

The Interest in Developing Fruit and Vegetables “Box Schemes” In Romania

Maria C. DIACONEASA
The Bucharest University of Economic Studies, Bucharest, Romania
maria.diaconeasa@eam.ase.ro

Alina ZAHARIA
The Bucharest University of Economic Studies, Bucharest, Romania
alina.zaharia@eam.ase.ro

Daniela POPA
The Bucharest University of Economic Studies, Bucharest, Romania
daniela.popa63@gmail.com

Correspondence should be addressed to: Maria C. DIACONEASA; maria.diaconeasa@eam.ase.ro

* Presented at the 38th IBIMA International Conference, 23-24 November 2021, Seville, Spain

Copyright © 2021. Maria C. DIACONEASA, Alina ZAHARIA and Daniela POPA

Abstract

The “box schemes” fit well in the current context of being more sustainable in every aspect of our lives, including our choices of food. Choosing food products that are healthier, but also environmentally and social friendly has started to raise the interest of consumers, while serving as a small business opportunity for farmers. As a form of short supply chain, the box schemes, especially for fruit and vegetables have become a form of affirming your sustainable involvement in Western Europe but have only emerged in Romania. The current study aims at determining if there is a real opportunity for developing this type of short-supply chain in Romania by analyzing the interest shown so far for them in this country compared to other European countries. The results point out that the slight increase in interest shown in Romania for box schemes is a good sign and that by following the examples of more developed countries in this area, this form of short supply chain has development potential. Nevertheless, the study should be further expanded to include other types of analysis for providing more detailed results.

Keywords: Short-Supply Chain; Box Scheme; Fruit and Vegetables; Delivery; Sustainable Choice.

Introduction

The current food supply chain around the world is under criticism for being unsustainable, much of the food being produced in an intensive, industrialized way, with unfair conditions for the workers and little respect for animal welfare, it travels long distances before reaching consumers plates and is highly processed and packed to resist for long periods, this contributing to high carbon emissions and low nutritional value diets (Anderson, 2008; Gaitán-Cremaschi et al., 2017). Therefore, some alternatives to the regular food supply chain have emerged in the last decades, being perceived by consumers as more reliable, providers of healthier food and possibilities of getting involved in the sustainable development of the environment and the community (Forsell and Lankoski, 2015).

Cite this Article as: Maria C. DIACONEASA, Alina ZAHARIA and Daniela POPA, Vol. 2021 (35) “The Interest in Developing Fruit and Vegetables “Box Schemes” In Romania”, Communications of International Proceedings, Vol. 2021 (35), ISBN: 978-0-9998551-7-1, ISSN: 2767-9640. Article ID 3890121.

Some examples of such alternative food networks come in the form of farmers' markets, farm shops farm gate selling or box schemes, among others, and at some level, they offer the promise of local, less traveled, healthier food, and a connection to the close by farmer community (Venn, 2006). Yet, these alternative food networks have not escaped the criticism of scholars. Some studies point out that not all food that comes through the alternative food networks is organically farmed, or even local, since the farmers may purchase some of the products and resell them (Forsell and Lankoski, 2015).

Yet, some of these alternatives have gained the trust of consumers and have been on the market for a long time, especially in Western Europe countries, such as England or France, being appreciated by the consumers for the quality of the products and for the possibility of getting involved in sustainably developing the community they live in, without consuming much of their time, as are the box schemes, for example (Brown et al., 2009).

Some recent events in our common history, such as the Covid-19 pandemics, have pushed the appreciation for this box schemes to new levels. As people had to find ways of purchasing food with less visits to the stores or markets, and the care for personal health and immunity in front of new viruses increased, ordering online a box of fresh vegetables or fruits became a solution for both the consumers, and also the farmers, otherwise left without a market (Sarkis, 2020; Mollenkopf et al., 2020).

Nevertheless, the development of the box schemes is not uniform around European countries, while in some communities they have worked for around thirty years and have a considerable number of farmers involved in this type of short food supply chain, in other countries the model is just at its beginnings, and it is uncertain if its viability will remain after the Covid-19 pandemics fades away. Therefore, the aim of this study is to compare the interest in box schemes in different European countries, including Romania, and see if there are real possibilities of keeping this short supply system viable for this country.

Theoretical background

The food supply chain generally refers to the activities of producing, distributing, and consuming food in ways that are safe and ensure the quality of the food for consumers (Zhong et al., 2017; Marsden et al., 2000). The number of actors that come between the producer and the final consumer determines the shortness of a food supply chain, and the shorter it gets, the more sustainable it should be, implying less logistics (Zhong et al., 2017).

According to Marsden et al. (2000), there are specific characteristics to a short food supply chain, such as "their capacity to re-socialize or re-spatialize food", meaning that the consumers may judge the value of that food based on their own knowledge, experience and understanding of the food products' characteristics, regionality and quality, and therefore more exposed to personal judging from each potential consumer. Also, according to the literature, there are several types of short food supply chains (Marsden et al., 2000):

- a) face to face: where the consumer meets with the producer personally in order to make a purchase, therefore a personal interaction occurs.
- b) spatial proximity: in which the food is produced in a local area and the consumers are made aware of this fact at the selling point.
- c) spatially extended: the value and meaning of the product are presented to consumers who are not from the local area and have no experience with the product.

The opposition between regular food supply chains, that usually provide the merchandise for super and hyper markets, the short food supply, that supply for the alternative food networks, the former ones do not have a particular definition, but are accepted as the opposite of the other (Forsell and Lankoski 2015; de Souza, 2020).

As a particular form of short food supply chain, the box scheme may be broadly defined as a form of food produce delivery, usually of seasonal fruit and vegetables, with a weekly regularity, paid for by a prepaid subscription, where the products may come from one or different farmers (de Souza, 2020; Paül and McKenzie, 2013; Milestad et al., 2017). Other scholars present the box schemes as opportunities for local organic producers to gain regular clients and to scale up their business. Yet larger box scheme operators, with more experience on the market are found to import more produce, and therefore be less sustainable (Kummer and Milestad, 2020). Another benefit of the box scheme is the reduction of food loss along the supply chain, due to a higher acceptance of less than perfect vegetables and fruits (Kummer and Milestad, 2020). Even more, the development of the box schemes has gone along with the development of online shopping, turning into an innovative form of purchasing fresh, local produce in front of your computer (Wills and Arundel, 2017).

The main motivation of consumers buying vegetable and fruit boxes are the perception that the food that comes in the boxes is more environmentally sustainable, has a higher quality than the alternative of large stores food and there are even political motivations to change the current food systems (Hashem et al., 2018).

Some scholars analyze the way in which small farmers managed to get through the restrictions imposed by the local governments during the Covid-19 pandemics, developing new strategies and partnerships for marketing their farm produce. The box schemes increasing in numbers during this lockdown periods (Prosser et al., 2021). Some studies claim that the number of orders for box schemes has doubled in the first months of the pandemics (Wheeler et al., 2020).

Therefore, analyzing the consumers’ trend of interest in box schemes in Romania, The United Kingdom and France, should offer a general picture regarding the opportunity of developing such schemes in Romania.

Materials and methods

By using a software named Buzzsumo (Buzzsumo, 2021), that searches through the online posts of Facebook, Twitter, Pinterest and Reddit in the last year, we will provide a comparison between the number of posts and user engagement with these posts in two European countries with a long history with box schemes, United Kingdom and France, and Romania, as a newcomer into the world of this form of short food supply chain.

Results and discussion

Through the use of Buzzsumo software, the number of social media posts in the last year (September 2020 – September 2021) regarding box schemes in the United Kingdom, France and Romania was found. The translation into national languages was used for each of the countries and the results may be found in Table 1.

Table 1: Summary of results found in Buzzsumo

	United Kingdom	France	Romania
Number of posts	83	32	8
Search phrases used	“box scheme”	“system de livraison”	“cutia cu legume” / “coșul cu legume” / “schema de livrare”

Source: authors’ own interpretation using Buzzsumo, 2021

Due to the fact that in Romania the number of articles is low, several search phrases were tried out before finding the eight articles. While the number found in the comparison countries seems much higher than in Romania, the history of these box schemes is identified by scholars to be around 30 years old in The UK and France (Brown et al., 2009), while in Romania they are a newer concept.

Regarding the interest shown by social media users in these posts on box schemes in the three countries, the following figures may help creating a general image.

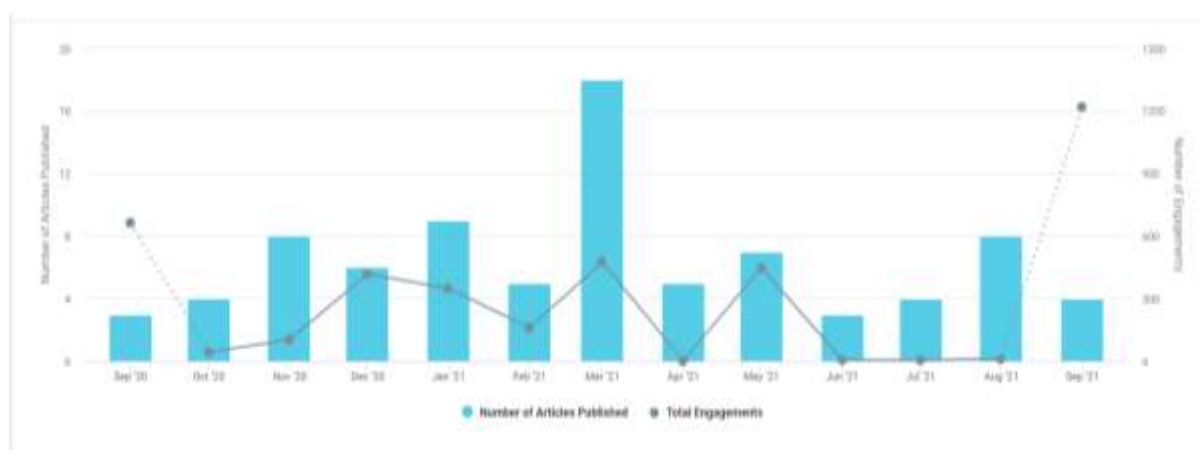


Figure 1: Evolution of post numbers and user engagement between September 2020 – September 2021 in The United Kingdom

The total engagement registered for the 83 posts in the analyzed period is 3153 clicks, with a 37 average engagement of click/ post.

While the number of posts has a maximum point in March 2021, in early spring, maybe due to the fact that the box schemes function based on subscription and the farmers should know their offer at that time, the engagement seems to be rather fluctuant, with higher values in winter and spring, up until May 2021, and going up again in September 2021. The highest engagement, in March and May 2021 reaches around 500 clicks per post.

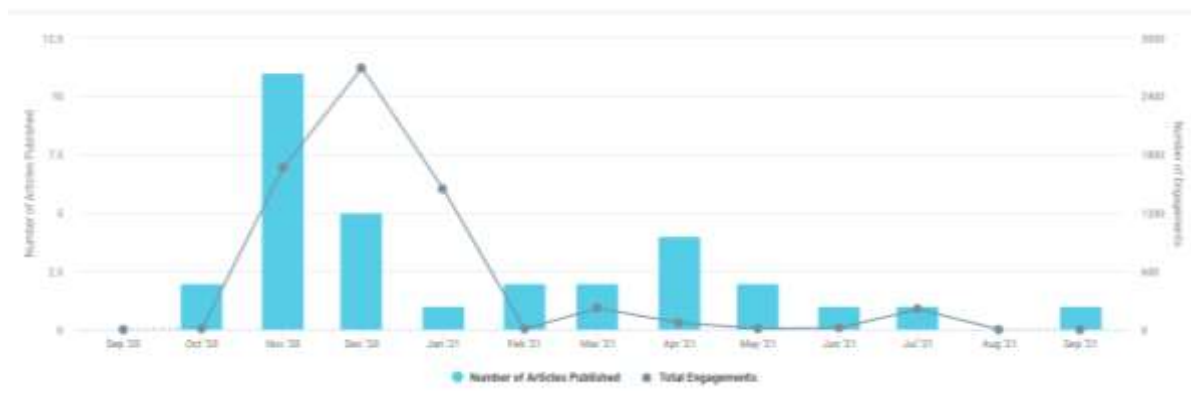


Figure 2: Evolution of post numbers and user engagement between September 2020 – September 2021 in France

For France, the total engagement in the analyzed period reaches 6346 clicks, therefore higher than in The UK even if the number of posts is lower. The average engagement per post is 198 clicks/post.

The highest number of posts is registered in November 2020, and it is followed by a maximum point of user engagement in December 2020. After that, both the number of posts and the user engagement drops. There is also a high number of posts registered in April 2021, in spring, when the new farmers' offer should be in place. After the winter months, the user engagement remains very low.

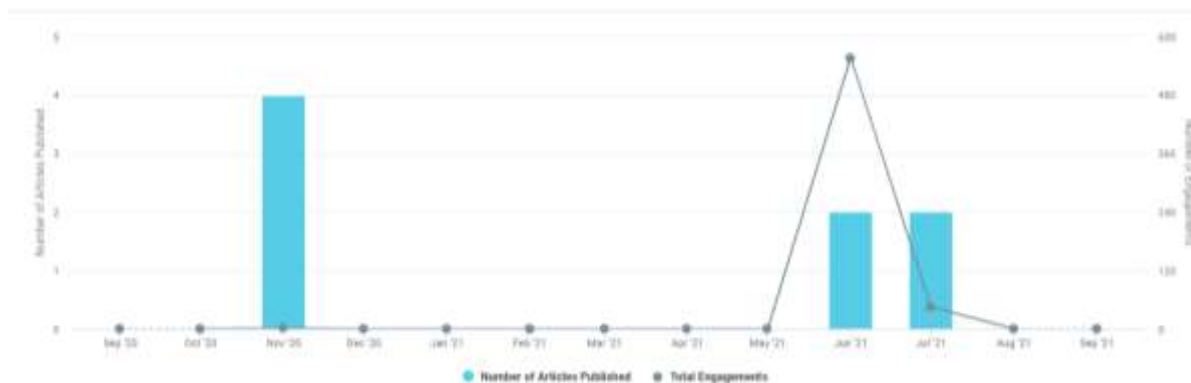
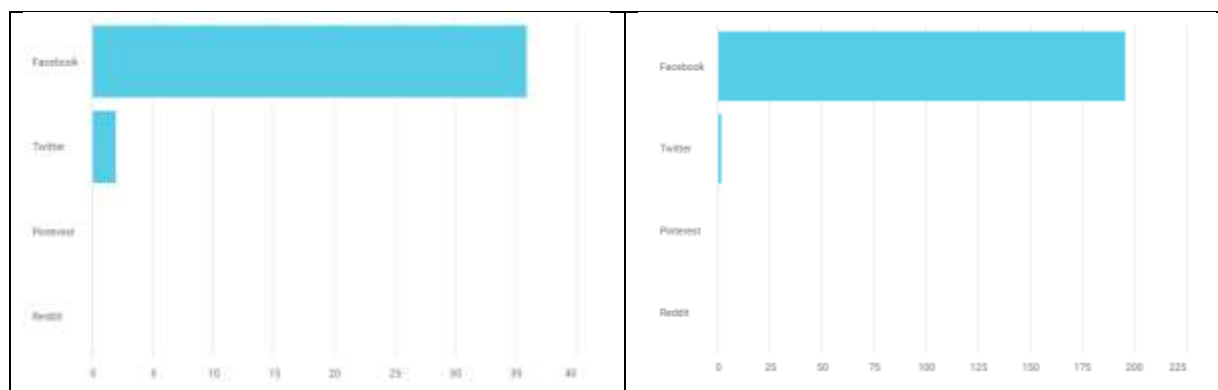


Figure 3: Evolution of post numbers and user engagement between September 2020 – September 2021 in Romania

For Romania, the eight posts found register a total user engagement of 602 clicks and an average engagement of 75 clicks/post.

The highest number of posts is registered in November 2020, while the highest interest is recorded in June 2021. Even more, a pattern of posts cannot be seen, while in the comparison countries a somewhat regularity of minimum post per month may be seen, so the consumers would not forget about their subscriptions.

If some recommendations for the Romanian producers based of the experience of the English and French producers may be extracted, they would be to constantly invest time in posting their offers on social media networks such as Facebook, as it may be seen in Figure 4.



Average engagement by network in The UK	Average engagement by network in France
---	---

Figure 4: The average engagement per post on different social media networks in The UK and France

As it may be seen in the two sides of Figure 4, Facebook attracts the highest average engagement per user post in The UK and France, being followed only by Twitter. This is not unusual as Facebook is the most used social network in 2021 (Statista, 2021), therefore it would be a logical choice to aim your posts especially to this network.

Given the fact that the registered user interactions with this posts on box schemes are usually positive ones, as it may be seen in Figures 5 and 6, the recommendation for the Romanian farmers who use or intend to use this direct selling method is to create a connection with the users, by responding and sharing what happens on the farm, while offering quality products, so that the users remain content and improve the image of the farmer on social media.

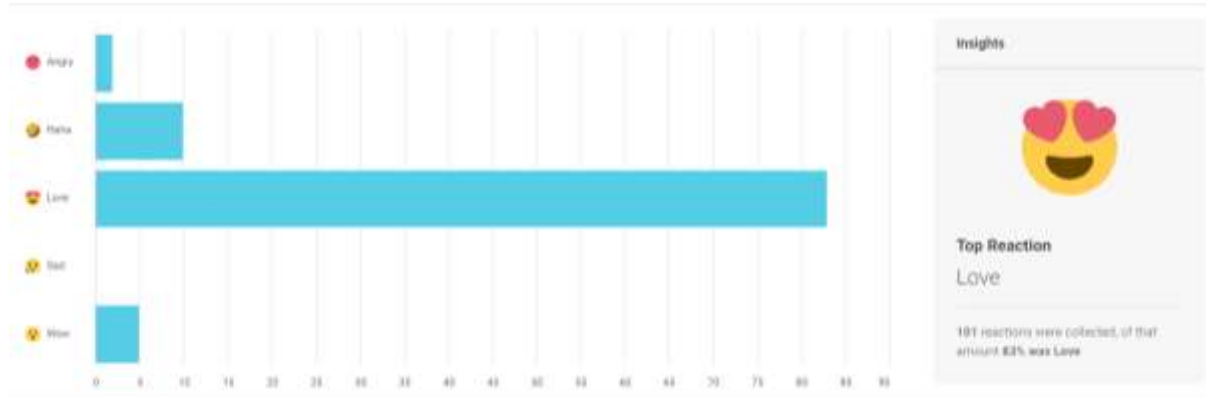


Figure 5. Top reactions from users in The UK

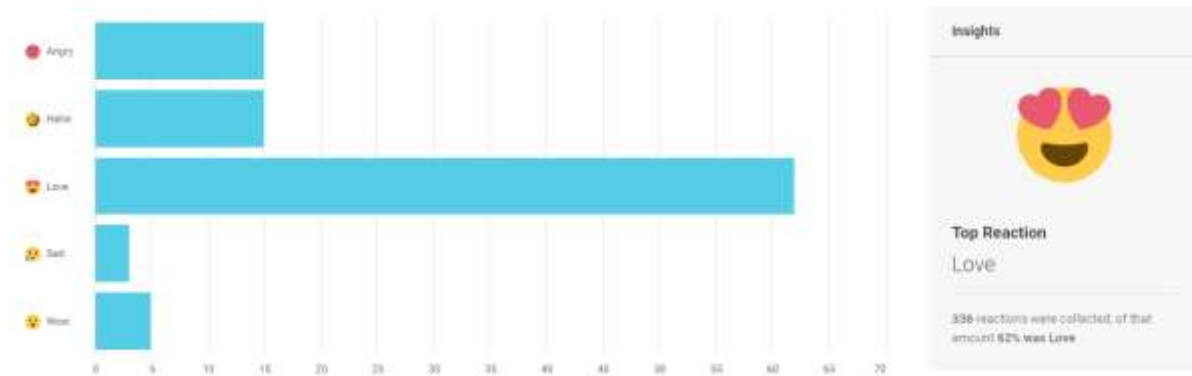


Figure 6. Top reactions from users in France

According to the users' interactions with the posts, it seems that they have a positive relation with the farmer, products and service offered, otherwise the negative emojis would have been more present during the analyzed period. Nevertheless, more user engagement increases the possibility of having some more negative reactions, as it is the case of France. Yet, the fact that there are more positive than negative reactions is a pointer that consumers enjoy this type of service and the products.

The reactions for the posts registered in Romania could not be extracted. Given the fact that there are few posts, the reactions are too little to be counted by the software or there are none.

Further on, the first eight titles related to food box schemes in the three countries are presented, as they are registered on Buzzsumo. The titles were filtered because box schemes may have multiple references, especially in English, therefore only those speaking about food were kept. All titles, translated into English, are presented in Table 2.

Table 2. Top 8 titles related to food box schemes in the three compared countries

The UK	France	Romania
Fish in a box scheme to deliver 'catch of the day' to front door	A 100% vegan offer delivered to Clermont-Ferrand, with a sliding scale price system: welcome to La Petite cuisine clermontoise!	Organic vegetable basket Bucharest - AMURTEL ECOLOGICAL GARDEN
The Fruit and Veg Box Company pilots education scheme	Sainte-Geneviève-des-Bois launches an Internet delivery system for its businesses	Organic vegetable basket freshly picked

Fallow & Fields boasts a deli, hamper business, takeaway and meal box scheme	Hénin-Beaumont: the municipality sets up a system for delivering fresh products to homes	Organic vegetable basket - Single-duo co with home delivery
Pledge to carry on food box scheme that has helped thousands	Reconfinement: the city of Charleville is reinstating its delivery system for groceries and prepared meals	12 plants and vegetables in the first garden basket
Dart Fresh launch 'Dart Essential Fresh Produce Box' Gifting Scheme to the Elderly and Vulnerable Families Facing Food Poverty – working with Exeter Food Action. – Exeter Food Action	The new economy: "Les comptoirs de la Bio" relies on a delivery system between individuals	Basket with seasonal organic vegetables
'Wonky bread' subscription box scheme launched to fight food waste	Dijon: Shop in Dijon launches an ethical delivery system	Annual subscription Organic vegetable basket & co Family with pick-up from the delivery point
Seasonal Fruit and Veg Box Scheme — Woodlands Community	CAVES RICHEMER - A home delivery system for local customers	Organic vegetable basket & Single-duo co with lifting from the delivery point

Source: authors' own interpretation using Buzzsumo, 2021

As expected, in Romania all the retrieved posts are offers from farmers approaching this form of selling. Even more, from the type of message, it would seem that most of these posts come from the same account or farm that has multiple subscription types.

When looking at the English posts, we may see that besides the offers from operators of box schemes, the idea has gone from fruits and vegetables to other food products, such as prepared products or fish. As it is the case for France. Adding on this, the titles of these posts in both The UK and France, point out that the operators of box schemes have somewhat gained more responsibilities than satisfying their own customers. For the English titles words and expressions such as "pilots education scheme", "has helped thousands" or "fight food waste". For the French titles we may find words and expressions such as "ethical delivery system", "vegan offer", or "the city of Charleville is reinstating its delivery system", this also suggests that the responsibility of ensuring safe and qualitative food is split between public authorities and local food producers and does not fall on only one responsible. The titles express the fact that the operators of box schemes are active members of the society who take important actions for helping the community become more sustainable. Furthermore, considering Hashem et al. (2018), the offers found in the two experienced countries appeal to the environmental and social concerns of the consumers, pointing out their involvement in solving these problems at some level, a characteristic that transfers to the clients purchasing their products.

As Kummer and Milestad (2020) suggested, the box schemes are also opportunities for already known food producers to diversify their business. While the adds posted on social media networks support the idea of Wills and Arundel (2017) that the box schemes develop along with the internet technology.

Conclusion

Given the initial aim of the research, that of comparing the interest in box schemes in different European countries, including Romania, and see if there are real possibilities of keeping this short supply system viable for this country, and by using a software that enables user to find the number of posts on a specific topic and the user engagement with those posts, we may say that the potential for developing not only fruit and vegetables, but other local produce box schemes, especially for large cities with a near by community of farmers is very high. Yet, there are some aspects that need to be cared for when starting such a box scheme: the presence on social media networks, especially Facebook, should be constant. The posts should not be only about the farms' offer, but also regarding the involvement in sustainable development (environmental and social involvement, as the economic development of the farm is less of a concern to the consumers). The interaction with the users should be constant, in order to develop a good image and be able to develop the box scheme. A single farmer should not be concerned with developing its activity to respond to new products desired by the clients but should engage other farmers with complementary activities and design new boxes for the consumers. Last, but not least, such an activity comes with new responsibilities for sustainable development, that if are not taken seriously, might cause the loss of clients. Even more, developing successful box schemes should not be only the responsibility of food producers, but also of the authorities, who should support farmers and indirectly support the providing of safe and qualitative food for the people.

Nevertheless, the limitations to this study come from the reduced number of countries considered for comparison and the methodology that only considers on the social media posts and user engagement retrieved by one software, that might be biased due to translation of the searched words. Even more, adding other quantitative and qualitative methods to determine the appreciation and opinion of consumers regarding box schemes in different countries are considered important future paths of study for developing this idea.

The study should be of interest to fellow researchers interested in this topic, whom we invite to consider our limitations and suggestions for further study, but as well to food producers interested in developing such a scheme for diversifying their clients and public authorities who should include the support of this short food supply chain form in the future food policies and strategies.

Acknowledgment



This article is part of the research project “Towards Sustainable Food and Drink Choices among European Young Adults: Drivers, Barriers and Strategical Implications” (SUSCHOICE) (ID 66). SUSCHOICE is a transnational project and part of the ERA-Net SUSFOOD2 with funding provided by national sources (MIUR-Italy, RCN-Norway, PM-BLE-Germany and UEFISCDI-Romania) and co-funding by the European Union's Horizon 2020 research and innovation programme.



This work was supported by a grant of the Romanian National Authority for Scientific Research and Innovation, CCDI-UEFISCDI, project number COFUND-ERANET-SUSFOOD2-SUSCHOICE, within PNCDI III.

References

- Anderson, M. D. (2008). Rights-based food systems and the goals of food systems reform. *Agriculture and human values*, 25(4), 593-608.
- Gaitán-Cremaschi, D., Meuwissen, M. P., & Oude Lansink, A. G. (2017). Total Factor Productivity: A Framework for Measuring Agri-food Supply Chain Performance Towards Sustainability. *Applied economic perspectives and policy*, 39(2), 259-285.
- Venn, L., Kneafsey, M., Holloway, L., Cox, R., Dowler, E., & Tuomainen, H. (2006). Researching European ‘alternative’ food networks: some methodological considerations. *Area*, 38(3), 248-258.
- Brown, E., Dury, S., & Holdsworth, M. (2009). Motivations of consumers that use local, organic fruit and vegetable box schemes in Central England and Southern France. *Appetite*, 53(2), 183-188.
- Sarkis, J. (2020). Supply chain sustainability: learning from the COVID-19 pandemic. *International Journal of Operations & Production Management*.
- Mollenkopf, D. A., Ozanne, L. K., & Stolze, H. J. (2020). A transformative supply chain response to COVID-19. *Journal of Service Management*.
- Buzzsumo, 2021, available at: <https://app.buzzsumo.com/content/web?q=box+scheme&language&countries=United+Kingdom>, Last accessed: September 22, 2021.
- Zhong, R., Xu, X., & Wang, L. (2017). Food supply chain management: systems, implementations, and future research. *Industrial Management & Data Systems*.
- Marsden, T., Banks, J., & Bristow, G. (2000). Food supply chain approaches: exploring their role in rural development. *Sociologia ruralis*, 40(4), 424-438.
- de Souza, R. T. (2020). Box-scheme as alternative food network—the economic integration between consumers and producers. *Agricultural and Food Economics*, 8(1), 1-25.
- Paül, V., & McKenzie, F. H. (2013). Peri-urban farmland conservation and development of alternative food networks: Insights from a case-study area in metropolitan Barcelona (Catalonia, Spain). *Land use policy*, 30(1), 94-105.

- Milestad, R., Kummer, S., & Hirner, P. (2017). Does scale matter? Investigating the growth of a local organic box scheme in Austria. *Journal of Rural Studies*, 54, 304-313.
- Kummer, S., & Milestad, R. (2020). The Diversity of Organic Box Schemes in Europe—An Exploratory Study in Four Countries. *Sustainability*, 12(7), 2734.
- Wills, B., & Arundel, A. (2017). Internet-enabled access to alternative food networks: A comparison of online and offline food shoppers and their differing interpretations of quality. *Agriculture and human values*, 34(3), 701-712.
- Prosser, L., Lane, E. T., & Jones, R. (2021). Collaboration for innovative routes to market: COVID-19 and the food system. *Agricultural Systems*, 188, 103038.
- Wheeler, A., Dykstra, P., Black, J., & Soares, N. (2020). COVID-19: UK Veg Box Report. Food Foundation.
- Hashem, S., Migliore, G., Schifani, G., Schimmenti, E., & Padel, S. (2018). Motives for buying local, organic food through English box schemes. *British Food Journal*.
- Statista, 2021. Most used social media networks in 2021. Available at: <https://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/>. Last accessed: September 23, 2021.