



PrimeFish



Horizon 2020
Programme

WHO'S YOUR TARGET?

HINTS AND TIPS ON GERMAN AND EUROPEAN SEAFOOD CONSUMERS

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PrimeDSS is a webtool for fishermen, aquaculture producers, processing companies, market analysts, public authorities and other stakeholders

PrimeDSS will be further developed and commercially exploited

Prediction of market behaviour



Showing the underlying science

- **Willingness to pay**
- **Reaction to negative press**
- **European and German consumer segments**



Consumer demand and choice behaviour for fresh fish – Willingness to pay



Source: pixabay CC BY-ND 0



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Choice experiment

Online
Questionnaire:
Sociodemographic
Frequency of
consumption of fish
Consumption history

7 species:
trout, herring, salmon,
sea bass, sea bream,
cod and pangasius

Attributes	Levels
Price	<ul style="list-style-type: none"> • Average market price • -30% • +30%
Production method	<ul style="list-style-type: none"> • Wild-caught fish • Farm-raised fish
Format (picture)	<ul style="list-style-type: none"> • Whole fish/round cut* • Fillet • Easy to cook
Sustainability certification	<ul style="list-style-type: none"> • No • Yes
Nutrition and Health claim	<ul style="list-style-type: none"> • No • Yes

* Round cut for salmon and pangasius.

Please, check the option that you would be most likely to purchase for a normal lunch or dinner.

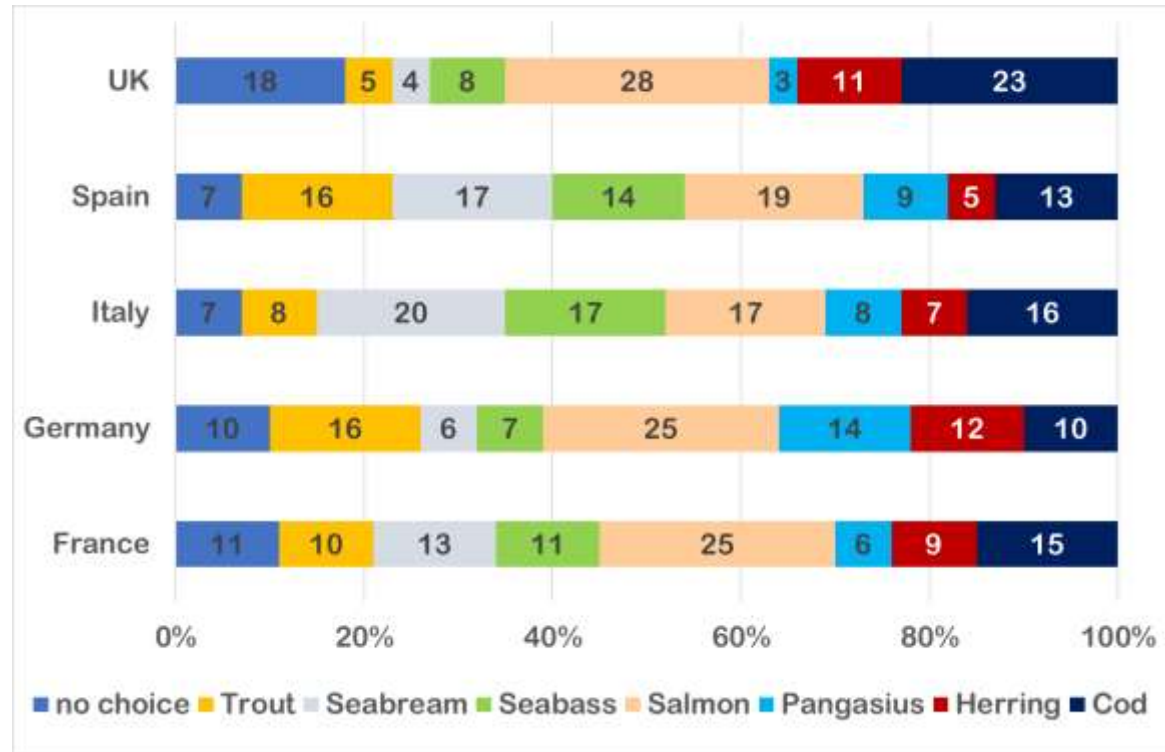
 <p>Trout Farm-raised fish Product with Sustainability certification Product with Nutrition and Health claim 14.854 /kg</p>	 <p>Salmon Wild-caught fish 11.377 /kg</p>	 <p>Sea bream Farm-raised fish Product with Sustainability certification Product with Nutrition and Health claim 13.762 /kg</p>	 <p>Pangasius Farm-raised fish Product with Nutrition and Health claim 6.422 /kg</p>
 <p>Herring Wild-caught fish Product with Sustainability certification Product with Nutrition and Health claim 4.232 /kg</p>	 <p>Sea bass Wild-caught fish Product with Sustainability certification Product with Nutrition and Health claim 14.847 /kg</p>	 <p>Cod Farm-raised fish Product with Sustainability certification 9.852 /kg</p>	None of these products

What quantity would you purchase of the most product (g)?

Choice probabilities across Europe (n= 2,509)

Salmon is the fish with highest choice probability except Italy (sea bream, sea bass)

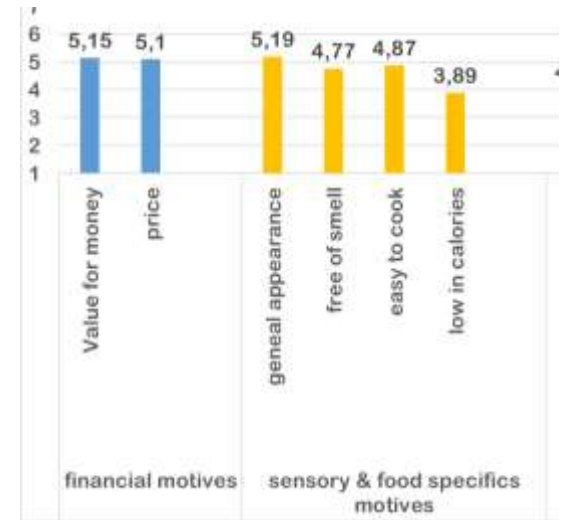
Herring is mainly consumed in Germany and UK



Choice preference - Germany



- Wild caught
- Ready to cook (except salmon)
- Sustainability label (seabass and seabream)
- Nutritional and health claims (seabream and herring)



These attributes drive choice preference for fish in Germany

Products with the highest Willingness to Pay



- **Production method**
 - TOP 1 wild-caught sea bass: +51%
 - TOP 2 wild-caught salmon: +35%
 - TOP 3 wild-caught sea bream: +32%
- **Product format**
 - TOP 1 salmon filet: +38%
- **Sustainability label**
 - TOP 1 sea bream: +53%
 - TOP 2 pangasius: +49%
 - TOP 3 sea bass : +42%
- **Nutritional and health claims**
 - TOP 1 pangasius: +44%
 - TOP 2 sea bream: +30%
 - TOP 3 salmon: +24%

Willingness to Pay (WTP) in
% above average market price



- **Choosing fish is influenced by**
 - **General appearance, ease of cooking, smell, price and sustainability certification**
 - **Consumers are aware of health benefits of seafood**
 - **Higher trust in fishermen than industry or retailer**

- **Willingness to pay for fish increases when**
 - **Wild caught, ready to cook, with a sustainability label and a nutritional and health claim**



Reaction to negative press



Fish in the news... is not always good news!

The Economist

UGB

GESUNDHEITSBERATUNG

unabhängig - kompetent - nachhaltig

Vereine für Unabhängige Gesundheitsberatung e.V.

Newsletters

- Home
- Über uns
- Seminare
- Tagungen / Symposien
- Betriebliche Gesundheit
- Kurskonzepte

Abmelden
Der Zugang zu den Fachinformationen exklusiv für Mitglieder und Abonnenten ist jetzt für Sie freigeschaltet.

●●● **Enthält Lachs zu viele Schadstoffe?**
Der Schadstoffgehalt von Lachs hängt erheblich von Fanggebiet, Alter und Fettgehalt der Fische ab. Bei Zuchtlachs ist außerdem die Art der Aufzucht entscheidend. Wer nur gelegentlich Lachs isst, braucht keine gesundheitlichen Nachteile zu befürchten.



foodwatch
die essenzieller

Informationen | Mitarbeiter | Spenden | Über foodwatch | Mediathek | Presse

Entscheidung über Grenzwert-Lockerung kann jederzeit fallen

11.01.2017

Die EU-Kommission und die spanische Regierung für einige Fischereizone...
Wie es in der Praxis aussieht, wenn in der EU Grenzwerte für Schadstoffe...
Vor allem Raibulische sind von Quecksilber belastet

Stuttgarter Allgemeine

Gelehrtschaft

BRUNNEN MENSCHEN VERHALTEN UMWELTE GEWISSENHEIT TIER GARTEN KUNST UND ARCHITEKTUR

GEWISSENHEIT
Zuchtlachse erheblich mit Giften belastet
WELTWEIT AM 04.01.2017 11:36



Zuchtlachse sind erheblich stärker mit Giften belastet als ihre wild lebenden Artgenossen. Vor allem in europäischen Farmen gezüchtete Fische sind belastet. Britische Forscher halten den Lachs jedoch für unbedenklich.

Health & Science

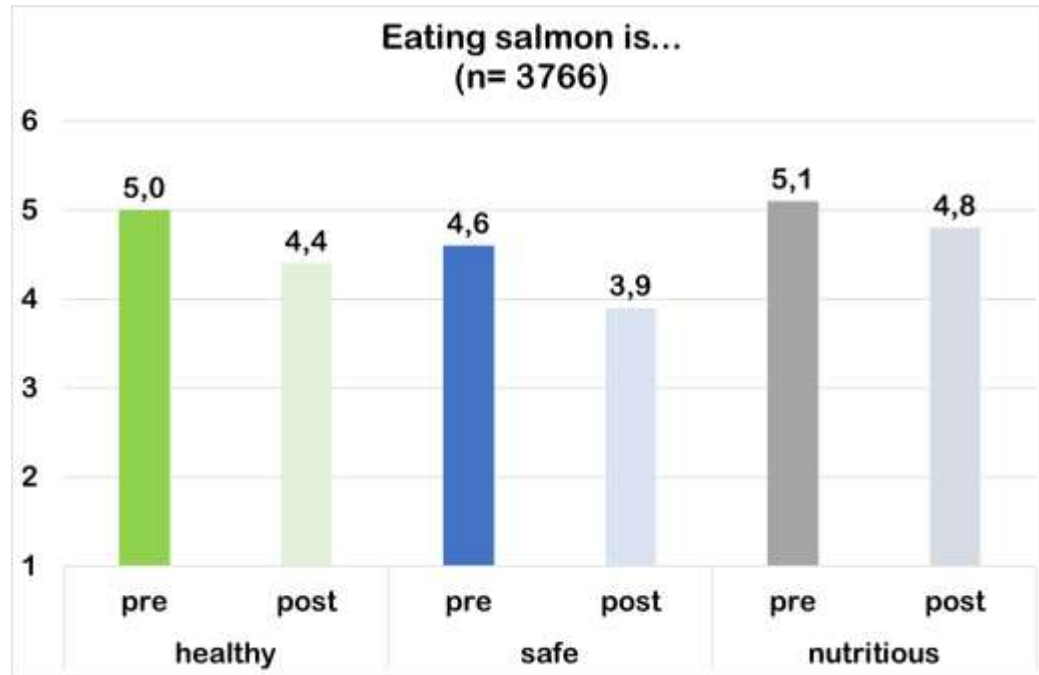
The bad news is that fish are eating lots of plastic. Even worse, they may like it.

As you fish about like a delicious piece of fish, you probably don't think about what the fish itself ate – but perhaps you should. More than 100 species of fish have been found to consume plastic trash at sea. This is bad news, not only for the fish but potentially also for humans who rely on fish for nutrition.

Impact on attitude towards salmon - I

Consumers perceive eating salmon after information intervention as

- **Less healthy**
- **Less safe**
- **Less nutritious**



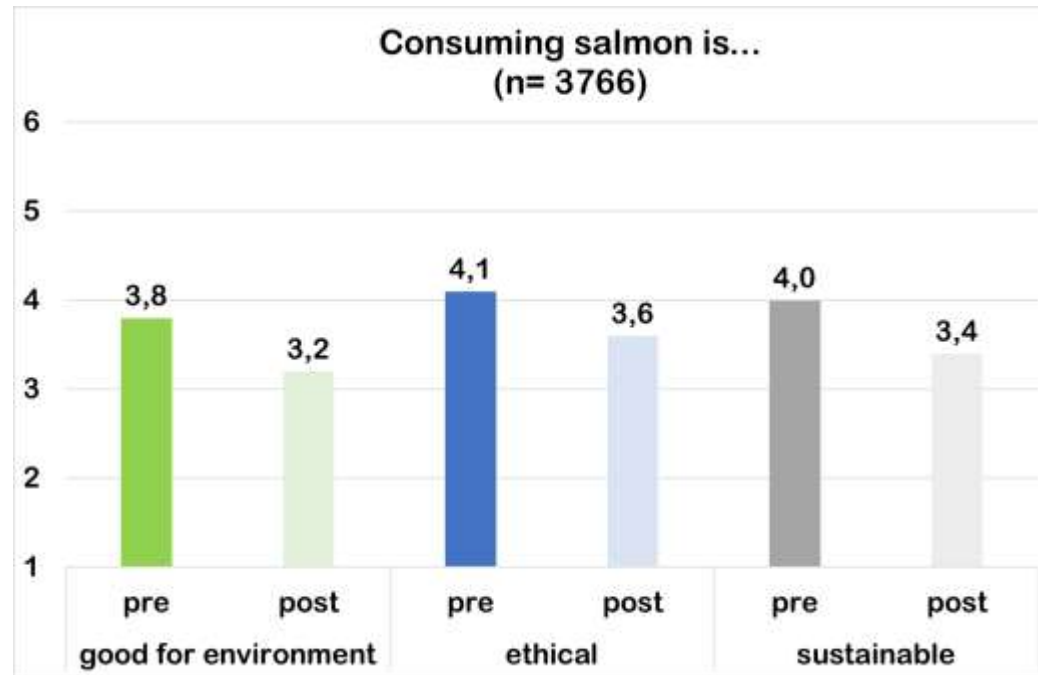
Pre= before information intervention

Post= after information intervention

Impact on attitude towards salmon - II

Consumers perceive eating salmon after information intervention as

- **Less good for environment**
- **Less ethical**
- **Less sustainable**

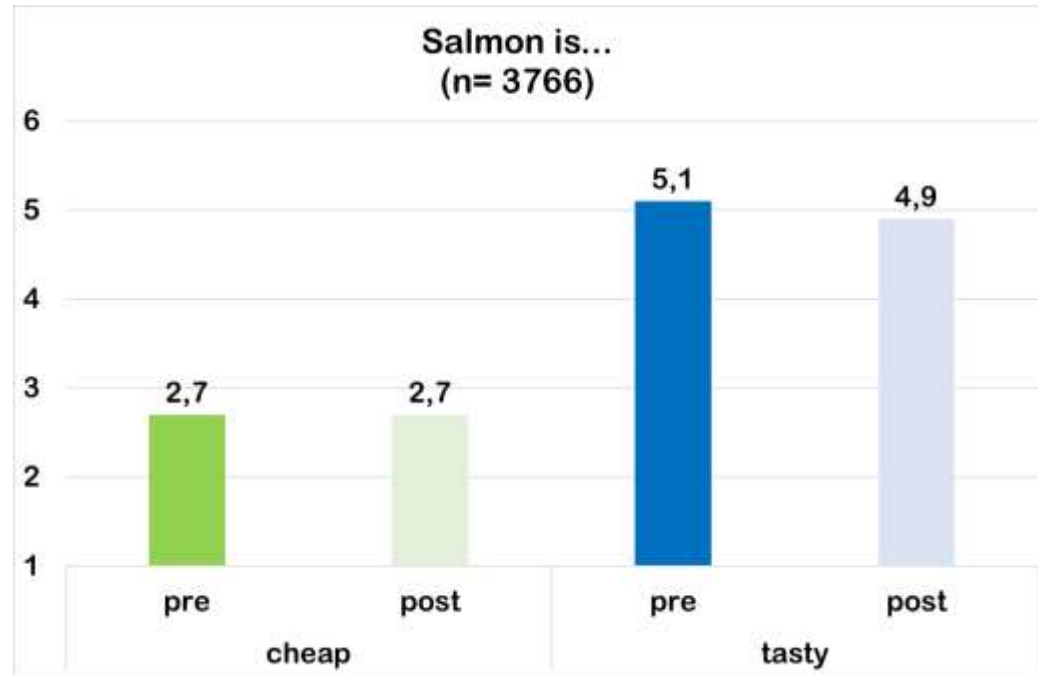


Pre= before information intervention

Post= after information intervention

Impact on attitude towards salmon - III

Negative information has no/hardly no impact on the perception of salmon as a cheap or tasty fish



Pre= before information intervention

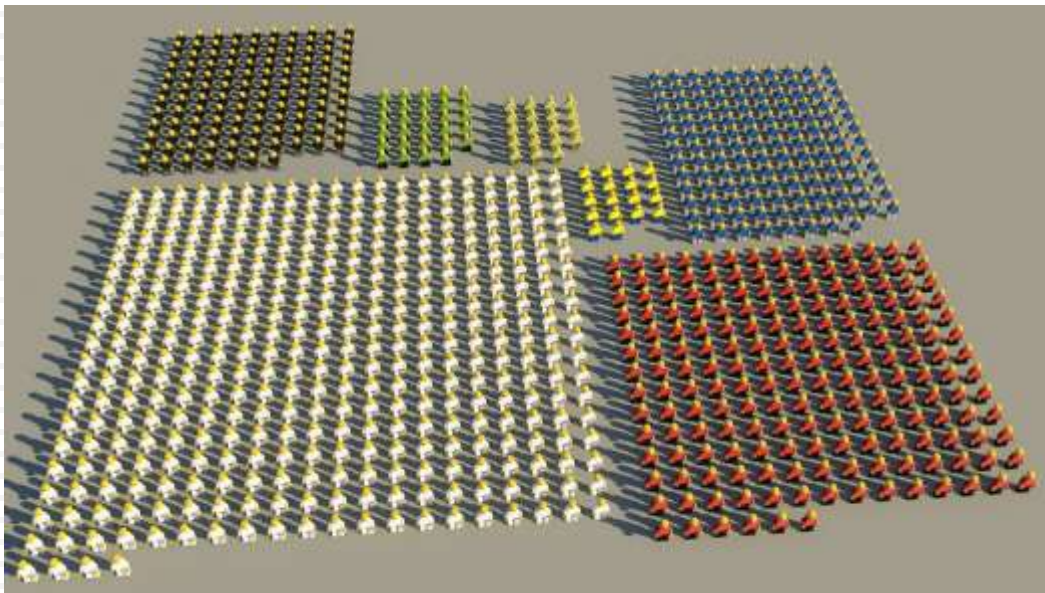
Post= after information intervention

Reaction to negative press – main message

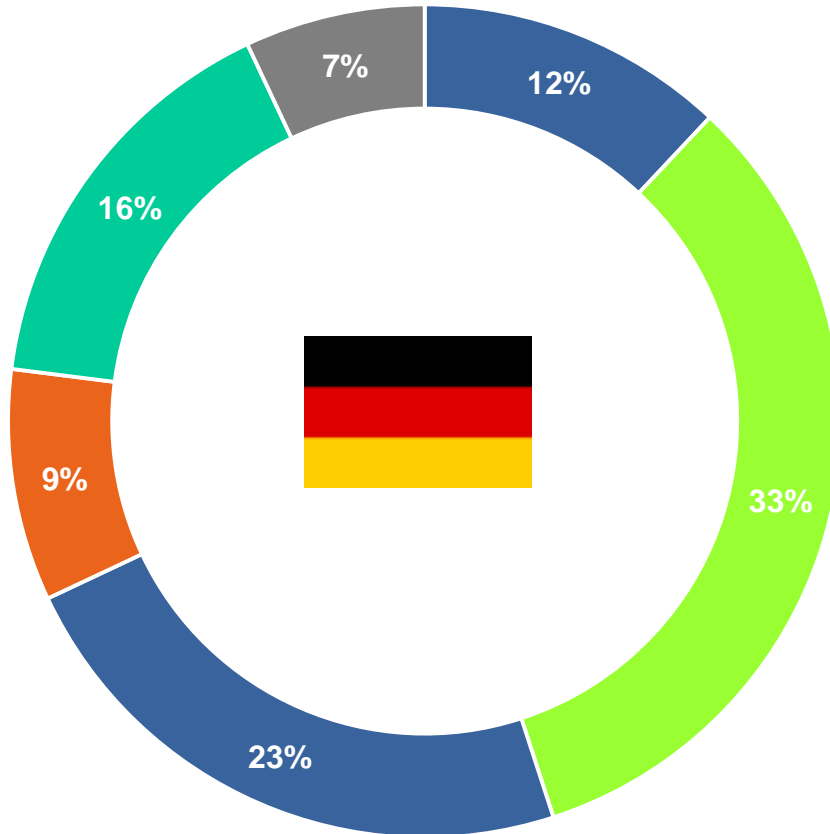
- **Negative information impacted attitude related to salmon consumption diminishing value perception of**
 - Health-related aspects
 - Environmental-related aspects
- **No difference in perception of price and taste**
- **No difference in the type of information source,**
 - Official and unofficial sources had the same impact



Consumer segmentation



Consumer segments - main message Germany



- Cooking artist
- Healthy & env. conscious
- Convenience brand loyal
- Health oriented cooking artist
- Cheap brand & taste
- Indifferent

Cooking artist

**12% of the Germans
stable segment**



Source: alleideen.com CC BY-ND 2.0

- **34+, both genders**
- **Medium education**
- **2-3 person-households, some have young children**
- **100€ average purchase/month**
 - **Not price sensitive**
- **Versatility and experimentation is important**
- **Not focused on species or format**

Health and environmentally conscious consumers

33% of the Germans Growing segment



Source: satisfyingretirement.blogspot.de CC BY-ND 3.0

- 54+, both genders
- Medium to high education
- Medium to high fish consumption
- 96€ average purchase/month
- Trust their seller/brand
- Healthy diet
 - Natural product characteristic
 - Texture is a very important characteristic
- Ready to pay the value they ask for (high fish expenditure)
- Main fish species: salmon, trout and seabass, fresh and frozen

Convenience, brand loyal consumer

**23% of the Germans
Growing segment**



- 40+, female
- Living in a two-person-household in cities in the countryside
- Medium to low education
- 67€ average purchase/month
- Preferred brand characteristics:
 - Nutrients
 - Sustainability certification
 - Traceability label
- Main fish species: salmon and sea bass, fresh and frozen filet

Source: ttz Bremerhaven



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Healthy cooking artists

**12% of the Germans
stable segment**



- **54+, female**
- **Medium to high education**
- **2 person-households**
- **92€ average purchase/month**
 - **Premium segment in terms of expenditure**
- **Cooking artist with focus on health**
- **Not focused on species or format**

Source: alleideen.com CC BY-ND 2.0

Cheap brand and taste consumer

**16% of the Germans
stable segment**



Source: pixabay CC BY-ND 0

- ❑ 40 -50, male (but in relationship)
- ❑ 46€ general purchase/month
- ❑ Medium education
- ❑ Medium – low consumption
- ❑ No high involvement in fish selection or shopping
- ❑ Not knowledgeable about fish
- ❑ Claims of preferred brands known
- ❑ Main fish species: salmon (smoked, ready to eat/cook) and sea bass, frozen filet

Indifferent

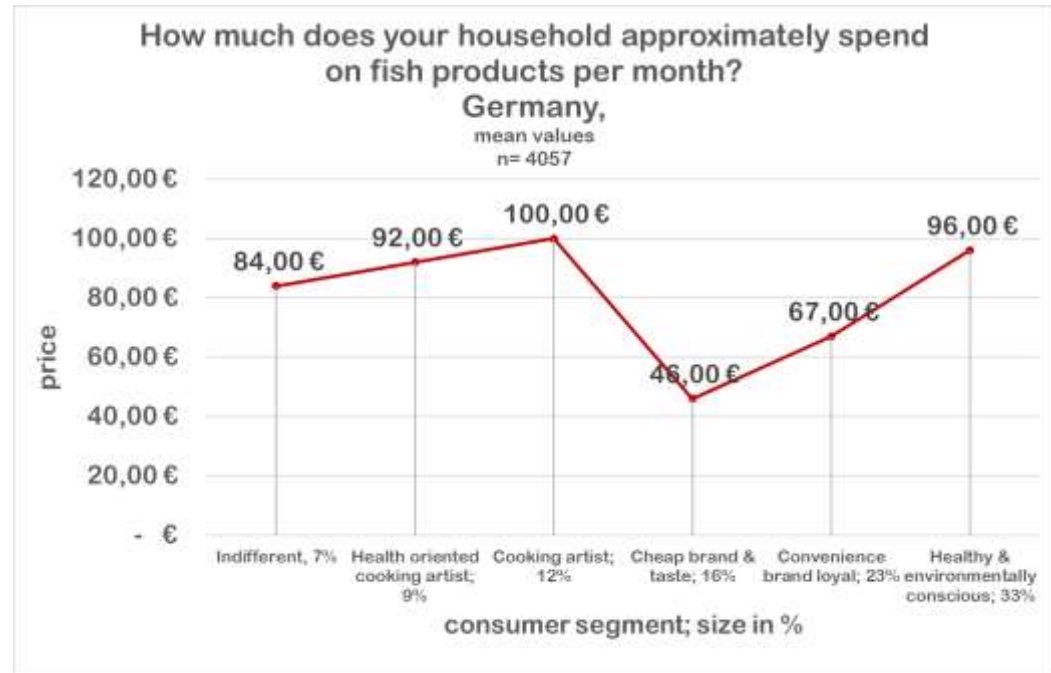


- 24+, both genders
- Medium to high education
- 1-2 person-households
- 86 € average purchase/month
- Not focused on species or format

Monthly fish expenditure of German segments

56% of German consumers claim to spend 67€/month or even more for fish!

This group of German consumers are growing!



Main message of the consumer segmentation

- **German consumer considers**
 - Sensory aspects
 - Health related aspects
 - Environmentally related aspects
 - Price not so much
- **Overall we found 11 consumer segments in Europe**
 - In each country 5-7 segment are appropriate

Taking away messages

1. Choice/WTP is influenced by interior characteristics (e.g. smell), but also by exterior characteristics (e.g. labels)
2. Consumer are significantly influenced by negative press
3. In Germany, consumer segments are mainly 1-2 person households, no kids <12 years, mostly high monthly expenditure and not very price-sensitive
4. A decision support tool (PrimeDSS) is coming up for you to play with! Check it out here: <http://dss.primefish.eu>

Acknowledgements

Lead Partners in each of the consumer studies

- **Impact of negative Information:**
 - **University of Savoie: Stéphane Ganassali, Olga Untilov**
- **Willingness to Pay**
 - **University of Parma: Davide Menozzi**
 - **Nha Trang University (Vietnam): Thong Tien Nguyen**
- **Consumer Segmentation**
 - **University of Pavia: Birgit Hagen, Francesca Sanguineti, Antonella Carcagni**
- **With the support of many other partners from the PrimeFish consortium!**



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**THANK YOU VERY MUCH
FOR YOUR ATTENTION**



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Studies overview

<p>1</p>  <p>All pictures from pixabay CC BY-ND 0</p>	<p>2</p> 	<p>3</p> 
<p>Willingness to pay</p> <p>n=2,509</p>	<p>Reaction to negative press</p> <p>n=3,766</p>	<p>Consumer segments</p> <p>n=4,057</p>



June – September 2017

Fish choice motives - Germany



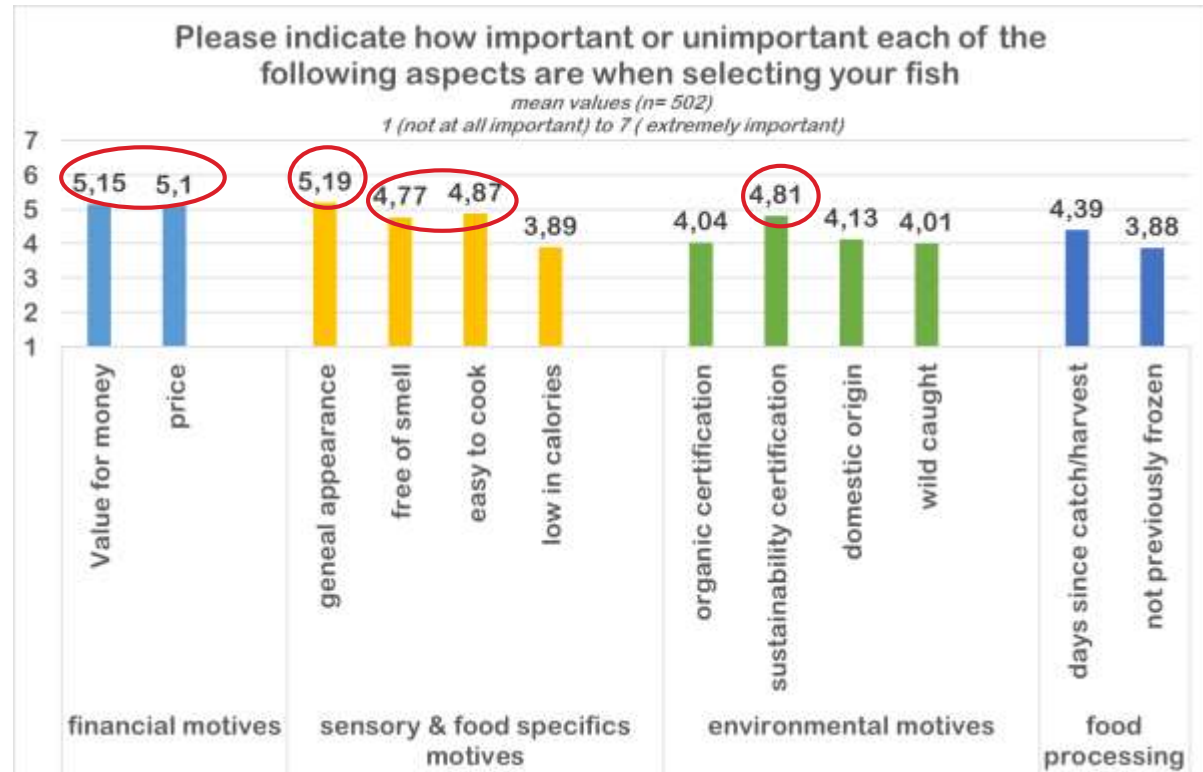
General appearance

Easy to cook

Free of smell

Financial motives

Sustainability

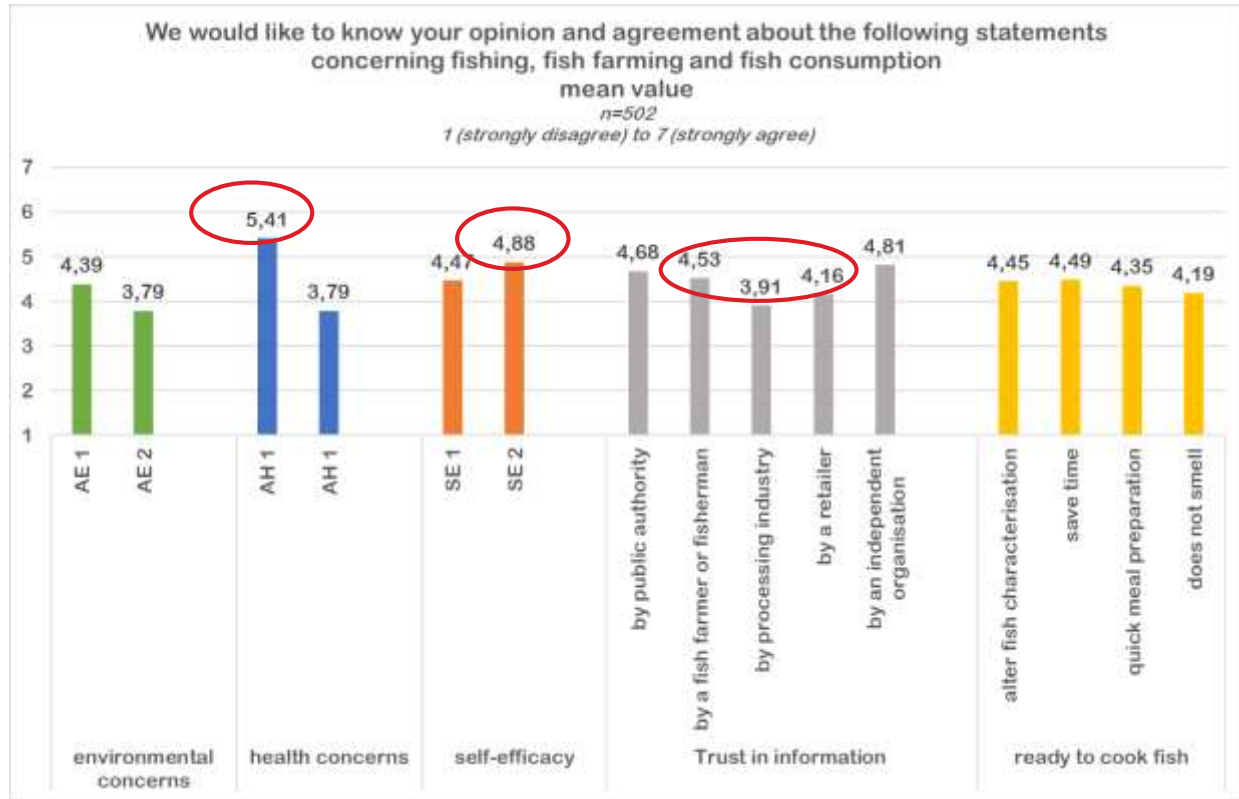


Attitudinal beliefs - Germany



Positive impact on health due to omega 3

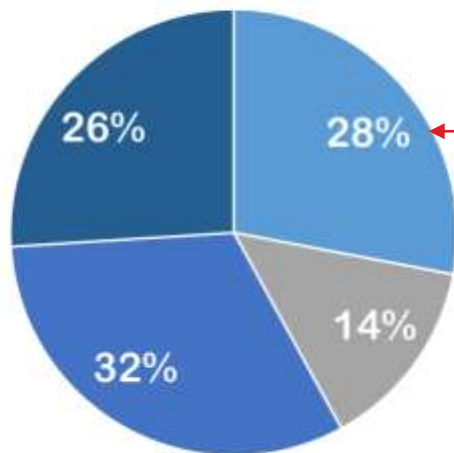
Higher trust in fisherman than industry/retailer



Consumer segments



Segmentation of the German market,
based on individuals' choice
probabilities; n=502



■ Cluster 1 ■ Cluster 2 ■ Cluster 3 ■ Cluster 4

Cluster 1

51% male, 49% female

Under 50 years

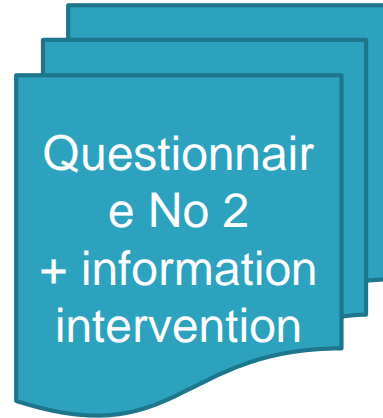
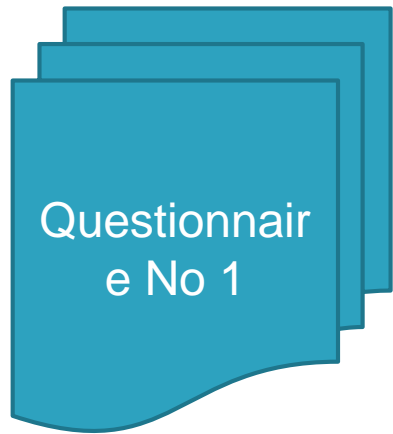
Med/highly educated

High income level

1-2 person households

High WTP

Study setting



Information intervention

A health-related
B environment-related

Official/inofficial

1. Fish & salmon consumption
2. Sociodemographic data
3. Attitude towards salmon consumption
4. Measuring involvement
5. Change of consumption
6. Health & environmental sensitiveness

1. Sociodemographic data (basic)

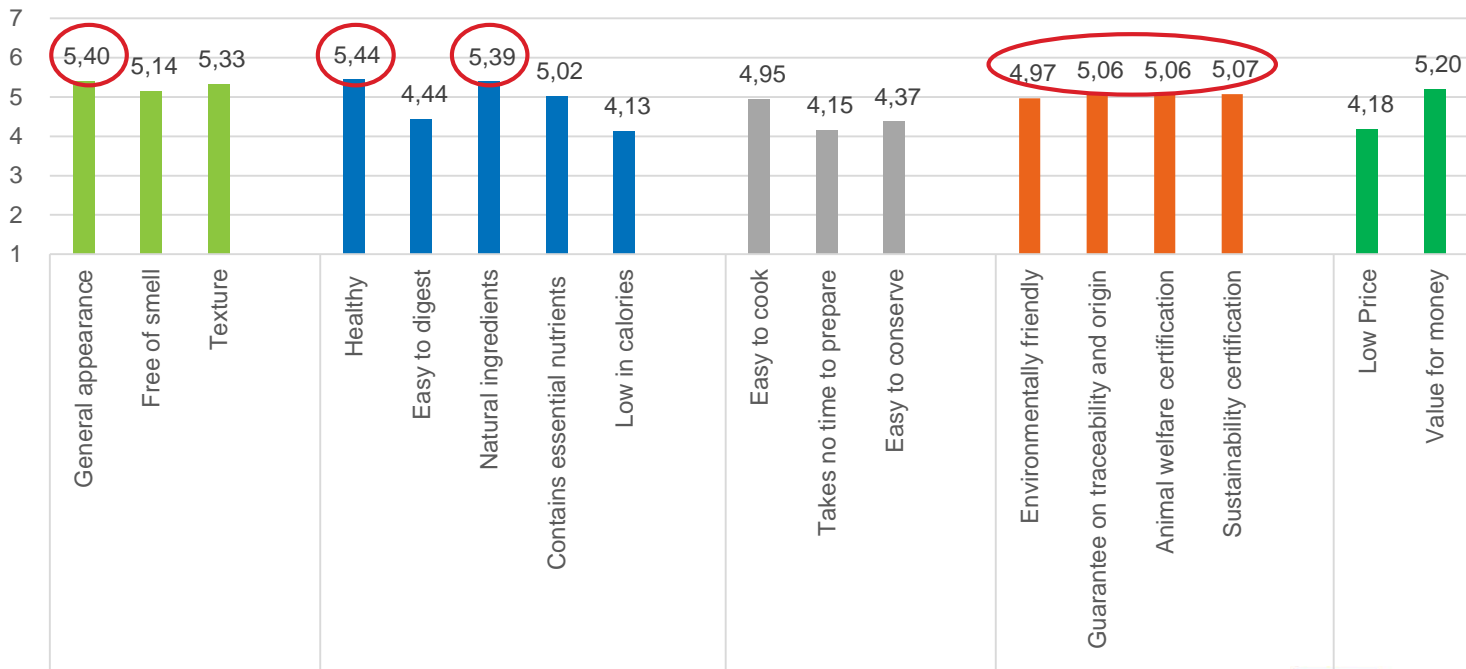
INFORMATION INTERVENTION

1. Perception (relevance, credibility) of presented information
2. Attitude towards salmon consumption
3. Measuring implicit attitudes
4. Measuring behavioural intentions
5. Ranking salmon products with different labels

What do we know about their attitude towards fish?

Please indicate how important or unimportant each of the following aspects are when selecting your fish.

(1 = not at all important; 7 = extremely important)



Sensory aspects

Health related aspects

Environmentally related aspects