitor activity against EGalim objectives (quality, organic produce, waste, etc.) are now available. The CFP is one such example. Managing costs and investment is impacted by this set of constraints, which means that greening institutional catering in the public sector presents a long-term organisational and strategic challenge.

4.3. Research limitations and future avenues

The limitations of our research are associated with the size and composition of our sample. Looking forward, it would be desirable to have supplementary research to corroborate the factors identified, to pinpoint new factors and to establish their impact in change processes. Furthermore, in the light of the EGalim objectives, it is legitimate to raise the issue of sanctions for failing to implement the law. At the time of writing, the French State does not appear to have put any checking mechanisms in place or to have envisaged any sanctions for breaches of compliance, except in the area of food waste.²⁰ The issue of organisational hypocrisy in relation to the environment (Heurteux, 2017) cannot be overlooked and the response to the parliamentary report on the subject (Besson-Moreau et al., 2022) does not

¹⁸ The Regional Food Committee (Comité régional pour l'alimentation) examines the implementation of the National Food Programme (PNA). [URL: <u>https://draaf.bretagne.agriculture.gouv.fr/le-comite-regional-pour-l-alimentation-cralim-r329.html</u>], le 21/3/22.

¹⁹ Employees' knowledge, skills, experiences, motivations and attitudes (Méreaux & Feige, 2022)

²⁰ A ban on making edible foodstuffs unfit for consumption, which incurs a fine.

offer any reassurance: "it appears that although the EGalim law has effectively created a dynamic conducive to improving the quality and sustainability of products served, the objectives set have not been met by the date set out in the law, namely 1 January 2022" (p. 75). Further evaluations will therefore be necessary. Evaluating the relevance of support tools such as CFP also offers an avenue for future research.

Conclusion

The factors conducive to the implementation of practices tailored to EGalim requirements, and the obstacles to be overcome involve every area of public sector catering institutions: logistics, production, communications, IT departments, HR departments, budgets, and management. This issue involves more than just a few procurements: it challenges the strategic management of these organisations to align strategy with organisational parameters. Other stakeholders are also involved, notably local authorities which are responsible for some institutional catering and have powers relating to agricultural and food matters. Territorial management tailored to EGalim is thus required. All stakeholders are therefore called upon to innovate in response to environmental challenges.

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Institution	Status	Interviewee role	N0.	Category of stakeholder
	Public	Catering manager	1	Governance
		Deputy director of logistics	2	Governance
		Operations manager	3	Governance
Regional University Hospital Centre		Hot food manager	4	Governance
		Quality manager responsible for stores	5	Governance
		Dietician	6	Governance
		Cafeterias and residential canteens manager	7	Operational
		Kitchen manager	8	Governance
		Kitchen manager	9	Middle management
		Food buyer	10	Governance
		Nursing auxiliary	11	Operational
		Team manager	12	Operational

Commune / métropole (8 communes)	Public	Elected council representative, councillor responsible for "nature in towns, short distribution channels"; elected Métropole representative, councillor responsible for "sustainable food, short distribution channels and the <i>métropole</i> 's food"	13	Governance
Private sector institutional		Procurement and logistics manager	14	Governance
catering provided under a	Privato	Regional procurement manager	15	Governance
delegated service contract	Flivate	Customer services manager	16	Middle management
to the above commune		Central kitchen director	17	Governance
Community of agglomerations (25 communes)	Public	Agriculture and Food Officer in a commune of agglomerations	18	Expert
Secondary school	Dublic	Head Chef	19	Operational
	Fublic	Deputy manager	20	Governance
Commune and its central	Public	Deputy Director of Services, PAT project manager	21	Governance
Kitchen		Central kitchen manager	22	Middle management
		Co-manager	23	Governance
Fast Food, 7 sites	Private	Restaurant manager	24	Middle management
		Production manager	25	Middle management
		Catering manager	26	Governance
Voluntary sector organisation caring for/supporting people with disabilities	Private	Kitchen manager	27	Governance
		Department manager	28	Middle management
		Kitchen manager	29	Middle management
		Food service assistant	30	Operational
Research institute (sustainable development)	Public	Food scientist, holder of a doctorate in human nutrition (accredited postgraduate research supervisor)	31	Expert
Association of organic agriculture professionals and consumers	Private	Organic farmer	32	Expert

Source: the authors

Private stakeholders are involved in the *Cool Food Pro* project and our research; analysis of their views has been adapted to the framework of this article.

Annexe 2. Nvivo codebook; architecture of the coding grid for qualitative research

ADOPTION FACTORS		
Catalysts	Exchanges	
Management conviction	Internal communication	
Nodal values	Informal exchanges	
Compromises	Staff training	
Human dignity		
Sustainability	External drivers	
Integrity	Expectations	
Openness	Benchmark	
Citizen involvement	Responding to expectations	
Robustness	Supply networks	
Secrecy	Stakeholders	
Organisational culture	CSR partners	
Media		
	Internal drivers	
External context	Expectations	
Political authorities Personnel conviction		
Funding	Environmental awareness	
Public support	Collective commitment	
Obligation	Nodal values	
Response to needs	Determination	
Economic situation	Cost rationalisation	
Technologies	CSR	
Organisational context	BARRIERS TO ADOPTION	
Past investment	Actors	
Organisational values	Costs	
Nodal values	COVID crisis	
Pooling of resources	Logistics	
Internal organisation	- 0	
Supply networks		
Statut		
Type of business		
. /		

Read by column to access our Nvivo codebook Source: the authors

Sites	Quality produce (at least 50%, including 20% organic)	Vegetarian menus	Diner information	Food waste reduction	Overall score
Regional University Hospital Centre (CHRU)	1* .0% organic .very little labelled produce	2 Only a few menus, very ad hoc	2 poor communication	3 20% to 40% wastage, according to dieticians based on ad hoc weighing; improvement is being made in this area	2
Secondary school	5 .no data on sustainable produce .19% organic	7 1 vegetarian meal per week	7	4	5.75
Commune and its centralised kitchen	8 .50% sustainable products .33% organic	7 1 vegetarian meal per day	8 Communication around menus: town hall website, signage in schools	8 60g per diner on average	7.75
Fast Food, 7 sites	8 Significant amount of organic products, no specific metrics	10 daily	8 strong (differentiation strategy)	7 low wastage, but not measured	8.25
Voluntary sector organisation (for people with disabilities)	4 .10% organic .5% products with other labels	4 2 to 3 meals per week in the evening, and one lunch per a month	6 Communication via posters	3	4.25
Commune / <i>métropole</i> (8 communes) Private subcontractor	10 .75% sustainable products, of which 70% are organic	9 1 meal/week The town council requested an additional meal every three weeks from Sept. 2022	9 logos on menus, website, etc.	4 120g per diner 25% wastage	8

Annex 3. Comparison of levels of commitment at sites

Source: Cool Food Pro

* Using data from 2021, the level of commitment demonstrated by each institution is measured on the basis of scores awarded against four key metrics of the EGalim law (use of quality produce – minimum 50%, of which 20% is organic, vegetarian menus, communication with users, food waste reduction). A scale of 0 (no action) to 10 (100% commitment) was used based on analysis of practices in the *Cool Food Pro* project.