



POSSIBLE PURCHASING PRICES FOR BLUE MUSSEL PRODUCTS FROM THE BALTIC SEA

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Introduction



- The European Union is creating favourable market conditions for industries which are based on **sustainable and smart growth**
- **Marketing** - important aspect to realize future trends and to compete in global market
- **Knowledge and innovation** – the EU drivers
- **Blue economy** – to achieve smart and sustainable growth of Europe
- **Price** - the value of the product

Aim of research



Investigate probable purchase price of blue mussel products farmed in the Baltic Sea region by analysing views of public administrators, entrepreneurs and researchers in selected Baltic Sea Region countries obtained in the survey

Methodology



- Theoretical findings
- Survey
- Indicators of descriptive statistics
- cross – tabulations
- testing of statistical hypothesis with t – test
- analysis of variance – ANOVA
- correlation analysis
- multivariate analysis method - factor analysis

Empirical research



- Experts from Baltic Sea Region countries (Germany, Denmark, Sweden, Finland, Estonia, Latvia)
- Experts from public administration, entrepreneurs, researchers
- The survey was conducted by Zaiga Ozolina
- Questionnaire was applied in 2018.
- Survey answers was allocated by age, gender, representing field, country, education etc.
- 467 invited experts

Theoretical findings



- Consumers' demand for healthy and ecological food has increased the sales volume of organic sector. Organic food market has rapidly increased in last decade (Cottingham, 2014; Marian et al., 2014). It has affected demand for fish and fish products. Blue mussel is a high protein source (Lindahl et al., 2005) and it lives in the Baltic Sea as well, however this industry has not been developed. Consumers link organic food to a healthy and environmentally friendly rather than conventional food (Tregear et al., 1998; Magnusson et.al., 2003; Hughner et al., 2007).
- Roddy and her colleagues research paper (1996) highlighted the consumers' negative attitude regard organic product due to lack of availability, price and lack of promotion. Mussel farming has not been well presented on webpages and social networks (Ozolina, Sloka, 2018) and promotion activities might stimulate customer interest to buy the product. Mussel is marine product and marine products are some the most traded food items in the world (FAO, 2018).

Distribution of expert evaluations on frequency regard mussel consumption over last 12 months - the Baltic Sea Region countries expert survey results in 2018



Evaluation	Frequency	Percent	Valid Percent	Cumulative Percent
0	24	35,3	35,3	35,3
1	14	20,6	20,6	55,9
2	8	11,8	11,8	67,6
3	6	8,8	8,8	76,5
4	2	2,9	2,9	79,4
5	2	2,9	2,9	82,4
6	3	4,4	4,4	86,8
7	1	1,5	1,5	88,2
8	2	2,9	2,9	91,2
9	1	1,5	1,5	92,6
10 and more	5	7,4	7,4	100,0
Total	68	100,0	100,0	

Source: Zaiga Ozoliņa conducted survey, $n = 68$

Main statistical indicators of evaluations on frequency regard mussel consumption over last 12 months – the Baltic Sea Region countries expert survey results in 2018 by gender



Scale	Gender		Total
	Woman	Man	
0	16	8	24
1	9	5	14
2	7	1	8
3	5	1	6
4	1	1	2
5	1	1	2
6	2	1	3
7	0	1	1
8	0	2	2
9	1	0	1
10 and more	3	2	5
Total	45	23	68

Source: Zaiga Ozoliņa conducted survey, $n = 68$

Main statistical indicators of evaluation by experts for paying for 1 kilogram fresh / frozen mussel in the trading site/shop



Statistical indicator	Fresh mussel	Frozen mussel
Mean	7,80	5,19
Std. Error of Mean	0,616	0,455
Median	7	5
Mode	10	5
Std. Deviation	4,040	2,986
Range	19	14
Minimum	1	1
Maximum	20	15

Source: Zaiga Ozoliņa conducted survey, $n = 45$

Main statistical indicators of evaluations on frequency to pay for 1 kilogram fresh / frozen mussel in the shop / trading site– the Baltic Sea Region countries expert survey results in 2018 by educational level



Scale	Fresh mussel		Frozen mussel	
	Master's degree of equivalent level (EQF level 7)	Doctoral degree of equivalent level (EQF level 8)	Master's degree of equivalent level (EQF level 7)	Doctoral degree of equivalent level (EQF level 8)
1	1	0	2	0
2	2	0	4	0
3	2	0	6	1
4	1	0	4	1
5	5	1	5	5
6	4	2		
7	3	0	1	0
8	2	1	4	1
10	5	3	1	1
11	0	1		
12	1	0	1	0
14	0	0		
15	2	1	1	0
20	1	0		
Total	29	9	29	9

Source: Zaiga Ozoliņa conducted survey, n = 38

Results of analysis of variance (ANOVA) on expert evaluations on willing to pay for fresh / frozen mussel– the Baltic Sea Region countries expert survey results in 2018 by expert’s country



Analysed aspects		Sum of Squares	df	Mean Square	F	Sig.
Fresh mussel	Between Groups	105,900	3	35,300	2,375	0,085
	Within Groups	579,670	39	14,863		
	Total	685,570	42			
Frozen mussel	Between Groups	33,071	3	11,024	1,259	0,302
	Within Groups	341,440	39	8,755		
	Total	374,512	42			

Source: Zaiga Ozoliņa conducted survey, n = 42

Source: Zaiga Ozoliņa conducted survey, n = 38

Results of correlation analysis based on expert evaluations on willing to pay for fresh / frozen mussel and mussel consumption over last 12 months – the Baltic Sea Region countries expert survey results in 2018



		1. Frequency to consume mussel	2. Fresh mussel	3. Frozen mussel
1. How many times over the last 12 months have you consumed mussels?	Pearson Correlation Sig. (2-tailed)	1	0,145	-0,054
	N	45	45	45
2. How much would you be willing to pay for 1 kg fresh mussels in the shop/trading sites?	Pearson Correlation Sig. (2-tailed)	0,145	1	0,714**
	N	45	46	46
3. How much would you be willing to pay for 1 kg frozen mussels in the shop/trading sites?	Pearson Correlation Sig. (2-tailed)	-0,054	0,714**	1
	N	45	46	46

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Zaiga Ozoliņa conducted survey, n = 45

Conclusion



- Expert survey revealed, that part of experts have not consumed mussel in last 12 months.
- Cross tabulation analysis did not revealed difference on frequency regard mussel consumption over last 12 months by gender.
- Experts are ready to pay more for fresh mussel (mean 7,8) rather than for frozen mussel (mean 5,19).
- Experts, who has obtained master's or doctoral degree, would be ready to pay 5 euros per kilogram of frozen mussel.
- Experts, who have obtained the highest education level - master's degree, did not pointed out the following numbers – 9 at 13 at all.
- Those experts who have not consumed mussel or consumed mussel once over last 12 months set the purchase price lower rather that those who consumed mussel more than once.

Thank you for your attention!

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