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PRODUCT ECO AND QUALITY LABELLING AND CERTIFICATION IN THE EUROPEAN FISH AND SEAFOOD INDUSTRY: AN EXPLORATORY ANALYSIS

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RESEARCH AIMS

The main objective of this study is to perform an exploratory analysis on ecological and quality product labels or certifications that are implemented in the value chain (production, processing, and trading) of fishing and aquaculture products by European firms. Secondary objectives are:

- To know the reasons to implement, or not, a product label or certification.
- To know the problems that arise when implementing this type of labels and certifications.
- To evaluate the benefits obtained by the implementation of these product labels and certifications.

RESEARCH MOTIVATION

- Product labels and certifications are different from management system certifications (ISO 9001, ISO 14001, EMAS, and so on). In the case of product labels or certifications, a specific product complies with a set of standards (ecological, social, and/or quality). In the case that a product complies with the certification, it may carry a label or seal that allows the product to be differentiated in the market.
- Therefore, product labels or certifications can serve to differentiate products in the market so that it is a marketing variable for firms.
- In recent years there has been an increase in the number of product labels and certifications in the market and the implementation of these labels and certifications by firms. However, there are no empirical studies on this type of label and certification and, even less, focusing on the value chain of fishing and aquaculture products.

RESEARCH METHODOLOGY

- The study identified companies that surveyed European companies whose main activity was the production, processing, or trading of fishing and aquaculture products (most of the firms in the sector were obtained from the AMADEUS database).
- A web survey was sent by e-mail or through direct contact during the first half of 2017. A low response were obtained: 34 companies from 16 European countries answered the survey (<https://goo.gl/forms/ApBueqGqfS6a6sDt1>).
- The set of species covered by this study are: salmon/trout, seabream/seabass, white fish (hake, cod, etc.), flatfish (sole, turbot, etc.), molluscs (mussels and clams), seafood (lobster, prawns, etc.), tuna, and small pelagic species (anchovy, sardine, etc.).
- This study will analyse response differences using two variables: type of activity and size of the firms.

RESEARCH METHODOLOGY

Firms' distribution by country

Country	N	%	Country	N	%	Country	N	%
Bulgaria	1	2.9	Germany	4	11.8	Portugal	1	2.9
Czech Republic	1	2.9	Greece	6	17.6	Slovenia	2	5.9
Denmark	2	5.9	Hungary	1	2.9	Spain	3	8.8
Estonia	1	2.9	Italy	5	14.7	United Kingdom	2	5.9
Finland	1	2.9	Lithuania	1	2.9	Total	34	100
France	2	5.9	Norway	1	2.9			

RESEARCH RESULTS

Firms' distribution with and without product label or certification

Main activity	Total survey		With eco or quality certification		Without eco or quality certification	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Aquaculture	19	55.9	12	54.5	7	58.3
Fishing	6	17.6	2	9.1	4	33.3
Processing	4	11.8	4	18.2	0	0.0
Trading	5	14.7	4	18.2	1	8.3
Total	34	100	22	100	12	100

Firm size	Total survey		With eco or quality certification		Without eco or quality certification	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Large	6	17.6	6	27.3	0	0.0
Medium	5	14.7	4	18.2	1	8.3
Small	13	38.2	9	40.9	4	33.3
Micro	10	29.4	3	13.6	7	58.3
Total	34	100	22	100	12	100

RESEARCH RESULTS

Number of product labels or certifications implemented by firms

Main activity	N	%	Certifications by firm (average)	Number of certifications		
				<i>Just one</i>	<i>Between 2 and 5</i>	<i>More than 5</i>
Aquaculture	12	54.5	2.0	4	8	0
Fishing	2	9.1	2.0	1	1	0
Processing	4	18.2	4.5	0	3	1
Trading	4	18.2	3.3	1	2	1
Total	22	100	2.7	6	14	2

Main activity	N	%	Certifications by firm (average)	Number of certifications		
				<i>Just one</i>	<i>Between 2 and 5</i>	<i>More than 5</i>
Large	6	27.3	2.7	1	5	0
Medium	4	18.2	3.3	1	2	1
Small	9	40.9	2.8	2	6	1
Micro	3	13.6	1.7	2	1	0
Total	22	100	2.7	6	14	2

RESEARCH RESULTS

Firms' sales distribution with product label or certification (%)

Main activity	N	Survey answer choices					Total
		<i>Less 10%</i>	<i>10%–25%</i>	<i>25%–50%</i>	<i>50%–75%</i>	<i>Over 75%</i>	
Aquaculture	12	16.7	0.0	0.0	0.0	83.3	100
Fishing	2	0.0	0.0	50.0	0.0	50.0	100
Processing	4	25.0	0.0	25.0	0.0	50.0	100
Trading	4	50.0	25.0	0.0	0.0	25.0	100
Total	22	22.7	4.5	9.1	0.0	63.6	100

Firm size	N	Survey answer choices					Total
		<i>Less 10%</i>	<i>10%–25%</i>	<i>25%–50%</i>	<i>50%–75%</i>	<i>Over 75%</i>	
Large	6	33.3	0.0	33.3	0.0	33.3	100
Medium	4	25.0	0.0	0.0	0.0	75.0	100
Small	9	22.2	11.1	0.0	0.0	66.7	100
Micro	3	0.0	0.0	0.0	0.0	100.0	100
Total	22	22.7	4.5	9.1	0.0	63.6	100

RESEARCH RESULTS

Where is sold the labelled or certified product (%)

Main activity	Total firms with certification	Distribution channels						
		Wholesaler/Trader	Supermarket	Fishmonger	Processor	Restaurant	Consumer (Web shop)	Consumer (own fish shop)
Aquaculture	12	66.7	91.7	25.0	0.0	16.7	16.7	16.7
Fishing	2	100.0	0.0	0.0	0.0	50.0	0.0	0.0
Processing	4	75.0	75.0	0.0	25.0	25.0	0.0	0.0
Trading	4	100.0	25.0	25.0	25.0	0.0	0.0	0.0
Total	22	77.3	68.2	18.2	9.1	18.2	9.1	9.1

Firm size	Total firms with certification	Distribution channels						
		Wholesaler/Trader	Supermarket	Fishmonger	Processor	Restaurant	Consumer (Web shop)	Consumer (own fish shop)
Large	6	83.3	83.3	16.7	0.0	16.7	0.0	0.0
Medium	4	50.0	100.0	0.0	0.0	25.0	0.0	0.0
Small	9	77.8	66.7	22.2	11.1	22.2	22.2	22.2
Micro	3	100.0	0.0	33.3	33.3	0.0	0.0	0.0
Total	22	77.3	68.2	18.2	9.1	18.2	9.1	9.1

RESEARCH RESULTS

Implementation of product eco or quality labels and certifications (%)

Main activity	Eco-labels				Quality labels						
	<i>MSC</i>	<i>ASC</i>	<i>Friend of Sea</i>	<i>Dolphin Safe</i>	<i>Organic</i>	<i>Global GAP</i>	<i>IFS</i>	<i>BRC</i>	<i>Label Rouge</i>	<i>TSG</i>	<i>Other labels</i>
Aquaculture	0.0	16.7	71.4	0.0	55.6	66.7	40.0	40.0	0.0	50.0	100.0
Fishing	22.2	0.0	14.3	0.0	11.1	0.0	0.0	0.0	0.0	0.0	0.0
Processing	44.4	33.3	14.3	100.0	22.2	16.7	30.0	60.0	0.0	0.0	0.0
Trading	33.3	50.0	0.0	0.0	11.1	16.7	30.0	0.0	100.0	50.0	0.0
Total	100	100	100	100	100	100	100	100	100	100	100

Firm size	Eco-labels				Quality labels						
	<i>MSC</i>	<i>ASC</i>	<i>Friend of Sea</i>	<i>Dolphin Safe</i>	<i>Organic</i>	<i>Global GAP</i>	<i>IFS</i>	<i>BRC</i>	<i>Label Rouge</i>	<i>TSG</i>	<i>Other labels</i>
Large	33.3	16.7	14.3	50.0	11.1	50.0	20.0	80.0	0.0	0.0	0.0
Medium	11.1	16.7	28.6	50.0	33.3	33.3	30.0	0.0	0.0	0.0	0.0
Small	44.4	66.7	57.1	0.0	55.6	16.7	40.0	0.0	100.0	50.0	50.0
Micro	11.1	0.0	0.0	0.0	0.0	0.0	10.0	20.0	0.0	50.0	50.0
Total	100	100	100	100	100	100	100	100	100	100	100

MSC = Marine Stewardship Council. ASC = Aquaculture Stewardship Council. IFS = International Featured Standards. BRC = British Retail Consortium. TSG = Traditional Speciality Guaranteed.

RESEARCH RESULTS

Reasons for implementing product labels or certifications (%)

Main activity	N	Survey answer choices						Total
		To enter in new markets	Customers' pressure	To improve firm reputation	To get better profit margins	To increase product sales	To get entry barriers	
Aquaculture	12	33.3	16.7	41.7	8.3	0.0	0.0	100
Fishing	2	0.0	0.0	50.0	0.0	0.0	50.0	100
Processing	4	0.0	75.0	0.0	0.0	25.0	0.0	100
Trading	4	0.0	25.0	25.0	0.0	50.0	0.0	100
Total	22	18.2	27.3	31.8	4.5	13.6	4.5	100

Main activity	N	Survey answer choices						Total
		To enter in new markets	Customers' pressure	To improve firm reputation	To get better profit margins	To increase product sales	To get entry barriers	
Large	6	33.3	16.7	33.3	0.0	16.7	0.0	100
Medium	4	0.0	50.0	50.0	0.0	0.0	0.0	100
Small	9	2.2	22.2	22.2	11.1	11.1	11.1	100
Micro	3	0.0	33.3	33.3	0.0	33.3	0.0	100
Total	22	18.2	27.3	31.8	4.5	13.6	4.5	100

RESEARCH RESULTS

Problems found to implement product labels and certifications (%)

Main activity	N	Survey answer choices							Total
		Certification costs	Administrative work	Little information on certification	To get a certification company	What label to choose	Product traceability	Other reasons	
Aquaculture	12	28.0	32.0	12.0	4.0	24.0	0.0	0.0	100
Fishing	2	33.3	33.3	0.0	0.0	0.0	0.0	33.3	100
Processing	4	30.0	30.0	10.0	10.0	10.0	10.0	0.0	100
Trading	4	33.3	66.7	0.0	0.0	0.0	0.0	0.0	100
Total	22	29.5	36.4	9.1	4.5	15.9	2.3	2.3	100

Firm size	N	Survey answer choices							Total
		Certification costs	Administrative work	Little information on certification	To get a certification company	What label to choose	Product traceability	Other reasons	
Large	6	30.0	40.0	0.0	0.0	20.0	0.0	10.0	100
Medium	4	33.3	22.2	11.1	11.1	22.2	0.0	0.0	100
Small	9	30.0	35.0	15.0	5.0	15.0	0.0	0.0	100
Micro	3	20.0	60.0	0.0	0.0	0.0	20.0	0.0	100
Total	22	29.5	36.4	9.1	4.5	15.9	2.3	2.3	100

RESEARCH RESULTS

Main reasons why firms have not decided yet to implement product labels or certifications (%)

Main activity	N	Survey answer choices				Total
		<i>Certification costs</i>	<i>Administrative work</i>	<i>It's not necessary for the firm</i>	<i>We don't have information</i>	
Aquaculture	7	0.0	28.6	14.3	57.1	100
Fishing	4	0.0	25.0	25.0	50.0	100
Processing	0	-	-	-	-	-
Trading	1	100.0	0.0	0.0	0.0	100
Total	12	8.3	25.0	16.7	50.0	100

Firm size	N	Survey answer choices				Total
		<i>Certification costs</i>	<i>Administrative work</i>	<i>It's not necessary for the firm</i>	<i>We don't have information</i>	
Large	0	-	-	-	-	-
Medium	1	0.0	100.0	0.0	0.0	100
Small	4	0.0	25.0	25.0	50.0	100
Micro	7	14.3	14.3	14.3	57.1	100
Total	12	8.3	25.0	16.7	50.0	100

RESEARCH RESULTS

Product label or certification effect on firms revenues and profit margins (Five points Likert scale)

Main activity	N	Increase in revenues		Increase in profitability	
		Mean	SD	Mean	SD
Aquaculture	12	3.00	0.95	2.83	1.12
Fishing	2	3.00	1.41	3.50	0.71
Processing	4	3.00	0.82	2.25	0.96
Trading	4	2.25	1.50	2.25	1.50
Total	22	2.86	1.04	2.68	1.13

Firm size	N	Increase in revenues		Increase in profitability	
		Mean	SD	Mean	SD
Large	6	3.17	0.75	2.83	0.98
Medium	4	3.25	0.96	3.25	1.26
Small	9	2.89	1.17	2.78	1.09
Micro	3	1.67	0.58	1.33	0.58
Total	22	2.86	1.04	2.68	1.13

RESEARCH CONCLUSIONS

- This study has an important limitation: the small sample of firms and there is a greater weight of aquaculture firms, although the geographical distribution and size of firms are both more homogeneous.
- Larger firms use or combine different types of labels and certifications (some firms have up to 7 different labels or certifications).
- Small firms certify the whole production, while in large firms there is greater variability.
- In aquaculture the most implanted certifications are *Friend of Sea* (ecological) and *GlobalGAP* (quality). *MSC* (ecological) and *Organic* (quality) are more implemented for fishing firms.
- Sales of certified products are concentrated in wholesalers and supermarkets regardless of the firm activity. On the other hand, small firms have more diversified their distribution of certified products.

RESEARCH CONCLUSIONS

- *To improve the reputation (image) of the firm* has been the most mentioned reason why firms have implemented such labels or certifications and *Market pressure* was the second. For large firms *To enter in new markets* is another important reason, while for small firms is their use *To increase sales of the firm*.
- Among the problems that firms have found to implement product labels and/or certifications, the administrative work involved in their implementation together with certification costs are the most suggested (by all firms in general). However, the lack of knowledge about which product label or certification should be implemented has also been mentioned as a relevant problem for large companies.
- The reasons why companies have not implemented yet these labels or certifications are: first, the lack of information on product labelling and certification (especially for small firms), while administrative work is another important limitation to implement these labels and certifications (especially for larger firms).
- There is a slightly positive perception of product labels and certifications on firms' revenues and profit margins. By firm's size, large firms perceive higher revenues (sales) and profits margins than small firms. In general, there is a better perception on revenues than on profit margins.



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**THANK YOU VERY MUCH FOR
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ANY QUESTIONS?