
Perception of Food Quality Labels: An Empirical Analysis Among Traditional Food Producers in Poland

Submitted 10/07/21, 1st revision 11/08/21, 2nd revision 22/08/21, accepted 15/09/21

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Abstract:

Purpose: This paper examines traditional food producers' perceptions of food quality labels, indicating the incentives and challenges that food producers may face implementing such schemes. The aim is to identify the main factors affecting traditional food producers' adoption of food quality labels.

Design/Methodology/Approach: The sample was composed of 101 traditional food producers in Poland that had completed the quality certification process. The survey was based on computer-assisted telephone interviews with closed questions (5-point Likert scale, ranging from 1-totally disagree to 5-totally agree). The interviewees were asked to express a judgment by declaring their level of agreement with the 19 statements. Descriptive statistics and factor analysis were used for data analysis.

Findings: Results show that enterprises adopt quality signs to improve product image, reputation, and consumer confidence. The protection granted to food labels by the law may also exert effects on firms' profitability. Producers take advantage of food quality labels in different ways, according to their size and own business strategies. However, the emphasis often put on the positive effects of the food quality labels is far from its potentiality in many cases.

Practical Implications: The study results will be beneficial to both food producers and public authorities seeking to encourage the application of quality labels in the traditional food sector. The identified benefits and barriers will help producers to adopt successful business models. The public authorities should make the certification process more effective and transparent, and promotion should explain to consumers what the food label guarantees.

Originality/Value: This paper proposes several managerial and policy implications related to improving the business environment for the adoption of food quality schemes in the traditional food sector.

Keywords: Certification, food manufacturers, food quality scheme, business benefits.

Paper Type: Research article.

Acknowledgments: This research article was supported by the Scientific Research Project Fund of the University of Warmia and Mazury in Olsztyn.

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1. Introduction

The production of food and agricultural products is an essential part of the European Union economy. An essential part of European culture and heritage is traditional food. Traditional food products (TFPs) exhibit unique characteristics linked to a geographical area, traditional composition, or traditional production method (Barska and Wojciechowska-Solis, 2018). There has been an increased interest in supporting and promoting traditional food products within the European Union, requiring quality labels. In 1992, the EU developed a quality scheme for foodstuffs to provide consumers with clear information, allowing them to make a more informed choice and indicate the added value of a given product (Rojek and Białek, 2019). In 2021 over 3,830 quality labels for wines, spirits, food, and agricultural products were registered or are under examination. Apart from differentiating TFPs from conventional food products, quality labels aim to protect them from imitators and provide them with a considerable competitive advantage (Chrysochou, Krystallis, and Giraud, 2012). Moreover, from a consumer perspective, food quality labels contribute to increasing awareness and ensuring the authenticity of TFPs (Guerrero *et al.*, 2010; Serrano-Cruz *et al.*, 2018), often leading to an increased willingness to pay for certified products (Renko and Bucar, 2014; Balogh *et al.*, 2016).

According to the results of AND-International reports, it is assumed that the market share of GI products (all the four regimes, excluding Traditional Specialty Guaranteed foods) in 2017 was about 7%, with a sales value of EUR 74.8 billion. The value of exports of food products with geographical indications (GIs) to EU and non-EU countries amounted to €31.4 billion – it was around 42% of total sales (AND-International, 2019).

The protection of traditional food from the EU is not only an essential factor in preserving national traditions in the European regions but also an essential aspect for producers, taking into consideration consumer interest and confidence (Nagyová, Horská, and Kádeková, 2011). Producers offering high-quality products should highlight the characteristics of their products to consumers (Velčovská and Sadílek, 2014). They have the right to designate them with the appropriate labels that demonstrate the value and uniqueness of such products (Barska and Wojciechowska-Solis, 2018).

However, to promote traditional food quality schemes using market-based approaches such as food quality labeling and certification schemes, the benefits for producers must outweigh the costs. However, there is currently little understanding of whether this is the case. To date, the research focus has been on consumer perspectives of food quality labels, but research regarding producers' perceptions remains scarce. This study addresses this gap by providing a producer perspective regarding the benefits and problems arising from implementing quality schemes. The aim is to identify the main factors affecting traditional food producers' adoption of food quality labels. To achieve this, this study addresses two key questions: 1) What are producers'

perceptions regarding the incentives and challenges they face when adopting quality schemes; 2) How does the company size affect such perceived incentives and challenges?

The paper is structured as follows: the first part briefly presents the theoretical background of the recent literature on food quality labels. The research method and the results of the empirical studies are then presented. Finally, conclusions and suggestions for future research are explained.

2. Literature Review

Food producers may choose from a vast number of labels that signal the product's origin, quality, or organic character (or a combination of these characteristics). At the EU level, as part of the policy on food quality, the European Commission has adopted schemes in which quality labels can be awarded to products fulfilling certain conditions. These schemes are (Regulation (EU) no. 1151/2012):

- Protected Designation of Origin (PDO) guarantees that a product (or the ingredients used to make it) originates from a specific geographical area and is produced, processed and prepared in a given region.
- Protected Geographical Indication (PGI) covers food and agricultural products closely linked to the geographical area, where at least one of the stages of production, processing or preparation takes place in the specific region.
- Traditional Speciality Guaranteed - is not a label of origin and no link to a region of origin is necessary, because the focus is on tradition, either in the composition or means of production. TSG does not apply to wines and spirits.

These schemes are meant to encourage diverse agricultural production, protect consumer confidence and protect product names from misuse and imitation. A group of producers usually submits applications to use these schemes via their national food authority to the European Commission, which processes the applications and may then grant the right to use the labels (Grunert and Aachmann, 2016). However, these labels are not very well known among Polish consumers (Bryła, 2015, Barska and Wojciechowska-Solis, 2018).

At the national level, the body responsible for managing the registration of traditional food products within the meaning of EU regulations is the Ministry of Agriculture and Rural Development. In addition to regulations concerning the registration of products at the EU level (Ustawa..., 2004). The list includes products whose quality or unique characteristics result from traditional production methods, which are part of the region's cultural heritage where they are produced and the local community's identity. The production methods can be considered traditional only if they have been used for at least 25 years. The list of traditional products aims to promote information on products obtained using traditional, historically established methods. Currently, almost 2,000 products have been registered in Poland. Traditional food products in Poland may also be labeled with the "Jakość Tradycja" ("Quality and Tradition") quality mark to distinguish high-quality food

products, including traditional products. Producers who use the "Quality and Tradition" mark must have 50 years of documented product manufacturing using a traditional recipe, raw materials, or technology.

Quality schemes enable consumers to make choices in line with their preferences by providing clear information on product origin or specialty character (Verbeke *et al.*, 2012). Many studies have focused on consumer issues related to geographical indications (Verbeke and Roosen, 2009; Arfini, Albisu, and Giacomini, 2011; Aprile, Caputo, and Nayga, 2012) or traditional specialties (Guerrero *et al.*, 2010; Vanhonacker *et al.*, 2010; Almli *et al.*, 2011; Chrysochou, Krystallis, and Giraud, 2012). Several studies indicate that consumers value geographical indications and traditional character as quality signals on food products (Espejel, Fandos, and Flavian, 2008; Hersleth *et al.*, 2011), several others report that consumer valuation cannot be taken for granted and is limited to particular market segments (Loureiro and Umberger, 2007; Kaczorowska *et al.*, 2021).

Level of study, age, income level, and belonging to a rural or urban area influence most consumers' preferences regarding food quality labels (Botonaki, Polymeros, Tsakirido, and Mattas, 2006; Xu *et al.*, 2012; Bryła, 2017). However, in many cases, the consumer cannot understand and differentiate quality schemes (Hassan and Monier-Dilhan, 2006; Aragrande *et al.*, 2005). The credibility of products promoted through the media seems inefficient when it comes to consumer awareness and comprehension regarding different quality labels (Mattas *et al.*, 2019).

Despite this, all geographically indicated products represent a powerful marketing tool that increases sales by building an efficient Unique Selling Proposition (USP) (Reviron, Thevenod-Mottet and El Benni, 2009). An often expected effect is positive price development. Because of the production limits of regional manufacturing, the total quantity of production is reduced. Assuming that demand remains constant, higher prices can be naturally expected (DIW Wochenber, 2007). Positive economic effects may also apply to exports. However, the favorable price effect is not always sufficient to cover the rising costs associated with the production of high-quality food and unequal distribution in the value chain (Török *et al.*, 2020). According to the available literature, these effects may be differentiated depending on the type of product and region. For this reason, it is generally not possible to unequivocally evaluate where and when an investment in GI labeling will generate a good return.

3. Research Methodology

This study aims to identify the main factors affecting traditional food producers' adoption of food quality labels. The data for the study comprised interviews conducted among 101 Polish food producers adopting traditional food quality schemes. Given the difficulty of defining traditional food, the following procedure was adopted to construct the sample. First, certifications were selected based on the online ambrosia platform – the EU geographical indications register. In 2021, this tool provided information on more than 1,400 geographical indications registered in the EU, including 44 from Poland. Second,

traditional food quality schemes that were present in Poland were selected. Third, only those certifications that were linked to an online dataset of certified companies were considered. The above selection process led to the analysis of the following food quality schemes: The Polish List of Traditional Products, the Polish Certificate "Quality and Tradition," Protected Designation of Origin (PDO), Protected Geographical Indication (PGI), Traditional Specialty Guaranteed (TSG) and Organic food. These food quality labels are extensively described in the previous section.

For selected certification, a list of the certified enterprises was downloaded. In total, 350 companies were listed. Around 30% of the enterprises were excluded because of non-response due to unobtainable telephone numbers or non-response after the second call. Due to the large number and the considerable effort involved in identifying contact persons and arranging and conducting telephone interviews, a random sample of 101 enterprises was collected (Table 1).

Table 1. Profile of enterprises that participated in the survey

Food quality schemes	Percentage of enterprises
Polish List of Traditional Products	66
Polish Certificate „Jakość Tradycja”	35
Protected Designation of Origin (PDO)	3
Protected Geographical Indication (PGI)	4
Traditional Specialty Guaranteed (TSG)	1
EU Organic farming	16
Sectors	
Sugar and confectionery	12
Fruit and vegetable	11
Processed meat	32
Dairy	19
Fish	1
Other sectors	26
Number of employees	
1	14
2-9	46
10-49	20
50-249	15
>250	6

Source: Own research.

The enterprises are located throughout Poland. Concerning the number of enterprises interviewed for each food quality scheme, 66% of the sample was composed of processing enterprises on the Polish List of Traditional Products, 35% was represented by Polish companies with the “Quality and Tradition” certificate, 16% of Organic food firms, 3% of Protected Designation of Origin label companies, 4% of Protected Geographical Indication (PGI) label enterprises and 1% of the sample were Traditional Specialty Guaranteed (TSG) certificate firms (Table 1). Among the 101 traditional food processing enterprises, 74% of the sample is represented by five sectors: processed meat (32%), dairy

(19%), fruit and vegetable (11%), sugar, and confectionery (12%), fish (1%). 80% are micro and small enterprises with less than 50 employees, 15% are medium-sized enterprises, and 6% are large companies with more than 250 employees. Such asymmetry in firm size is in line with the average size of Polish traditional food processing enterprises, with large and micro firms coexisting together in the market (Jakubowska and Wierzejski, 2017).

The survey was based on computer-assisted telephone interviews with closed questions (5-point Likert scale, ranging from 1-totally disagree to agree 5-totally). Interviewees were asked to express a judgment by declaring their level of agreement with the 19 statements described (Jakubowska, 2021), the reality of traditional food production in Poland, the importance of food quality schemes, and their effects on traditional production. The interview was approximately 20 minutes long. Before the survey, a pilot test was conducted on certified enterprises to verify the level of understanding of the questions asked and to capture the suggestions of firm managers on additional factors to be considered in the survey. Those interviewed were managers of traditional food quality schemes applied by the enterprises.

Descriptive statistics (mean and standard deviation) and factor analysis were used to analyze the results. Principal component analysis was used as the Varimax extraction and rotation method for greater separation of items. Factors with eigenvalues >1 were considered relevant. Factor analysis data were examined in terms of normality, collinearity, and outlier distribution. Tests of Kaiser-Meyer-Olkin (KMO), Cronbach's α coefficient, and Bartlett's sphericity were used to determine the confidence level and the suitability of using a factor analysis (Pacheco *et al.*, 2018). A factor analysis was used to determine the components that most influence the producers' decision when certifying traditional food products. All analyses were performed using STATISTICA 13 software.

4. Results

This study focused on the experience of traditional food producers with labeling systems. The respondents were asked to express whether they had noticed benefits or barriers in selected areas: production scale, profits, sales volumes, employment, premium price, customer confidence, distribution possibilities, and new markets access, prestige and visibility of the product, complex documentation, control, and procedures.

Table 2 shows the descriptive statistics of benefits and problems for the traditional food producers in connection with quality labels. Most respondents agreed that implementing a food quality label improves a product's image, producer reputation, and consumer confidence. However, they neither agreed nor disagreed with statements indicating premium price, increased distribution possibilities, or better flow of information towards customers. The extent to which enterprises decide to use such schemes depends on many factors, among which the cost-benefit analysis and the marketing strategy pursued by enterprises.

Table 2. Proposed item measures of incentives and challenges for traditional food producers in connection with a quality label.

Item	Item description	Mean *	SD	Min	Max
Increased production	A food quality label increases the company's production	3,49	1,51	1	5
Increased profits	A food quality label increases the company's profits	3,53	1,52	1	5
Increased employment	A food quality label influences an increase in the company's employment	2,51	1,17	1	5
Increased number of customers	A food quality label increases the number of the company's customers	3,53	1,56	1	5
Increased marketing expenses	A food quality label influences the increase in marketing expenses	2,79	1,34	1	5
Increased product price	A food quality label increases the price of products	2,99	1,45	1	5
New markets	A food quality label allows access to new markets	3,49	1,51	1	5
Increased distribution possibilities	A food quality label allows access to new distribution channels	2,83	1,35	1	5
Image improvement	A food quality label improves the image of the product	4,20	1,33	1	5
Information for customers	A food quality label provides a better flow of information towards customers	2,88	1,21	1	5
Label as a choice factor	A food quality label is an important food choice factor for customers	3,61	1,18	1	5
Increased product visibility	A food quality label allows increasing the visibility of the product	3,81	1,07	1	5
Increased sales volume	A food quality label increases the sale of products	3,52	1,15	1	5
Increased consumer confidence	A food quality label increases the customers' confidence in products	4,09	0,94	1	5
Increased producer reputation	A food quality label raises the reputation of the producer	4,18	0,94	1	5
Financial support	A food quality label is a condition in the application for financial support programs	3,50	0,94	1	5
Increased controls	A food quality label results in stricter controls of the activities of food producers	3,50	1,17	1	5
Complex documentation	A food quality label is connected with the necessity to keep cumbersome documentation	3,25	1,27	1	5
Complex procedures	A food quality label increases the company's production	2,55	1,02	1	5

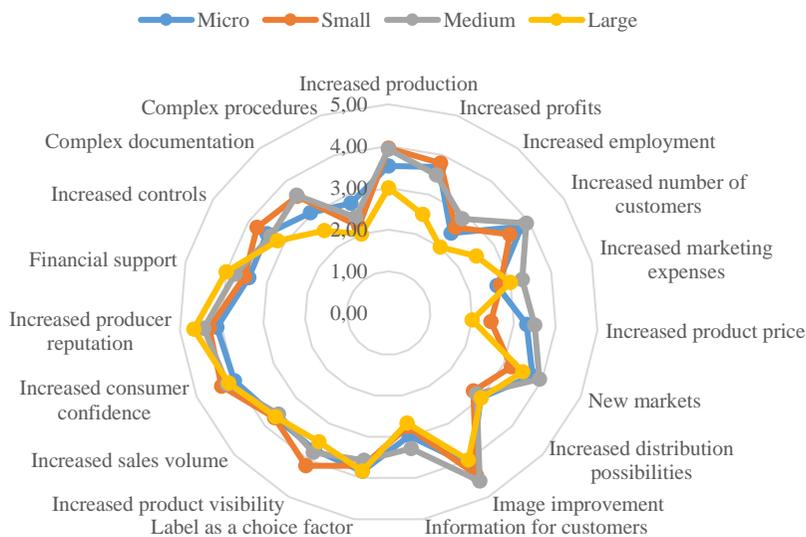
Note: *A five-point Likert scale (1 = strongly disagree and 5 = strongly agree).

Source: Own research.

This result may be associated with the profile of traditional food producers in Poland, characterized mainly by small and medium-sized companies (SMEs). SMEs constitute

the majority of firms in the EU as well as in Poland. SMEs represent 99.8% of all companies operating in Poland, and they play a relevant role in the food industry (Rudawska, 2014). This causes that enterprises produce traditional food in Poland on a small scale, which often has limited distribution and marketing possibilities. Over the past decade, competition among firms has increased because of globalization, making it very difficult for SMEs to create a competitive advantage in markets dominated by large food companies (Guerrero *et al.*, 2012). In this situation, changes in consumer preferences towards interest in traditional food products could be an excellent opportunity. As far as the development of traditional food is concerned, the level of a country's development and purchasing power differentiates the behavior of food consumers (Rudawska, 2014). In Poland, the prices of food are significantly important. Therefore mass-produced products are of great interest. However, over the past few years, an opposite trend is emerging among consumers who value quality more than price. This is also evidenced by the results of this research, which show the problems with seeking a higher price for TFPs.

Figure 1. Incentives and challenges of quality labels from a business perspective



Note: *A five-point Likert scale (1 = strongly disagree and 5 = strongly agree).

Source: Own research.

Traditional food producers take advantage of food quality labels differently, according to their size and own business strategies. The scheme resulted in increased profits, sales volume, and product visibility for micro-and small enterprises implementing a quality. The labeling requirements might be problematic for small and medium enterprises compared to large businesses. Respondents representing large enterprises disagreed with the statements that quality labels increase the price of products, company profits, employment, and the number of customers. They perceive a food

quality label as a condition to apply for financial support programs. This illustrates that large enterprises may benefit less from those labels in terms of financial results. Regardless of their production size, all groups placed great importance on such factors as product image improvement, increased customer confidence, and producer reputation. Most of them present an ambivalent attitude to control, documentation, and procedure issues.

These results confirm the findings of studies conducted previously by other researchers. Some research findings suggest that many food enterprises seek certification mainly for external reasons (image, customers' impression of the company, conformity with regulations), but it is only one more step to realize internal improvements (awareness of the issue of quality, better problem diagnosis, better discipline, reduction of the costs of quality) (Karipidis *et al.*, 2009; Bryła, 2014). Adopting quality labels constitutes an opportunity to increase sales by differentiating one's offer and growing responsibility (Horne, 2009). According to Bryła (2017), quality sign functions may be analyzed from producers' perspectives (higher competitiveness, image effects, strategic considerations) and other stakeholder groups: consumers, authorities, and non-governmental organizations.

The obtained research results present a different perception of the price of products compared to other authors. Many surveys have found that higher prices of TFPs can be expected because the protection of origin limits the region of production to a specific area, which tends to reduce the total quantity of production in many cases (Chilla *et al.*, 2020; Carbone *et al.*, 2014). Among traditional food producers in Poland, this advantage is particularly noticeable for smaller producers. This indicates that, although the emphasis is often on the positive effects of food quality labels, it is far from their potential in many cases.

Based on these considerations, the main factors were then identified which may affect the decision of traditional food producers to adopt quality labels. An exploratory factor analysis with principal components was conducted. First, it is necessary to check whether it is possible to do a factor analysis on these data, and therefore, a KMO and a Bartlett test were performed. Given that the value of the KMO coefficient is more significant than 0.6 and the significance of Bartlett is less than 0.05, it is possible to perform a factor analysis (Table 3).

Table 3. KMO (Kaiser–Meyer–Olkin) and Bartlett's test

	Description	Data
	Kaiser–Meyer–Olkin	0,723
Bartlett's Test of Sphericity	Approx. Ch-Square	616,377
	df	171
	Sig.	0,000

Source: Own research.

In the first version of the scale, it was intended that seven items represent each sub-scale. The number of factors retained was determined by using the following criteria: (1) Kaiser's rule of retaining factors with eigenvalues greater than 1, (2) factor explains at least 10% of the total variance extracted, and (3) each factor had to have at least three items. A problem arose here because each component should contain at least three factors, and here that is not the case, i.e., four components contain only two factors. The resulting factors were rotated to a simple structure using Varimax rotation. Based on that, it was concluded that the number of components should be reduced to three. Three components were obtained that explain 45.76% of the variations of the observed variables, and each component has more than two factors (Table 4).

Table 4. *Eigenvalues and Extraction Sums of Squared Loadings*

Component	Total	(%) Variance	Cumulative (%)
1	5,10	26,82	26,82
2	1,92	10,10	36,92
3	1,68	8,84	45,76

Source: Own research.

The inclusion criterion for items on the retained factor was that they had loadings of at least 0.6 on that factor. The analysis yielded three factors (Table 5): Confidence, (5 items), $\alpha=0.93$, Profitability, (5 items), $\alpha=0.85$, Normative barriers (three items), $\alpha=0.88$. Six items were omitted because they did not meet the aforementioned criteria.

Table 5. *Factor loadings for the components that may influence the decision of traditional food producers to adopt food quality schemes.*

Items	Factor 1 „Confidence”	Factor 2 „Profitability”	Factor 3 „Formalities”
Increased production		0,65	
Increased profits		0,66	
Increased number of customers		0,79	
Access to new markets		0,70	
Increased distribution possibilities		0,72	
Label as a choice factor	0,74		
Increased product visibility	0,80		
Increased sales volume	0,69		
Increased customers’ confidence	0,75		
Increased producer reputation	0,60		
Increased controls			0,71
Complex documentation			0,74
Complex procedures			0,69

Source: Own research.

The factors that may affect producers’ decisions can be grouped into three categories. Each category is defined by certain items, with the items that have the highest value

in each factor and best reflect the characteristics of a given category. It is possible to determine the following components:

Factor 1, “CONFIDENCE,” promotes confidence in the producer’s ability to offer a high-quality product and thus fulfill quality requirements. Some producers hope to attract more buyers by creating consumer confidence, a reputation as a trusted supplier, or a marketing edge with increased visibility of the product.

Factor 2 is “PROFITABILITY,” some companies can charge a price premium for a high-quality product. In addition, the introduction of quality schemes often leads to an increase in the number of buyers, in turn leading to increased profits and new markets and distribution channels.

Factor 3, “FORMALITIES,” concerns a negative attitude to documentation. In most cases, the necessity of documentation is not well understood by traditional food producers. Problems can also occur because of poor skills related to quality management and the limited availability of human and financial resources.

5. Discussion

The results suggest that food quality labels are beneficial to producers as they give their products a good brand. Customers and retailers want to see proof that specific quality standards are applied to food products; therefore, adopting a quality label is the way producers can show it. If producers can meet retailers’ demands, they can secure supply contracts. This means that the adoption of certifications can potentially increase the volume of sales. The food quality label is perceived to increase product visibility, customer confidence, and producer reputation. Having a certificate shows that the product is high quality, so it is a communication tool for consumers (Reviron, Thevenod-Mottet, and El Benni, 2009). Some empirical case studies support this assumption; Hayes, Lence, and Stoppa (2004) declared that a quality food label could prevent product imitation and constitute an element for product differentiation. Thus, such schemes are considered a tool for producers through which a product’s protection from counterfeiting can be achieved, and product differentiation can be secured (Sciarra and Gellman, 2012).

The results show that profitability can be an incentive for enterprises to implement quality labels. A price premium is rooted in the willingness of consumers to pay more for traditional food products. Some research confirms consumers’ willingness to pay for traditional food products (Renko and Bucar, 2014; Balogh *et al.*, 2016).

The results also indicate that profit-maximizing is not the only reason producers choose to become certified. Factor 2 also revealed the importance of new markets and distribution channels. There are two basic TFPs distribution models in Poland (Borowska, 2012). The first model uses short supply chains, offering food to the local market. The second model is based on the use of long distribution chains due to the

specificity of the market structure and the nature of the product. In Poland, the Internet channel is still underused (Sieczko and Sieczko, 2012). Some scholars have identified the perception that quality labels provide market access and new distribution possibilities (Iraldo and Barberio, 2017). If this is the case, it has been suggested that quality schemes may reduce market access for those unable to afford certification, particularly for small-scale producers or those in developing countries, acting as non-tariff barriers to trade (Bi'enable, Vermeulen and Bramley, 2011). In countries with a high degree of TFP market maturity, there is an increase in the importance of retail chains, including supermarkets and discount stores, in distributing such products (Bryła, 2014).

The key challenges in adopting a food quality label are formalities. Some certification standards require producers to install new infrastructure that can be expensive (Chikudza *et al.*, 2020). Moreover, if the enterprises are certified by different certification schemes, this calls for several yearly inspections, with the increased formalities. Some scholars have suggested that although large companies may be able to meet these standards, this might be a problem for small-scale producers who need additional investment to comply with the required standards (Lee, 2008). Stricter requirements can guarantee a high level of product reputation and recognizability among consumers, but poorly-equipped producers may be excluded because unable to comply with these rules (Galtier, Belletti, and Maescotti, 2013).

The analysis of literature data indicates that a food quality label associates a specific product with a particular region or traditional production methods and provides producers with a significant economic opportunity to differentiate their products and create niche markets. Based on the studies presented in the paper and their results, it could also be said that in Poland quality scheme has not been exploited to its fullest potential yet. However, observations of the increasing importance of the food quality labels in Poland allow for a more optimistic look into the future and, at the same time, substantiate the need to undertake more intense actions to improve consumer awareness and trust in labels to develop a distribution system.

6. Conclusions

This paper is based on data from an original survey designed to investigate traditional food producers' perceptions of food quality labels, indicating the incentives and challenges they may face when implementing such schemes. The current study focused on enterprises that have completed the certification process for the food labeling systems of European labels and Polish national schemes.

The results show that food producers in Poland have heterogeneous perceptions of food quality schemes. The profile of a company may affect the magnitude of incentives and challenges they perceive. The most significant differences were in areas of increased profits, sales volume, and premium price. Producers declared that adopting food quality labeling provides opportunities for enhanced market and

distribution channel access, product acceptance, increased production, sales and profits, positive consumer perception of products, and increased producer reputation. Producers also identified challenges, such as increased controls, complex documentation, and procedures when adopting quality schemes.

The research outcomes suggest that there are many considerations for a producer before pursuing certification. These factors may either encourage producers to adopt food quality schemes or discourage them from doing so. Perceived confidence and profitability-related benefits are factors that may positively affect business adoption decisions. Factors that may be barriers are connected to required documentation and may negatively affect the adoption decision. It is expected that the adverse effects of barriers on a company's adoption decision may be less significant if more excellent benefits outweigh them.

The diffusion of quality scheme application by traditional food producers can be achieved through the efforts of the producers themselves and public authorities. The paper also has practical implications that can be beneficial to both food producers and the public authorities that wish to encourage the application of quality schemes in the traditional food sector. Identified incentives and challenges could help producers to adopt successful business models that will enable them to flourish in the market. The main focus of such efforts must be either to maximize the benefits derived from the quality scheme implementation or to eliminate or mitigate the adverse effects of barriers. The public authorities should make the certification process more effective and transparent, and promotion should explain to consumers what the food label guarantees. These factors may suggest directions for the formulation of public policy related to traditional food producers.

This study presents some limitations. First, the analysis refers to only some of the existing food quality schemes because the authors focused only on the schemes widespread in Poland. This selection limits the generalization of the results. The analysis needs to be confirmed on a more significant number of quality schemes. For this reason, future research should be extended to a more significant number of labels and countries. A reasonable estimate of the effects of the factors presented in this paper on food quality scheme perception by traditional food producers will make it possible to evaluate various alternatives for each company. Because knowledge of the issues affecting food quality scheme adoption decisions is still limited, there is a need for further research efforts centered on the economic, marketing, and social conditions prevailing in the traditional food sector in Europe.

References:

Act of 17 December 2004 on the registration and protection of names and designations of agricultural products and foodstuffs, and on traditional products. *Journal of Laws of 2019*, item 915 and of 2020, item 285.

- Almli, V.L., Verbeke, W., Vanhonacker, F., Naes, T., Hersleth, M. 2011. General image and attribute perceptions of traditional food in six European countries. *Food Quality and Preference*, 22, 129-138.
- AND-International. Study on Economic Value of EU Quality Schemes, Geographical Indications (GIs) and Traditional Specialities Guaranteed (TSGs), Final Report. 2019. Retrieved from: <https://op.europa.eu/en/publication-detail/-/publication/a7281794-7ebe-11ea-aea8-01aa75ed71a1>.
- Aprile, M.C., Caputo, V., Nayga, R. 2012. Consumers' valuation of food quality labels: the case of European geographic indication and organic farming labels. *International Journal of Consumer Studies*, 36, 158-165.
- Aragrande, M., Segré, A., Gentile, E., Malorgio, G., Giraud Heraud, E., Robles, R., Halicka, E., Loi, A., Bruni, M. 2005. Food supply chains dynamics and quality certification. EU/DG Joint Research Centre, Brussels.
- Arfini, F., Albisu, L.M., Giacomini, C. 2011. Current situation and potential development of geographical indications in Europe: In: Barham, E. and Sylvander, B. (Eds.). *Labels of origin for food: Local development, global recognition*. Wallingford: CAB International, 29-44.
- Balogh, P., Békési, D., Gorton, M., Popp, J., Lengyel, P. 2016. Consumer willingness to pay for traditional food products. *Food Policy*, 61, 176-184. DOI: 10.1016/j.foodpol.2016.03.005.
- Barska, A., Wojciechowska-Solis, J. 2018. Traditional and regional food as seen by consumers – research results: the case of Poland. *British Food Journal* 120, 9, 1994-2004. DOI: 10.1108/BFJ-01-2018-0054.
- Bienabe, E., Vermeulen, H., Bramley, C. 2011. The food quality turn in South Africa: an initial exploration of its implications for small-scale farmers' market access. *Agrekon*, 50, 1, 36-52. DOI: 10.1080/03031853.2011.562662.
- Borowska, A. 2012. Dystrybucja żywności wysokiej jakości a preferencje konsumentów w Polsce. *Zeszyty Naukowe Uniwersytetu Ekonomicznego w Poznaniu* [Distribution of high-quality food and consumer preferences in Poland. *Scientific Journals of the University of Economics in Poznań*], 237, 274-284.
- Botonaki, A., Polymeros, K., Tsakirido, E., Mattas, K. 2006. The role of food quality certification on consumers' food choices. *British Food Journal*, 108, 77-90.
- Bryła, P. 2014. Rola oznaczeń regionalnych i ekologicznych produktów żywnościowych – w świetle opinii kierowników sklepów spożywczych [The role of regional and ecological food labels - in the light of the opinion of grocery store managers]. In: Czubała, A., Hadrian, P., Wiktor, J. (Eds.) *Marketing w 25-leciu gospodarki rynkowej w Polsce*. Polish Economic Press, 203-211.
- Bryła, P. 2015. The role of appeals to tradition in origin food marketing. A survey among Polish consumers. *Appetite*, 91, 302-310. DOI: 10.1016/j.appet.2015.04.056.
- Bryła, P. 2017. The perception of EU quality signs for origin and organic food products among Polish consumers. *Quality Assurance and Safety of Crops & Foods*, 9(3), 345-355. DOI: 10.3920/QAS2016.1038.
- Carbone, A., Caswell, J., Galli, F., Sorrentino, A. 2014. The Performance of Protected Designations of Origin: An Ex Post Multi-Criteria Assessment of the Italian Cheese and Olive Oil Sectors. *Journal of Agricultural & Food Industrial Organization*, 12, 121-140.
- Chikudza, L., Gauzente, C., Guillotreau, P., Alexander, K.A. 2020. Producer perceptions of the incentives and challenges of adopting ecolabels in the European finfish

- aquaculture industry: A Q-methodology approach. *Marine Policy*, 121, 104-176. DOI: 10.1016/j.marpol.2020.104176.
- Chilla, T., Fink, B., Balling, R., Reitmeier, S., Schober, K. 2020. The EU Food Label 'Protected Geographical Indication': Economic Implications and Their Spatial Dimension. *Sustainability*, 12, 5503. DOI: 10.3390/su12145503.
- Chrysochou, P., Krystallis, A., Giraud, G. 2012. Quality assurance labels as drivers of customer loyalty in the case of traditional food products. *Food Quality and Preference*, 25, 156-162. DOI: 10.1016/j.foodqual.2012.02.013.
- DIW Wochenber. 2007 Deutsches Institut für Wirtschaftsforschung. Höhere Qualität von Lebensmitteln durch gesetzlich geschützte Herkunftsangaben. *DIW Wochenber*, 74, 377-382.
- Espejel, J., Fandos, C., Flavian, C. 2008. Consumer satisfaction: A key factor of consumer loyalty and buying intention of a PDO food product. *British Food Journal*, 110, 865-881.
- Galtier, F., Belletti, G., Maescotti, A. 2013. Factors Constraining Building Effective and Fair Geographical Indications for Coffee: Insights from a Dominican Case Study. *Development Policy Review*, 31(5), 597-615.
- Grunert, K.G., Achmann, K. 2016. Consumer reactions to the use of EU quality labels on food products: A review of the literature. *Food Control*, 59, 178-187. DOI: 10.1016/j.foodcont.2015.05.021.
- Guerrero, L., Claret, A., Verbeke, W., Enderli, G., Zakowska-Biemans, S., Vanhonacker, F., Issanchou, S., Sajdakowska, M., Granli, B.S., Scalvedi, L. 2010 Perception of traditional food products in six European regions using free word association. *Food Quality and Preference*, 21, 225-233. DOI: 10.1016/j.foodqual.2009.06.003.
- Guerrero, L., Claret, A., Verbeke, W., Vanhonacker, F., Enderli, G., Sulmond-Rosse, C., Hersleth, M., Guardia, M. 2012. Cross-cultural conceptualization on the words Traditional and Innovation in a food context by means of sorting task and hedonic evaluation. *Food Quality and Preference*, 25, 69-78.
- Hassan, D., Monier-Dilhan, S. 2006. National brands and store brands: competition through public quality labels. *Agribusiness*, 22, 21-30.
- Hayes, D.J., Lence, S.H., Stoppa, A. 2004. Farmer owned brands? *Agribusiness: An International Journal*, 20(3), 269-285. DOI: 10.1002/agr.20018.
- Hersleth, M., Lengard, V., Verbeke, W., Guerrero, L., Naes, T. 2011. Consumers' acceptance of innovations in dry-cured ham: Impact of reduced salt content, prolonged aging time and new origin. *Food Quality and Preference*, 22, 31-41.
- Horne, R. 2009. Limits to labels: the role of eco-labels in the assessment of product sustainability and routes to sustainable consumption. *International Journal of Consumer Studies*, 33, 175-182.
- Iraldo, F., Barberio, M. 2017. Drivers, barriers and benefits of the EU ecolabel in European companies' perception. *Sustainability*, 9(5), 1-15. DOI: 10.3390/su9050751.
- Jakubowska, D. 2021. Market Differentiation Potential of Traditional Food Quality Labels: Consumer and Producer Expectations.
- Jakubowska, D., Wierzejski, T. 2017. Aspects of the innovative activity of traditional food manufacturers as illustrated by the example of the Warmińsko-Mazurskie voivodeship. *Journal of Agribusiness and Rural Development*, 3(45), 563-571. DOI: 10.17306/J.
- Kaczorowska, J., Prandota, A., Rejman, K., Halicka, E., Tul-Krzyszczuk, A. 2021. Certification Labels in Shaping Perception of Food Quality-Insights from Polish

- and Belgian Urban Consumers. *Sustainability*, 13(2), 702. DOI: 10.3390/su13020702.
- Karipidis, P., Athanassiadis, K., Aggelopoulos, S., Giompliakis, E. 2009. Factors affecting the adoption of quality assurance systems in small food enterprises. *Food Control*, 20, 93-98. DOI: 10.1016/j.foodcont.2008.02.008.
- Lee, D. 2008. *Aquaculture Certification. Seafood Ecolabelling: Principles and Practice*, Blackwell Publishing Ltd, Oxford, UK, 106-133.
- Loureiro, M.L., Umberger, W.J. 2007. A choice experiment model for beef: What US consumer responses tell us about relative preferences for food safety, country-of-origin labelling and traceability. *Food Policy*, 32, 496-514.
- Mattas, K., George Baourakis, G., Efthimia Tsakiridou, E., Hedoui, M., Hosni, H. 2019. PDO Olive Oil Products: A Powerful Tool for Farmers and Rural Areas, *Journal of International Food and Agribusiness Marketing*. DOI: 10.1080/08974438.2019.1599763.
- Nagyová, L., Horská, E., Kádeková, Z. 2011. Food quality policy and labelling. *Delhi Business Review*, 12, 85-100.
- Pacheco, M.H., Kuriya, S.P, Capobianco, C.S., Pimentel, T.C., Cruz, A.G., Esmerino, E.A., Freitas, M.Q. 2018. Exploration of gender differences in bottled mineral water consumption: A projective study of consumer's perception in Brazil. *Journal of Sensory Studies*, 33, e12434. DOI: 10.1111/joss .12434.
- Regulation (EU) No 1151/2012 of the European Parliament and of the Council of 21 November 2012 on quality schemes for agricultural products and foodstuffs.
- Renko, S., Bucar, K. 2014. Sensing nostalgia through traditional food: an insight from Croatia. *British Food Journal*, 116(11), 1672-169. DOI: 10.1108/BFJ-02-2014-0089.
- Reviron, S., Thevenod-Mottet, E., El Benni, N. 2009. Geographical indications: Creation and distribution of economic value in developing countries. Working Paper, 14. NCCR Trade Regulation.
- Rojek, B., Białek, C. 2019. EU food quality scheme. European Parliamentary Research Service. Retrieved from: https://www.europarl.europa.eu/thinktank/pl/document.html?reference=EPRS_A TA%282019%29637977.
- Rudawska, E.D. 2014. Customer loyalty towards traditional products - Polish market experience. *British Food Journal*, 116(11),1710-1725. DOI: 10.1108/BFJ-10-2013-0299.
- Sciarra, A.F., Gellman, L. 2012. Geographical indications: why traceability systems matter and how they add to brand value. *Journal of Intellectual Property Law & Practice*, 7, 264-270. DOI: 10.1093/jiplp/jps013.
- Serrano-Cruz, M.R.; Espinoza-Ortega, A.; Sepúlveda, W.S.; Vizcarra-Bordi, I.; Thomé-Ortiz, H. 2018. Factors associated with the consumption of traditional foods in central Mexico. *British Food Journal*, 120, 2695-2709. DOI: 10.1108/BFJ-11-2017-0663.
- Sieczko, A., Sieczko, L. 2012. Dystrybucja tradycyjnych i regionalnych produktów mlecznych przez portal Allegro [Distribution of traditional and regional dairy products through the Allegro portal]. *Zeszyty Naukowe Uniwersytetu Ekonomicznego w Poznaniu [Scientific Papers of the University of Economics in Poznań]*, 237, 199-210.

-
- Török, Á., Jantyk, L., Márk Maró, Z., Moir, H. 2020. Understanding the Real-World Impact of Geographical Indications: A Critical Review of the Empirical Economic Literature. *Sustainability*, 12(22), 9434.
- Vanhonacker, F., Verbeke W., Guerrero L., Claret A., Contel M., Scalvedi L., Zakowska-Biemans S., Gutkowska K., Sulmot-Rossé C., Raude J., Gransli B.S., Hersleth M. 2010. How European consumers define the concept of traditional food: Evidence from a survey in six countries. *Agribusiness*, 26, 453-476.
- Velčovská, S., Sadílek, T. 2014. Analysis of Quality Labels Included in the European Union Quality Schemes. *Czech Journal of Food Science*, 32(2), 194-203. DOI: 10.17221/189/2013-CJFS.
- Verbeke, W., Pieniak, Z., Guerrero, L., Hersleth, M. 2012. Consumers' Awareness and Attitudinal Determinants of European Union Quality Label Use on Traditional Foods. *Bio-based and Applied Economics*, 1(2), 213-229. DOI: 10.22004/ag.econ.141970.
- Verbeke, W., Roosen, J. 2009. Market differentiation potential of country-of-origin, quality and traceability labelling. *The Estey Centre Journal of International Law and Trade Policy*, 10, 20-35.
- Xu, P., Zeng, Y., Fong, Q., Lone, T., Liu, Y. 2012. Chinese consumers' willingness to pay for green- and eco-labeled seafood. *Food Control*, 28, 74-82.