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VALUE IN SHORT FOOD SUPPLY CHAINS

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Purpose: This study examines consumer preferences in Short Food Supply Chains (SFSCs) to identify key factors influencing purchasing decisions. The research aims to bridge the gap in understanding consumer-perceived value in SFSCs and provide practical insights for producers and policymakers.
Design/methodology/approach: The study employs Q-methodology, integrating quantitative and qualitative analysis, to classify consumer viewpoints. A structured survey was conducted among 340 Polish consumers from the Małopolska and Mazowieckie regions who actively purchase via SFSCs. Principal Component Analysis (PCA) was applied to identify distinct consumer perspectives.
Findings: The analysis reveals five consumer viewpoints regarding SFSCs. The most critical purchasing factors are food quality, freshness, and safety, followed by local patriotism. Convenience is moderately important, while direct relationships with producers are ranked lower. The study suggests that marketing efforts should focus on quality assurance, certification, and local product origin, rather than emphasizing producer-consumer interactions.
Research limitations/implications: This study focuses on two Polish regions, which may limit the applicability of its findings to other areas or populations. Selection bias may arise, as only active SFSCs consumers were surveyed, excluding those deterred by price or convenience. Future research should explore broader demographics, regional differences, and alternative SFSC models, including digital platforms.
Practical implications: Producers should emphasize product freshness, safety, and local sourcing in marketing strategies. Expanding distribution options (e.g., home delivery, subscription boxes) could attract convenience-driven consumers. Certification and quality labels can enhance consumer trust and support premium pricing.
Originality/value: This study provides a novel application of Q-methodology to SFSC consumer analysis. Unlike prior studies, it offers a data-driven segmentation of consumer motivations, guiding businesses toward strategic marketing and distribution improvements to enhance SFSC viability. Furthermore, the study expands the understanding of consumer trust, ethnocentric purchasing behavior, and value perception in SFSCs, offering actionable insights for both producers and policymakers aiming to strengthen local food systems.
Keywords: Short food supply chains, value dimensions, Q-Methodology, consumer behaviour, sustainability.
Category of the paper: Research paper.

1. Introduction

Short food supply chains (SFSCs) have emerged relatively recently as a focus of academic research, with the first mention of the term appearing at the beginning of the 21st century (Renting et al., 2003). A significant milestone in this field was the report by Kneafsey et al. (2013), which classified and characterized SFSCs, providing a structured overview of prior knowledge and organizing the discourse on the subject. Building on this foundation, analyses of short supply chains typically are built on general assumptions related to supply chain management, with particular emphasis on food supply in selected regions of the world (Doernberg et al., 2022; Little, Sylvester, 2022; Dorneich et al., 2024). Additionally, several review papers have also contributed significantly to the development of SFSC research. These reviews have explored potential research opportunities and addressed topics such as logistics (Paciarotti, Torregiani 2020), general problems and challenges faced by SFSC participants (Bayir et al., 2022), systematic bibliographic insights (Luo et al., 2021), as well as consumer-related issues (Delicato et al., 2019; Csordas et al., 2022).

Despite these contributions, certain gaps in the literature remain. Specifically, in papers regarding consumer-related issues, neither Csordas et al. (2022) nor Delicato et al. (2019) adequately address the issue of defining SFSC value and examining its essence for consumers or producers. Their discussion is limited to a superficial description of potential values, focusing solely on trust and sustainable development with appropriate origin protection labels, without satisfactorily defining the concept of value – even from the consumer's perspective (Delicato et al., 2019). Notably, other literature on consumers refers to their attitudes (Giampietri et al., 2016; Elghannam et al., 2019; Benos et al., 2022), trust (Ji et al., 2020), or behaviors (Sadeli et al., 2023). Collectively, these works highlight significant interest in consumer-related aspects of SFSCs. However, they also underscore a critical gap: the lack of comprehensive research into defining value for consumers in SFSCs. This gap extends to the absence of robust attempts to measure what constitutes the greatest value for consumers, a factor that could have significant implications for producers' marketing activities.

2. Methodology and data

The Q methodology was selected as the research tool, adapted to interlink qualitative and quantitative approaches to explore five key aspects of values in SFSCs that are also present in value based food chains regardless of the region in which the research was conducted (Peterson et al., 2022; Jackson et al., 2024). These aspects, which are in line with findings of O'Connor et al. (2024), were identified through a comprehensive literature review and consultation with experts:

1. **Convenience:** This aspect encompasses factors related to the ease of access to goods, minimizing consumer effort, providing flexible payment options, and enabling the purchase of diverse products in one place (Paloviita, 2010; Cranfield et al., 2012; Mack, Tong 2015; Giampietri et al., 2016; Koutsou, Sergaki, 2019; Stanco et al., 2019; Gonzalez-Azcarte et al., 2021; Benos et al., 2022).
2. **Local patriotism:** Referring to consumer attitudes driven by ethnocentric behaviours, this aspect emphasizes purchasing locally produced goods from one's home region or country (Paloviita, 2010; Pearson et al., 2011; Cranfield et al., 2012; Giampietri et al., 2016; Elghannam et al., 2019; Koutsou, Sergaki, 2019; Gonzalez-Azcarte et al., 2021).
3. **Lifestyle:** A multifaceted aspect that reflects factors influencing social status, adherence to global trends, and aspirations for an elevated standard of living (Paloviita, 2010; Pearson et al., 2011; Cranfield et al., 2012; Giampietri et al., 2016; Stanco et al., 2019; April-Lalonde et al., 2020; Gonzalez-Azcarte et al., 2021; Benos et al., 2022).
4. **Relations with the food producer:** This aspect highlights the importance of reliability and transparency, encompassing knowledge about the producer's background, the offered products, opportunities for direct communication, and support for socially significant issues such as senior activity or female entrepreneurship (Paloviita, 2010; Cranfield et al., 2012; Mack, Tong 2015; Giampietri et al., 2016; Ji et al., 2020; Gonzalez-Azcarte et al., 2021).
5. **Food quality and safety:** This aspect pertains to consumer trust in the safety and nutritional value of food, emphasizing attributes like superior taste and certified product quality, often linked to purchasing directly from the producer (Paloviita, 2010; Pearson et al., 2011; Cranfield et al., 2012; Giampietri et al., 2016; Stanco et al., 2019; April-Lalonde et al., 2020; Gonzalez-Azcarte et al., 2021).

Building on the five defined aspects of value in short supply chains, a survey was developed to assess consumers' ratings of the importance of statements related to specific aspects of value. These statements were informed by insights from a literature review and expert consultations.

The analysis draws on data from 340 survey responses collected from Polish citizens residing in the Małopolska and Mazowieckie regions, who engage in short value chains by purchasing directly from the farmer - either at the farm, at the market or bazaars, or through home deliveries. Respondents who did not buy through short value chains or lived outside the Małopolska or Mazowieckie regions were excluded from the sample. The sample was intentionally diverse, designed to reflect the national population's demographic composition, including factors such as gender, age, education, city size, household size, and income. A detailed overview of the sample characteristics is provided in Table 1.

Table 1.
Descriptive statistics and representativeness of the sample

	Number of respondents	Share of respondents		Number of respondents	Share of respondents
Total	**340**	**100%**	**Total**	**340**	**100%**
Sex			**Region**		
Female	184	54.12%	Małopolska	167	49.12%
Male	156	45.88%	Mazowieckie	173	50.88%
Age			**Household size**		
18-24	48	14.12%	1	52	15.29%
25-34	68	20.00%	2	101	29.71%
34-44	74	21.76%	3	69	20.29%
45-54	73	21.47%	4	69	20.29%
55-64	37	10.88%	5+	49	14.41%
65+	40	11.76%	**Monthly household net income**		
Education			Refuse to answer	48	14.12%
Incomplete primary or without formal education	1	0.29%	Less than 1000 PLN	5	1.47%
Completed primary	4	1.18%	1000-1999 PLN	7	2.06%
Lower secondary	4	1.18%	2000-2999 PLN	14	4.12%
Vocational or technical secondary	32	9.41%	3000-3999 PLN	21	6.18%
Secondary or post-secondary	118	34.71%	4000-4999 PLN	37	10.88%
Higher	181	53.24%	5000-7499 PLN	62	18.24%
City of residence			7500-9999 PLN	50	14.71%
Countryside	84	24.71%	10,000-12,499 PLN	49	14.41%
City below 50,000 residents	59	17.35%	12,500-14,999 PLN	26	7.65%
City with 50,001-100,000 residents	27	7.94%	15,000-17,499 PLN	8	2.35%
City with 100,001-500,000 residents	29	8.53%	17,500-19,999 PLN	6	1.76%
City above 500,000 residents	141	41.47%	Over 20,000 PLN	7	2.06%

Due to the relatively small number of quantitative studies (Luo et al., 2021) on short supply chains, the exact number of consumers purchasing through this form of product distribution in any region of the world is not known. Studies described in the literature often lack information on the sample selection method (Bougherara et al., 2009; Kawecka, Gębarowski, 2015; Koutsou, Sergaki, 2019; Santulli et al., 2019; Lioutas, Charatsari, 2020; Raftowicz et al., 2020), while the available data contained in scientific articles indicate that the number of customers making purchases within short supply chains varies and ranges from 0.5% to 7% of all customers, depending on the research methods adopted and the region studied (Blanquart et al., 2010; Pearson et al., 2011; Mack, Tong, 2015; Giampietri et al., 2016; Aggestam et al., 2017; Kallas et al., 2019; Gonzalez-Azcarate et al., 2021; Benos et al., 2022). Using available data from the Central Statistical Office (GUS, 2020) relating to Polish agribusiness, 2.8% of farms operate within the Agricultural Retail Trade and farms conducting this type of activity usually use short supply chains as part of their distribution activities, preferring sales at markets and

sales from a farm shop or roadside sales in the absence of a specially designated sales point at the place of production. Based on these calculations, it can be assumed that the ratio of the number of customers is similar to the ratio of the number of producers and amounts to about 2-3% of all customers. Based on the quoted estimates and statistical calculations, the research sample comprised 340 respondents, of whom 167 came from the Małopolska region and the remaining 173 people from the Mazowieckie region. These specific regions were selected because they contain the largest cities in Poland and usually denizens of the largest cities have the greatest possibility of choosing different forms of purchasing goods which is consistent with the philosophy of short food supply chains (Jarzębowski, Klepacki, 2013; Matwiejczuk, Tłuczak, 2020; Szymańska, Lukoszova, 2019).

The survey also explored respondents' shopping preferences, detailed in Table A1 of the appendix, providing further insight into their behavior and attitudes toward short value chains. Additionally, the survey included a Likert scale assessing the importance of various agricultural goals. The results, illustrated in the Box and Whisker Plots in Figure 1, reveal that respondents prioritize providing safe, healthy, and high-quality food as the most crucial agricultural goal, with an average ranking of 6.12. In contrast, creating economic growth and jobs in rural areas was ranked as the least important, with an average score of 5.65. Although the seven proposed agricultural goals were rated relatively similar, suggesting a general consensus, this observation raises concerns about the effectiveness of the Likert scale in clearly differentiating the importance of each goal. The closely clustered ratings could imply that all goals are viewed as nearly equivalent, which complicates the task of establishing a clear hierarchy of factors. Therefore, to more accurately address the research question of ranking the factors influencing willingness to buy from short value chains, we opted to employ Q-methodology.

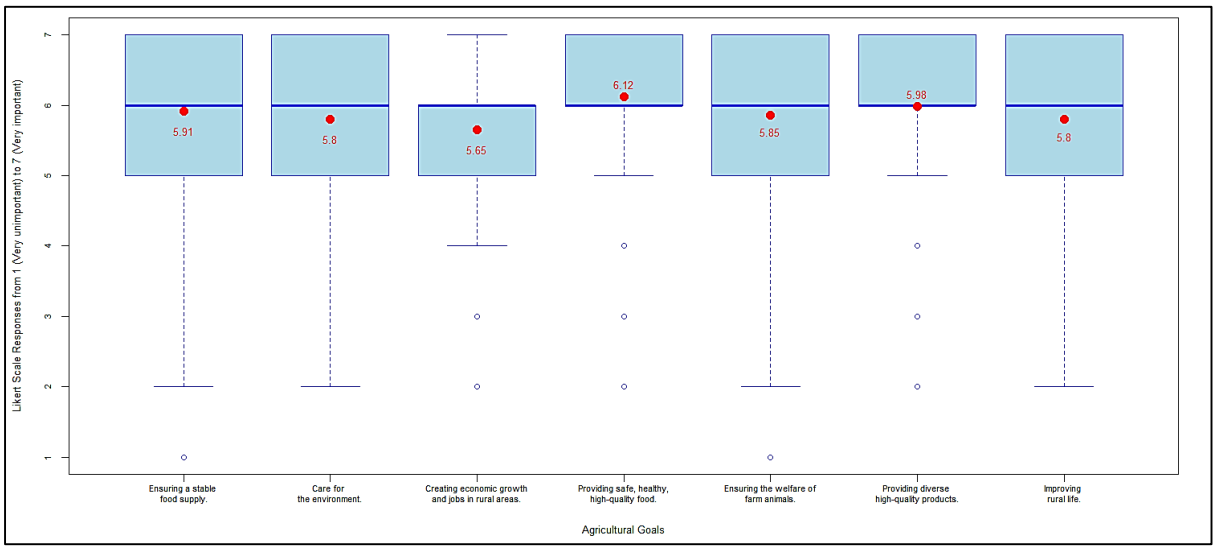

Figure 1. Box and Whisker Plots for Likert Scale Responses Regarding Importance of Agricultural Goals.

The Q-methodology is widely employed to examine subjectivity, aiming to uncover social viewpoints in a systematic manner (Brown et al., 2008). This approach uniquely bridges qualitative and quantitative research by combining the rigorous statistical factor analysis with the nuanced qualitative task of ranking a series of statements. While traditionally rooted in the social sciences, Q-methodology has recently found applications in agricultural and environmental research (Sneegas et al., 2021). For instance, Schulze et al. (2024) investigated how information about ecosystem services influences food labeling frameworks within the European Union's Farm to Fork Strategy. The other examples concern Sudau et al. (2023), who explored the factors that shape the acceptance rate of spatial planning instruments designed to manage soil quality or Schulze & Matzdorf (2023), who examined the perceptions of farmers, policymakers, and intermediaries regarding the contract's features of agri-environmental policies. The aforementioned examples underscore the ultimate goal of Q-methodology, which concerns the identification of a spectrum of opinions and linking them to distinct groups within the population or specific stakeholder groups.

A key distinction of our study lies in its more quantitative rather than qualitative approach. While Q-methodology is typically employed in relatively small samples (so-called P-set), often with no more than 20 responses, we opted to conduct our analysis on a substantially larger sample of 340 respondents. We contend that this larger sample size will yield more reliable and robust results, offering valuable insights into the factors influencing the willingness to buy from short value chains. In contexts where the focus is on small, specific groups (such as policy stakeholders), in-depth interviews or focus groups are appropriate. However, when examining the opinions of a broader population, like participants in short value chains, such qualitative methods may lead to unreliable or biased conclusions due to the limited sample size relative to a larger population. Thus, we believe that adapting the traditional Q-methodology by expanding the sample size (at the expense of its qualitative nature) is both a reasonable and necessary adjustment in this context.

Our Q-methodology aims to capture a comprehensive, holistic view of subjective opinions regarding the most and least important factors when purchasing food directly from a farmer (i.e., from short value chains), and in designing the experiment, we adhered to the guidelines provided by Zabala et al. (2018). However, deviating from the traditional approach, we did not require respondents to rank all statements simultaneously on a bell curve-shaped diagram. Instead, we presented them with a series of sequential questions to simplify the decision-making process. This modification was informed by qualitative pretesting during a pilot study with 22 respondents, which indicated that simplifying the research task would enhance clarity and engagement. Therefore, respondents were presented with a Q-set of 25 statements in the Q-methodology module and asked to identify the nine most important statements. Subsequently, participants faced separate questions in which they selected the two most important and three second-most important factors. Similarly, respondents were asked to identify nine unimportant factors, followed by selecting the two least important and three

second-least important factors. This approach allowed us to gather data equivalent to classical Q-methodology, which typically involves a bell-shaped distribution (2-3-4-7-4-3-2) across 25 statements, ranked from the least to most important.

The Q-set, consisting of 25 statements, was carefully curated through a literature review, as detailed in Chapter 2. The complete list of statements can be found in Table 2. Notably, during the preparation of the concourse, these statements were categorized into five distinct groups, each representing different influencing factors: convenience of purchase, local patriotism (emphasizing proximity to the place of production), lifestyle (encompassing dietary preferences and trends), relations with the producer, and food safety and quality. Notably, the order of statements presented to respondents was randomized, and there was no information on which of the five groups the statements were categorized.

Table 2.
Descriptive statistics regarding statement ranking

Statements	Mean	Standard deviation	Median	Skew	Kurtosis	Standard error
#1 Ease of access to the selling point	2.78	1.73	3	0.06	-0.79	0.09
#2 Ease and flexibility in selecting the purchase date	2.80	1.40	3	-0.09	-0.45	0.08
#3 Ease and flexibility in choosing the payment method	2.17	1.47	2	0.22	-0.74	0.08
#4 Possibility to purchase all required products	2.94	1.41	3	0.05	-0.35	0.08
#5 Possibility to choose from a diverse range of products	3.09	1.28	3	0.02	0.16	0.07
#6 Possibility to purchase products from the local region	3.04	1.46	3	-0.19	-0.33	0.08
#7 Possibility to purchase products directly from the producer, bypassing intermediaries	3.74	1.61	4	-0.43	-0.46	0.09
#8 Possibility to support the local community	3.41	1.45	3	-0.30	-0.24	0.08
#9 Possibility to buy national products	3.89	1.54	4	-0.56	-0.22	0.08
#10 Possibility of direct financial support for the producer (farmer)	3.06	1.34	3	0.02	-0.13	0.07
#11 Availability of high-quality food, rich in nutritional value	3.83	1.45	4	-0.15	-0.47	0.08
#12 Availability of ecological products	3.29	1.50	3	-0.11	-0.34	0.08
#13 Possibility to boast to friends about the source of the purchase	1.21	1.34	1	0.87	-0.17	0.07
#14 Availability of products with the highest quality regardless of their price	2.82	1.43	3	0.19	-0.22	0.08
#15 Availability of unique products not available elsewhere	2.71	1.37	3	0.17	-0.17	0.07
#16 Opportunity to meet and converse directly with the producer (farmer)	2.21	1.53	2	0.39	-0.53	0.08
#17 Opportunity for repeat purchases from the same producer (farmer)	2.68	1.49	3	0.12	-0.65	0.08
#18 Opportunity to learn about the origin of products and the farm's history	1.99	1.44	2	0.56	-0.21	0.08
#19 Opportunity to support women's entrepreneurship	2.16	1.36	2	0.17	-0.43	0.07
#20 Opportunity to support senior entrepreneurship	2.37	1.49	2	0.25	-0.43	0.08
#21 Certainty that the purchased food is free from excessive additives and is not processed	4.05	1.52	4	-0.44	-0.39	0.08
#22 Certainty that products are fresh	4.63	1.52	5	-1.11	0.54	0.08
#23 Certainty that food has proper certificates and quality marks	2.46	1.41	3	0.27	0.00	0.08
#24 Certainty that products taste better than those found in stores	3.82	1.50	4	-0.39	-0.41	0.08
#25 Certainty that products are in superior condition compared to store-bought alternatives	3.83	1.45	4	-0.39	-0.33	0.08
Groups	**Mean**	**Standard deviation**	**Median**	**Skew**	**Kurtosis**	**Standard error**
Group A: Convenience (statements 1:5)	2.76	0.76	3	0.22	-0.41	0.04
Group B: Local patriotism (statements 6:10)	3.43	0.77	3	-0.03	-0.30	0.04
Group C: Lifestyle (statements 11:15)	2.77	0.65	3	-0.01	-0.44	0.04
Group D: Relations with the food producer (statements 16:20)	2.28	0.68	2	0.28	-0.33	0.04
Group E: Food safety and quality (statements 21:25)	3.76	0.75	4	-0.44	-0.28	0.04

Note: The statements were ranked from 0 (least important factors) to 6 (the most important factors).

The results presented in Table 2 indicate that the most important factor when buying directly from the farmer was the assurance of product freshness, with statement #22 (“Certainty that products are fresh”) receiving the highest average score of 4.63 (out of 6). Similarly, other statements related to food quality and health were highly ranked. Statement #21 (“Certainty that the purchased food is free from excessive additives and is not processed”) scored an average of 4.06, while statement #11 (“Availability of high-quality food, rich in nutritional value”) received a score of 3.83. Additionally, respondents emphasized the superior quality of products sold directly by farmers, with statement #25 (“Certainty that products are in superior condition compared to store-bought alternatives”) and statement #24 (“Certainty that products taste better than those found in stores”) both scoring 3.83 and 3.82, respectively. Respondents also demonstrated a strong preference toward locality, as evidenced by the ratings for statement #9 (“Possibility to buy national products”), which scored 3.89, and statement #8 (“Possibility to support the local community”), which scored 3.41. Another key factor influencing purchases from short value chains was the opportunity to buy directly from the producer, with statement #7 (“Possibility to purchase products directly from the producer, bypassing intermediaries”) receiving a rating of 3.74.

On the contrary, the least important factors predominantly involved direct interactions with the producer. Statement #16 (“Opportunity to meet and converse directly with the producer (farmer)”) received an average score of 2.21, while statement #19 (“Opportunity to support women's entrepreneurship”) was rated 2.16, and statement #18 (“Opportunity to learn about the origin of products and the farm's history”) scored 1.99. These results suggest that respondents were more focused on their well-being and buying high-quality, healthy products rather than on fostering relationships or supporting producers directly. Other factors deemed less important included statement #3 (“Ease and flexibility in choosing the payment method”), with a score of 2.17, and statement #13 (“Possibility to boast to friends about the source of the purchase”), which received the lowest score of 1.21. Figure 2 visually summarizes the ranking of these statements through a radar chart.

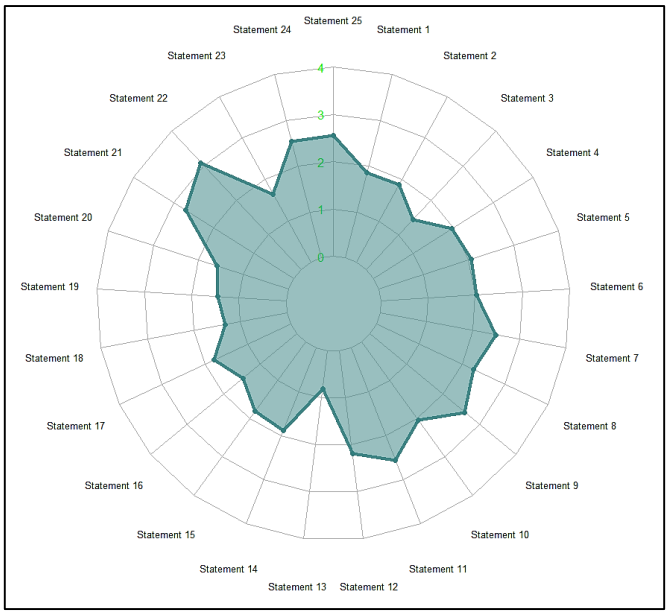

Figure 2. Radar chart presenting ranking of the statements – individual factors.

When designing the concourse and Q-set, we deliberately grouped the statements (based on a thorough literature review, agricultural expert conclusions, and a pilot study) to ensure they represent distinct perspectives without disproportionately emphasizing any category. This approach was intended to simplify and facilitate the interpretation of the results, allowing us to identify which of the five strategies for promoting short value chains might be the most effective. Among these groups, Group E ("Food safety and quality") emerged as the highest-ranked, with an average score of 3.76. This indicates that the primary motivation for purchasing directly from farmers is the intrinsic desire to obtain the healthiest and highest-quality food. Interestingly, the second-highest ranked group of factors was Group B ("Local patriotism"), which scored 3.34, while Group D ("Relations with the food producer") received the lowest score of 2.28. This suggests that while respondents are inclined to support their local community and economy by purchasing local products, they are less interested in building and fostering direct relationships with farmers. The remaining groups, Group A ("Convenience") and Group C ("Lifestyle") received similar scores of 2.76 and 2.77, respectively. Figure 3 visually represents the ranking of these statement groups using a radar chart.

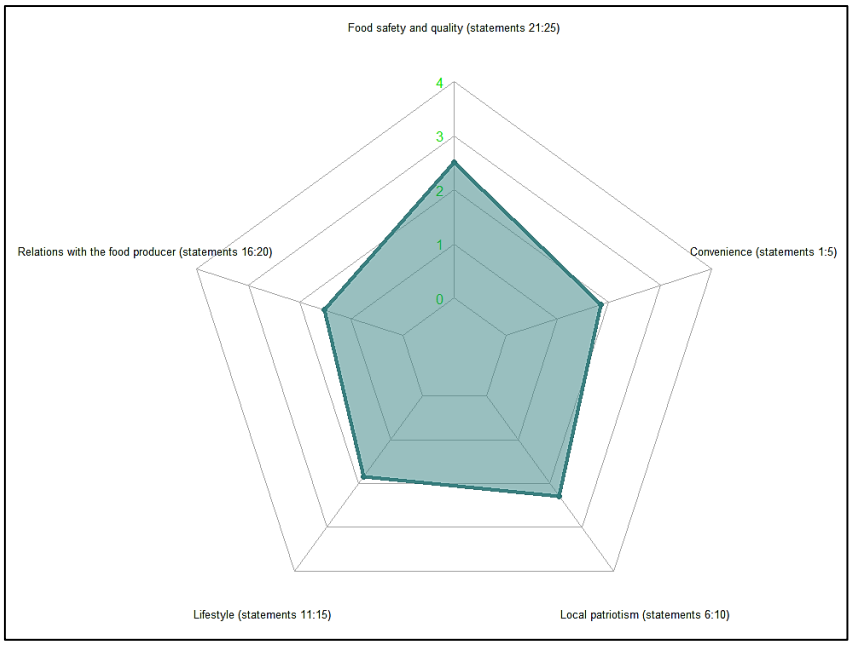

Figure 3. Radar chart presenting ranking of the statements – grouped statements.

3. Results

The data was analyzed with Principal Component Analysis (PCA) through the "qmethod" package in R (Zabala, 2014). To determine the number of distinct viewpoints, we adhered to several established guidelines, including the Kaiser-Guttman criterion and Humprey's Rule, ensuring that eigenvalues exceeded one and that the explained variance was substantial (Guttman, 1954; Brown, 1980; Kline, 2014; Zabala, 2018). Table 3 provides a summary of the five identified viewpoints (regarding the most and the least important factors when purchasing food directly from a farmer), detailing the number of Q-sorts loading on each viewpoint, along with their corresponding eigenvalues and explained variance.

Table 3.
Statistics regarding identified viewpoints, including the number of loaded Q-sorts, eigenvalues, and explained variance

	Number of loaded Q-sorts	Eigenvalues	Explained variance
Viewpoint #1	71	52.211	15.356%
Viewpoint #2	55	43.082	12.671%
Viewpoint #3	46	41.576	12.228%
Viewpoint #4	17	17.00	5.00%
Viewpoint #5	11	15.70	4.62%
Total	200		49.875%

Note: When conducting a principal component analysis, we decided to apply varimax rotation.

Notably, out of 340 Q-sorts, only 200 were associated (loaded) with one of the five viewpoints identified viewpoints. The remaining Q-sorts, which either aligned with multiple viewpoints or did not align with any, were excluded from further analysis as they did not contribute meaningfully to identifying a specific viewpoint. Table 4 presents a summary of the five distinct viewpoints, along with the ranked scores of each statement. The final five rows display the average scores for groups of statements that were artificially constructed to facilitate the interpretation of the results.

Table 4.
List of statements and viewpoints on short value chains (with factor scores)

Statements	**Viewpoint #1**	**Viewpoint #2**	**Viewpoint #3**	**Viewpoint #4**	**Viewpoint #5**
#1 Ease of access to the selling point	0	4	3	5	0
#2 Ease and flexibility in selecting the purchase date	2	3	3	1	3
#3 Ease and flexibility in choosing the payment method	1	3	1	1	3
#4 Possibility to purchase all required products	2	4	3	2	3
#5 Possibility to choose from a diverse range of products	3	4	3	3	2
#6 Possibility to purchase products from the local region	3	3	4	3	2
#7 Possibility to purchase products directly from the producer, bypassing intermediaries	3	4	6	5	6
#8 Possibility to support the local community	4	2	5	4	3
#9 Possibility to buy national products	5	3	6	5	0
#10 Possibility of direct financial support for the producer (farmer)	4	2	5	2	3
#11 Availability of high-quality food, rich in nutritional value	5	5	3	4	2
#12 Availability of ecological products	4	3	2	6	1
#13 Possibility to boast to friends about the source of the purchase	0	0	0	1	5
#14 Availability of products with the highest quality regardless of their price	3	2	2	3	5
#15 Availability of unique products not available elsewhere	3	3	2	0	4
#16 Opportunity to meet and converse directly with the producer (farmer)	1	1	1	4	4
#17 Opportunity for repeat purchases from the same producer (farmer)	2	2	3	3	6
#18 Opportunity to learn about the origin of products and the farm's history	1	1	1	3	3
#19 Opportunity to support women's entrepreneurship	2	1	2	2	1
#20 Opportunity to support senior entrepreneurship	3	0	3	3	1
#21 Certainty that the purchased food is free from excessive additives and is not processed	6	6	4	4	3
#22 Certainty that products are fresh	6	6	5	6	5
#23 Certainty that food has proper certificates and quality marks	3	3	0	3	2
#24 Certainty that products taste better than those found in stores	5	5	4	0	4
#25 Certainty that products are in superior condition compared to store-bought alternatives	4	5	4	2	4
Groups	**Mean score**				
Group A: Convenience (statements 1:5)	1.6	3.6	2.6	2.4	2.2
Group B: Local patriotism (statements 6:10)	3.8	2.8	5.2	3.8	2.8
Group C: Lifestyle (statements 11:15)	3	2.6	1.8	2.8	3.4
Group D: Relations with the food producer (statements 16:20)	1.8	1	2	3	3
Group E: Food safety and quality (statements 21:25)	4.8	5	3.4	3	3.6

Table 5 provides a summary of the sociodemographic characteristics of respondents who were identified to exhibit one of the distinctive viewpoints. For instance, viewpoint 1 has a higher proportion of women (72%), while viewpoints 4 and 5 are predominantly male, with 65% and 64% men, respectively. This data can be instrumental in identifying differing perspectives among citizens, enabling tailoring more targeted strategies to promote short value chains. However, caution must be exercised when interpreting these findings, as they may be misleading due to the law of small numbers (Tversky, Kahneman, 1971). In small samples,

even a few additional or missing observations within a group can disproportionately overrepresent or underrepresent particular consumer segments. Although our effort to expand the research sample to 340 aimed to mitigate this bias, it does not entirely eliminate the risk of such distortions.

Table 5.
Distribution of respondents across viewpoints

	All	% share	Viewpoint #1	% share	Viewpoint #2	% share	Viewpoint #3	% share	Viewpoint #4	% share	Viewpoint #5	% share
Total	200	100%	71	100%	55	100%	46	100%	17	100%	11	100%
Sex												
Female	118	59%	51	72%	31	56%	26	57%	6	35%	4	36%
Male	82	41%	20	28%	24	44%	20	43%	11	65%	7	64%
Age												
18-24	29	15%	9	13%	11	20%	6	13%	2	12%	1	9%
25-34	40	20%	17	24%	12	22%	5	11%	2	12%	4	36%
34-44	41	21%	14	20%	8	15%	11	24%	6	35%	2	18%
45-54	45	23%	14	20%	14	25%	13	28%	3	18%	1	9%
55-64	24	12%	9	13%	7	13%	6	13%	1	6%	1	9%
65+	21	11%	8	11%	3	5%	5	11%	3	18%	2	18%
Education												
Incomplete primary or without formal education	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Completed primary	2	1%	0	0%	1	2%	0	0%	0	0%	1	9%
Lower secondary	1	1%	1	1%	0	0%	0	0%	0	0%	0	0%
Vocational or technical secondary	14	7%	4	6%	5	9%	2	4%	2	12%	1	9%
Secondary or post-secondary	78	39%	30	42%	20	36%	20	43%	5	29%	3	27%
Higher	105	53%	36	51%	29	53%	24	52%	10	59%	6	55%
City of residence												
Countryside	48	24%	19	27%	10	18%	13	28%	4	24%	2	18%
City below 50,000 residents	33	17%	16	23%	8	15%	5	11%	3	18%	1	9%
City with 50,001-100,000 residents	19	10%	8	11%	2	4%	5	11%	1	6%	3	27%
City with 100,001-500,000 residents	17	9%	4	6%	4	7%	7	15%	2	12%	0	0%
City above 500,000 residents	83	42%	24	34%	31	56%	16	35%	7	41%	5	45%
Region												
Małopolska	108	54%	38	54%	35	64%	25	54%	8	47%	2	18%
Mazowieckie	92	46%	33	46%	20	36%	21	46%	9	53%	9	82%
Household size												
1	33	17%	10	14%	10	18%	8	17%	4	24%	1	9%
2	56	28%	17	24%	16	29%	15	33%	4	24%	4	36%
3	42	21%	15	21%	11	20%	11	24%	2	12%	3	27%
4	46	23%	17	24%	13	24%	10	22%	5	29%	1	9%
5+	23	12%	12	17%	5	9%	2	4%	2	12%	2	18%
Monthly household net income												
Refuse to answer	29	15%	6	8%	12	22%	9	20%	1	6%	1	9%
Less than 1000 PLN	4	2%	2	3%	1	2%	0	0%	0	0%	1	9%
1000-1999 PLN	1	1%	0	0%	1	2%	0	0%	0	0%	0	0%
2000-2999 PLN	8	4%	1	1%	1	2%	2	4%	4	24%	0	0%
3000-3999 PLN	12	6%	3	4%	4	7%	2	4%	2	12%	1	9%
4000-4999 PLN	21	11%	8	11%	2	4%	8	17%	1	6%	2	18%
5000-7499 PLN	45	23%	15	21%	18	33%	8	17%	4	24%	0	0%
7500-9999 PLN	28	14%	13	18%	5	9%	7	15%	1	6%	2	18%
10,000-12,499 PLN	25	13%	11	15%	6	11%	5	11%	1	6%	2	18%
12,500-14,999 PLN	16	8%	8	11%	4	7%	3	7%	1	6%	0	0%
15,000-17,499 PLN	4	2%	2	3%	0	0%	0	0%	0	0%	2	18%
17,500-19,999 PLN	4	2%	1	1%	0	0%	1	2%	2	12%	0	0%
Over 20,000 PLN	3	2%	1	1%	1	2%	1	2%	0	0%	0	0%

Viewpoint #1: Healthy life no matter what

The first viewpoint is shared by 71 respondents (35.5%) and accounts for 15.356% of the explained variance. While factor Group A ("Convenience") and Group D ("Relations with the food producer") received the lowest average scores of 1.6 and 1.8, respectively (on a scale from 0, least important, to 6, most important), Group E ("Food safety and quality") was rated the highest, with an average score of 4.8, when purchasing directly from farmers. This group's two top-ranked statements include statement #21 ("Certainty that the purchased food is free from excessive additives and is not processed") and statement #22 ("Certainty that products are fresh"). This observation highlights that many individuals who buy directly from farmers prioritize quality, believing these products are free from excessive additives, minimally processed, fresh, and superior in taste compared to supermarket alternatives. Furthermore, the low importance assigned to statement #1 ("1 Ease of access to the selling point"), and, overall, of all factors from Group A ("Convenience"), suggests that convenience is not a key consideration for this group when making purchases. Interestingly, the second most important factor group for this viewpoint is group B ("Local patriotism"), as respondents also valued that the products were sourced from Poland and contributed to supporting the local community.

Viewpoint #2: Healthy food at your fingertips

The second viewpoint is shared by 55 respondents (27.5%) and explains 12.671% of the variance. Similar to the first viewpoint, Group E ("Food safety and quality") received a high score of 5, while Group D ("Relations with the food producer") scored low, with an average of 1. The key difference, however, lies in the increased emphasis on Group A ("Convenience"). In the first viewpoint, convenience was considered relatively unimportant when purchasing directly from farmers, scoring just 1.8. In the second viewpoint, it received a score of 3.6, making it the second most important factor group. Additionally, individuals aligned with this viewpoint place moderate value on local patriotism and lifestyle, though slightly less than those in the first viewpoint. Overall, the perspective aligned with the second viewpoint highlights that while respondents prioritize product quality, they also place significant value on the convenience of the purchasing process, including easy access to the point of sale and flexibility in choosing shopping days. Moreover, this group appreciates the ability to complete their shopping in one location, offering various products and enabling them to purchase all necessary ingredients in one trip.

Viewpoint #3: Diet of local patriotism

The third viewpoint is shared by 46 respondents (23%) and accounts for 12.228% of the explained variance. Respondents with this viewpoint rated statement #7 ("Possibility to purchase products directly from the producer, bypassing intermediaries") and statement #9 ("Possibility to buy national products") as the most important factors. Similarly, statement #8

("Possibility to support the local community") and statement #10 ("Possibility of direct financial support for the producer (farmer)") were rated as the second-most important. This resulted in an average of 5.2 for factors in Group B ("Local patriotism"), the highest score for any factor group across all five viewpoints. The second-highest rated group, Group E ("Food safety and quality"), received an average score of 3.4, underscoring that respondents in this viewpoint prioritized local patriotism above all else. Notably, this viewpoint rated group C ("Lifestyle") as the least important factor, with an average score of 1.8, lower than any other viewpoint. Thus, while individuals in this group valued product quality, their primary concern was that the products were sourced from Poland or the local region, allowing them to support the local community and directly benefit regional farmers.

Viewpoint #4: Local patriotism but not at all cost

The fourth viewpoint, shared by 17 respondents (8.5%), explains 5% of the variance. All factor groups received similar ratings, with Group B ("Local patriotism") achieving the highest score of 3.8 and Group A ("Convenience") receiving the lowest at 2.4. Respondents identified the availability of ecological products (statement #12) and the assurance of product freshness (statement #22) as the most important factors when purchasing products directly from farmers. Unlike the previous three viewpoints, but in line with the fifth, Group D ("Relations with the food producer") ranked relatively high, with an average score of 3. The balanced distribution of both the most and least important factors across groups suggests that some respondents may not have strong preferences for any single group.

Viewpoint #5: Eating organic products is not only healthy but also trendy

The fifth and final viewpoint is shared by 11 respondents (5.5%), accounting for 4.62% of the explained variance. Similarly to viewpoint #4, all factor groups received comparable scores. Group E ("Food safety and quality") was the highest-ranked, while Group C ("Lifestyle") was the second-highest, with a score of 3.4 – the highest across all viewpoints. The most important factors for this group were statement #7 ("Possibility to purchase products directly from the producer, bypassing intermediaries") and statement #17 ("Opportunity for repeat purchases from the same producer (farmer)"), indicating a preference for supporting specific producers. Interestingly, statement #13 ("Possibility to boast to friends about the source of the purchase") was rated as the second-most important factor when purchasing directly from farmers, in contrast to its ranking as the second-least important factor in other viewpoints. This suggests that some individuals might be motivated not only by the freshness and quality of products but also by the current trends and the opportunity to showcase their purchases to friends or on social media. Although this viewpoint represents only 5.5% of respondents, it implies that lifestyle considerations may also influence the promotion of short value chains, potentially accelerated by the rise of technology and social media.

4. Discussion

The research results presented in this paper and the specified preliminary segmentation of consumers based on five different viewpoints and consumer behavior can be used not only by researchers for further extended scientific research but also by producers selling their goods within short supply chains.

Producers who want to use the presented research results in practice should focus their activities on the aspects most desired by customers, i.e. those related to food safety and quality and ethnocentric attitude. Products offered by farmers should continue to be characterized by excellent taste, lack of various preservatives and freshness resulting from offering products that have not been subjected to storage activities and are sold immediately after the production or harvest process. Taking into account the marketing aspect, producers promoting their products should not only emphasize their higher quality resulting from the lack of additives, freshness and better taste, but also the extremely important aspect of the local origin of the products. While the history of the origin of the products or the farm itself may be of less importance to customers, the ethnocentric element related to the proximity of the product's origin to the consumer's place of residence is of great importance. Focusing on these two aspects in marketing activities should provide producers with a competitive advantage in the market.

When considering reaching a larger number of consumers, producers should take into account the division of consumers according to different viewpoints presented in the article. While some consumers will make purchases of food, provided it is of appropriate quality, regardless of price or distance, for others, convenient shopping is much more important. In order to reach consumers who prefer access to products that do not require much effort, producers should consider the potential expansion of their distribution and marketing activities. This is possible by increasing expenditure on advertising, not necessarily related to the products themselves, but informing potential consumers that there is a possibility of buying goods in a given place at a specific time. At the same time, it is worth considering using other forms of distribution within the SFSC, such as box schemes or community supported agriculture, rather than just selling at the market, at the place of production or with the direct delivery to the customer.

The research methodology presented in the article and the subject of the research itself show the possibilities of conducting further quantitative research on value in short supply chains by future researchers. An extremely important and interesting aspect of future research would be to examine the perception of value, using possibly the same or very similar research tools, by people living in other regions of Poland, Europe and the world. An interesting aspect of future research would be to compare different attitudes and points of view of residents of different regions of the world and to analyze these behaviors taking into account the cultural aspect. It is also possible to extend the research to other methods of distribution within SFSC,

which were not examined in the article due to their low popularity in Poland, and which are used in other countries. Another, potentially possible direction of further research on value for customers in SFSC is the potential definition of other factors of consumer perception of value or their different categorization.

Our study focused on two regions of Poland (Małopolska and Mazowieckie regions), examining the preferences of citizens who purchase directly from farmers, whether at farms, markets, bazaars, or through home deliveries. The decision to limit the study to these regions was primarily driven by the need to ensure an adequate sample size within the studied population. Given Poland's nearly 40 million inhabitants, a sample of 340 respondents would be insufficient for broader representativeness. However, this regional focus may also introduce selection biases. Nonetheless, since we do not observe significant discrepancies in preferences toward SFSCs between these two regions, we believe our findings remain relevant beyond this specific sample. Still, preferences may vary across other Polish regions and internationally. Nonetheless, despite the study's limited geographic scope, we hope it provides valuable insights for producers and serves as a foundation for further research on consumer behavior and short food supply chains.

5. Summary

Short food supply chains (SFSCs) offer an alternative to conventional food systems by enabling direct interactions between producers and consumers, emphasizing localism, sustainability, and food quality. This study explores consumer perceptions of value within SFSCs through a mixed-method approach combining Q-methodology and quantitative analysis. Five dimensions of value - convenience, local patriotism, lifestyle, producer relationships, and food quality and safety - were identified through narrative literature review and expert consultations. A survey of 340 participants from Poland's Małopolska and Mazowieckie regions revealed that food safety and quality, particularly freshness and the absence of additives, emerged as the most valued attributes. Local patriotism also ranked highly, highlighting consumer preference for supporting local communities and purchasing products of local origin. Conversely, relational aspects with producers were less significant. The findings provide actionable insights for producers to tailor marketing strategies, focusing on quality, sustainability, and locality. The study also offers a foundation for further cross-regional and cultural research to enhance understanding of consumer behavior in SFSCs.

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Appendix

Table A1.
Respondents' shopping preferences

	Number of respondents	Share of respondents
Total	340	100%
Most frequent place of shopping		
Hypermarket	91	26.76%
Discount Retailer	122	35.88%
Local (Smaller Supermarket)	55	16.18%
Corner Store	28	8.24%
Organic Store	6	1.76%
Market / Bazaar	30	8.82%
Online Shopping	7	2.06%
Other	1	0.29%
Shopping directly from the farmer (multiple choice) If no → rejected from the survey		
At the bazaar or market	287	84.41%
Visiting a farm	64	18.82%
Home delivery	30	8.82%
Other	14	4.12%
How often do you shop for groceries for yourself or your household?		
Never	1	0.29%
Everyday	73	21.47%
Several times a week	194	57.06%
Once a week	58	17.06%
Once every two weeks	8	2.35%
Once a month	3	0.88%
Less than once a month	3	0.88%
Types of products purchased (multiple choice)		
Bread – e.g., bread, rolls, tortillas	306	90.00%
Canned/Jarred Food – e.g., spaghetti sauce, pickled vegetables, canned meat	195	57.35%
Dairy Products – e.g., cheese, milk	300	88.24%
Dry and Granular Products – e.g., cereals, flour, sugar, pasta, dried fruits, nuts	259	76.18%
Meat – e.g., poultry, beef, pork	274	80.59%
Plant-Based Meat Substitutes – e.g., tofu, soy, tempeh, seitan	118	34.71%
Fruits – e.g., apples, oranges, bananas	302	88.82%
Vegetables – e.g., lettuce, potatoes	295	86.76%
Other	5	1.47%