

Japanese Consumers' Demand for Traceability Information - On Tokyo Bay Fish Passport



2022/6/29

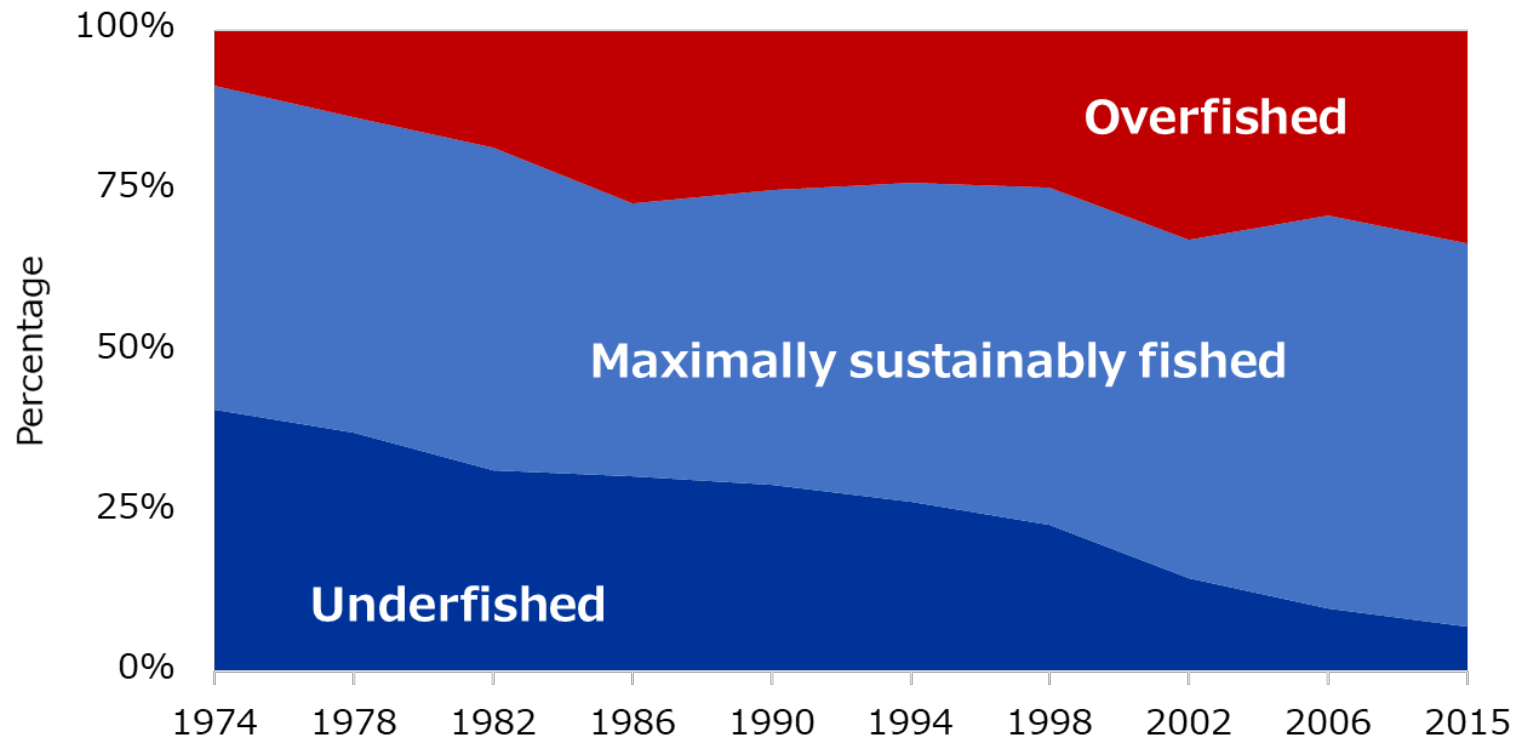
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Proper resource management of fisheries is necessary due to growing pressure on fishing control globally.



Global trends in the state of world's marine fish stocks
FAO SOFIA (2020)

**One solution is to offer technology that
trace information from catch to consumption**

Information shared on Tokyo Bay Fish Passport

Read QR Code



Daidenmaru K.K.



株式会社大傳丸

Share the philosophy of the fisherman with his photos

東京湾の漁師がその日のうちに獲った新鮮な魚を、
『いつも食卓に魚が並ぶ』ことを海光物産は目指します。

Tracing information

Sakana bacca 豪徳寺店

2018/01/11 16:05
入荷

株式会社 フーディソン大田

2018/01/11 14:23
出荷

2018/01/11 12:58
入荷

海光物産株式会社

2021/06/21 12:00
出荷

2021/06/21 10:00
加工

株式会社大傳丸

Route information



MEL certified



Pride Fish
Truly tasty fish selected by the fisherman

Enable fish traceability

Challenges to spread the use of Tokyo Bay Fish Passport IX Knowledge Inc. Interview (Nov. 10, 2021)

Challenge : How to set appropriate price?

Findings

- Cost increases with technology installation.
- The benefits must outweigh the costs for the business (the technology will be widely used).
- Once the expected benefits are known, the cost of invested can be determined.
- Begin by clarifying the benefits.

Research goals

- Identify the economic value of traceability information to promote fisheries to manage resources appropriately.
- Case study: Identify how much the average consumer is willing to pay for the information contained in the Tokyo Bay Fish Passport.

Process

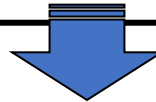
Theme

**Test for the consumer's willingness to pay for
Tokyo Bay Fish Passport Verification**



Data

Survey on general consumers



Method

Conjoint analysis

What is conjoint analysis? :

Methodology for product development

車1	
Price	1 million yen
Fuel efficiency	Good
Design	Unknown A

車2	
Price	1 million yen
Fuel efficiency	Bad
Design	Known brand A

Want !



車3	
Price	1.5 mil yen
Fuel efficiency	Good
Design	Known brand B

車4	
Price	1.5 mil yen
Fuel efficiency	Bad
Design	Unknown A

Don't want !



<https://gmo-research.jp/research-column/conjoint-analysis>

Possible to identify how each product element influences the total evaluation

Survey

- Survey company : iBridge Corporation
- Tool : Freeasy (Self service survey)
- Sample : n=500
- Timing : 2021/12/21~27



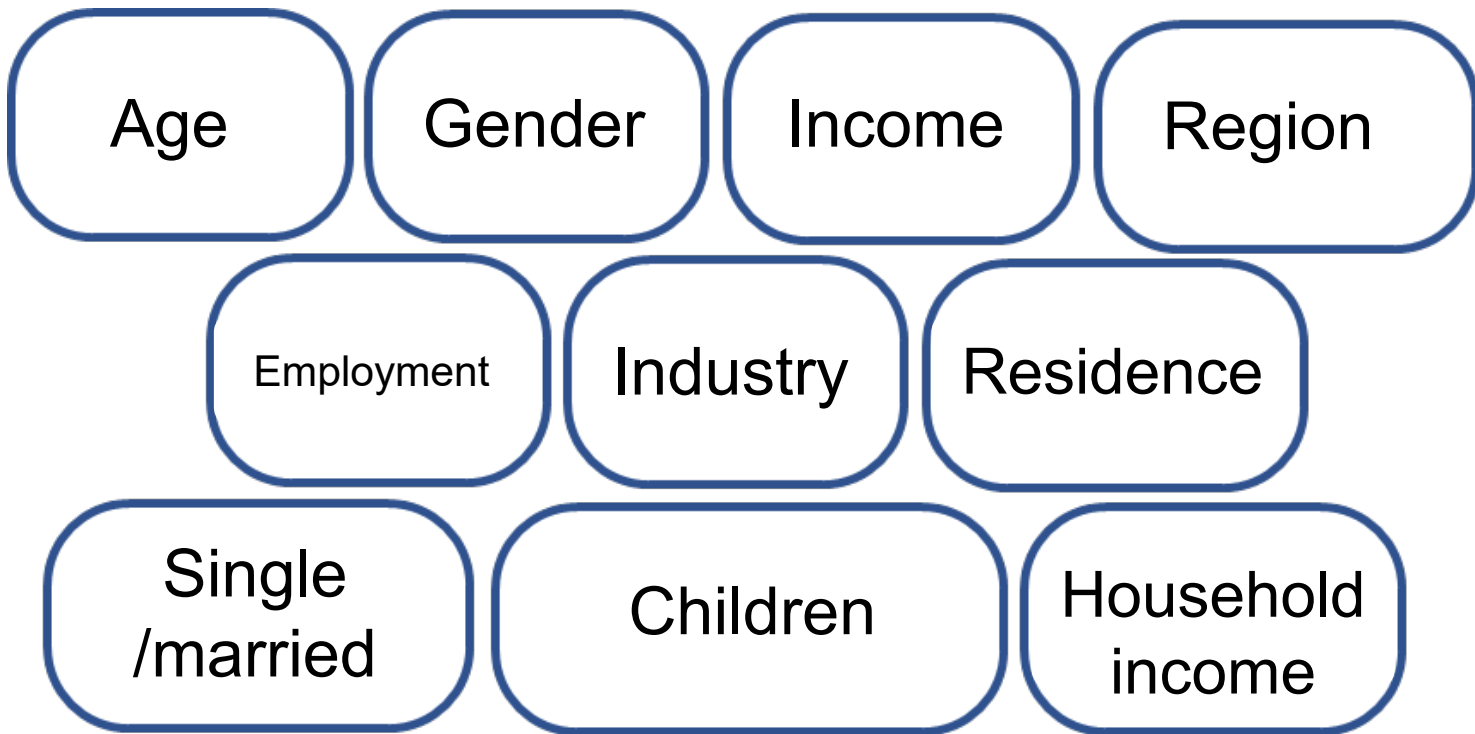
The banner features a background image of people working at laptops. The 'Freeasy' logo is prominently displayed in the center. Text overlays describe the tool as a self-service survey tool for catching consumer needs quickly and easily. Two buttons, '資料ダウンロード' (Download Materials) and 'オンラインデモ' (Online Demo), are visible. At the bottom, three statistics are presented: 450万人 (45 million) for the number of monitored companies, 1,500社以上 (over 1,500 companies) for the number of companies using the tool, and 96% for customer satisfaction.

消費者ニーズを
安く、早く、簡単にキャッチする
セルフ型アンケートツール

資料ダウンロード オンラインデモ

業界最大規模のモニター数	導入企業	顧客満足度
450万人	1,500社以上	96% ※弊社アンケート調べ

Survey Respondents



Survey questions

Characteristic

- Q1. In charge of shopping
- Q2. Knows how to cook fish
- Q3. Purchased perch before

Willingness

- Q4.1-10
- Level of interest to shop: origin, price, with QR

Level of QR info

- By order of importance
- Q5. QR Information (existing)
- Q6. QR information (new)

Survey (Selections)

Q4. Level of consumer's desire to buy

(1) 250 yen Chiba With QR	(2) 250 yen Aichi No QR	(3) 250 yen Aichi With QR	(4) 300 yen Chiba With QR	(5) 300 yen Hyogo No QR
(6) 300 yen Aichi No QR	(7) 300 yen Aichi With QR	(8) 350 yen Chiba No QR	(9) 350 yen Hyogo With QR	(10) 350 yen Aichi With QR

- **Score**

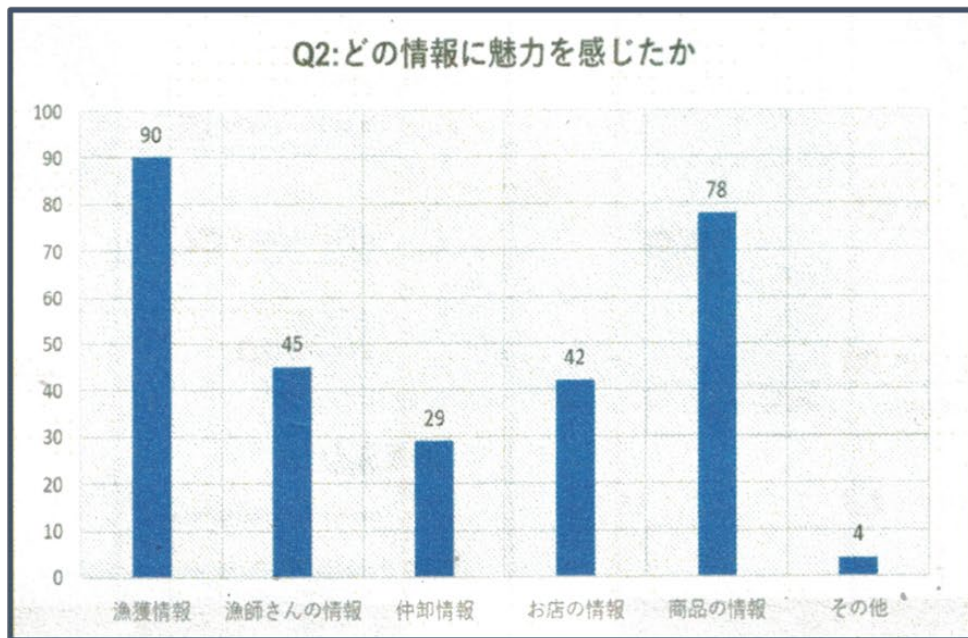
0 (Don't want to buy) ↔ 10 (Strongly want to buy)

- **Score shows the level of desire to buy**

Q5. QR Information (existing) Rank

1. Fishery information
2. Fisherman information
3. Middleman information
4. Store information
5. Product information

Find the most important information consumer wants to know through QR access



- IX Knowledge Inc. Survey result (chart)
- This research analyzes general consumers' trend.

Q6. QR info (new) Rank

1. Fishery information
2. Fisherman information
3. Middleman information
4. Store information
5. Product information

In addition to these 5, explore what other information should be added in the future

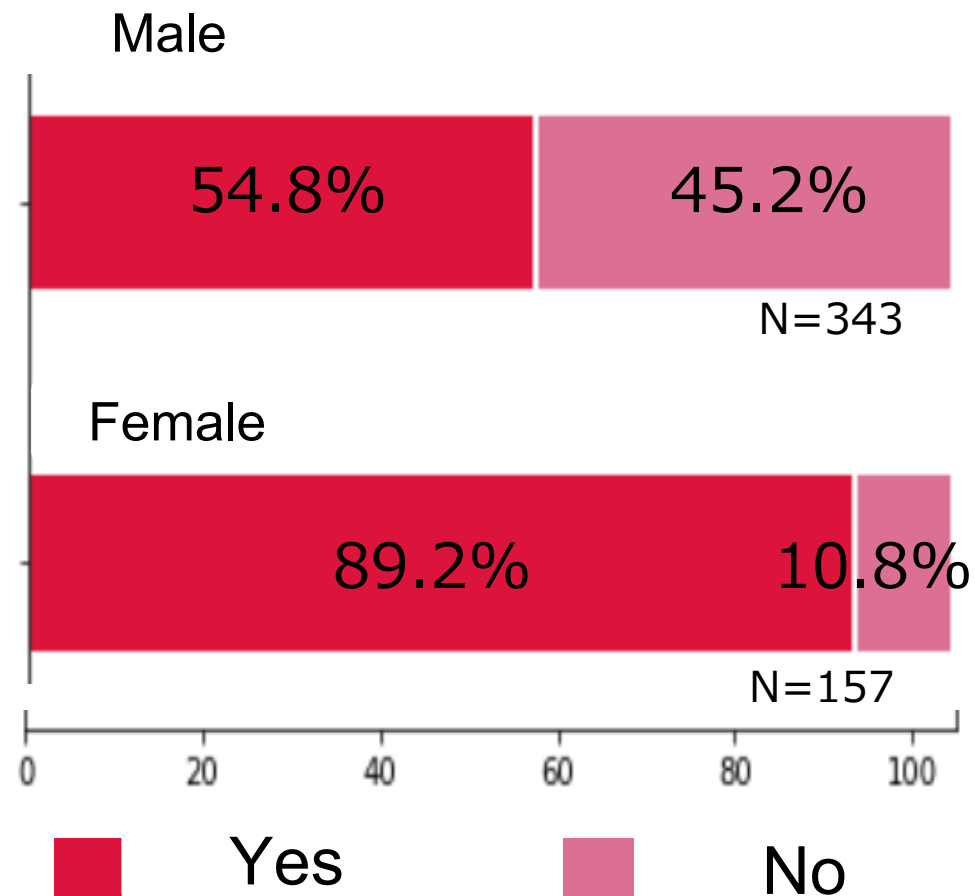
- Additional information
6. Best season to eat
 7. Recipe
 8. Sustainability
 9. Resource management
 10. "Like" from other consumers

Survey Result

Q1. In charge of shopping?

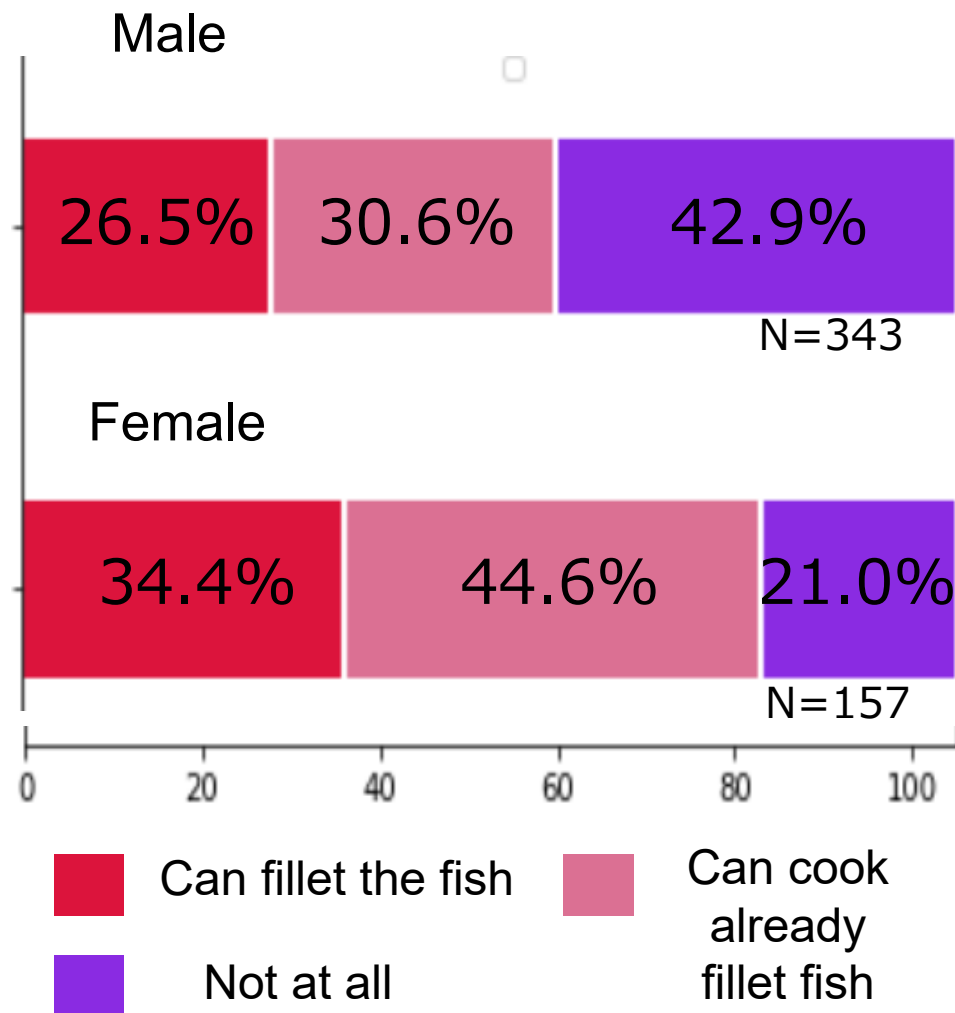
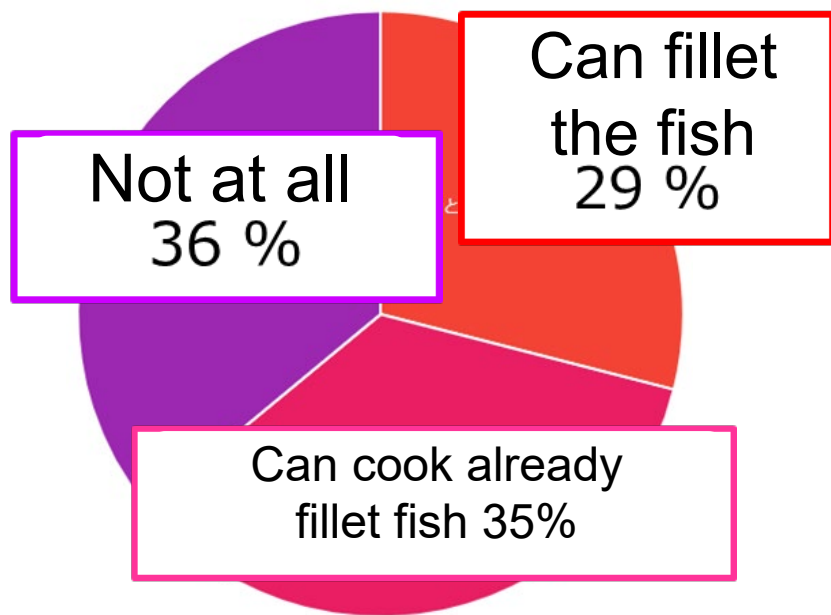
No 34.4%

Yes 65.6%



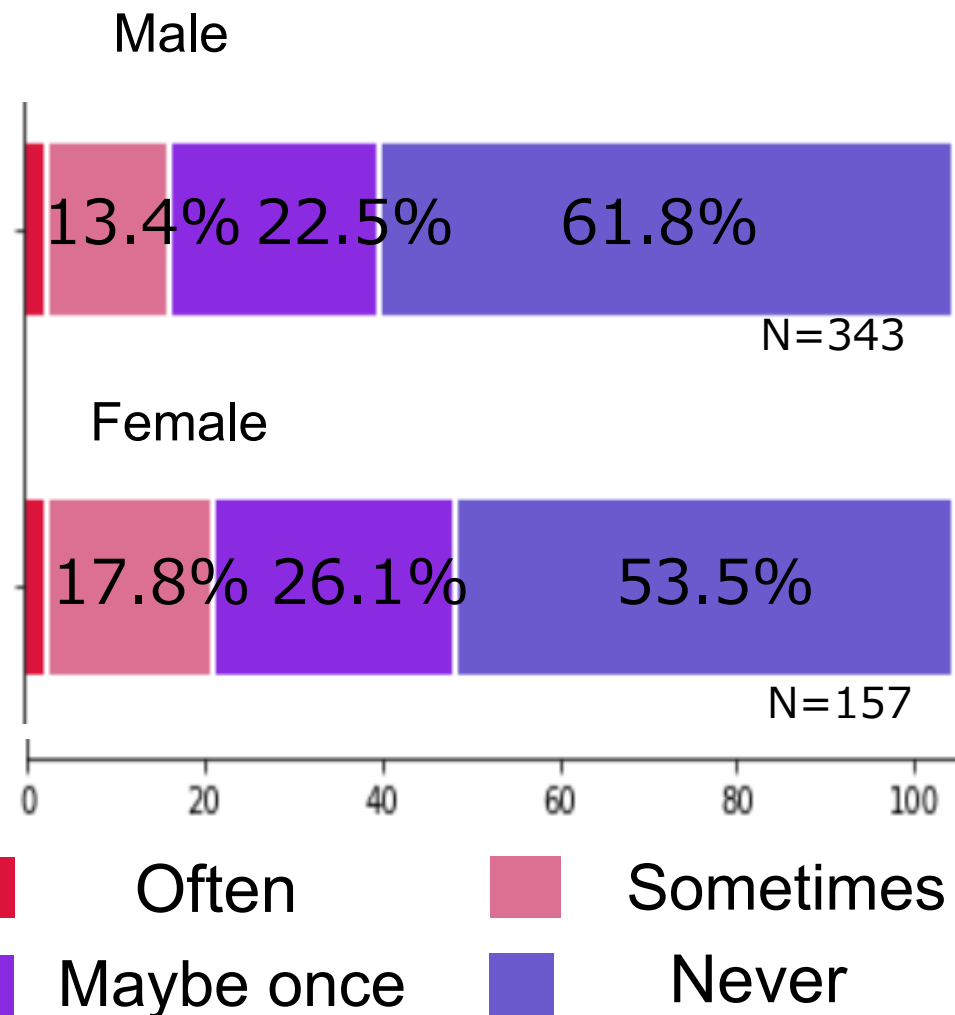
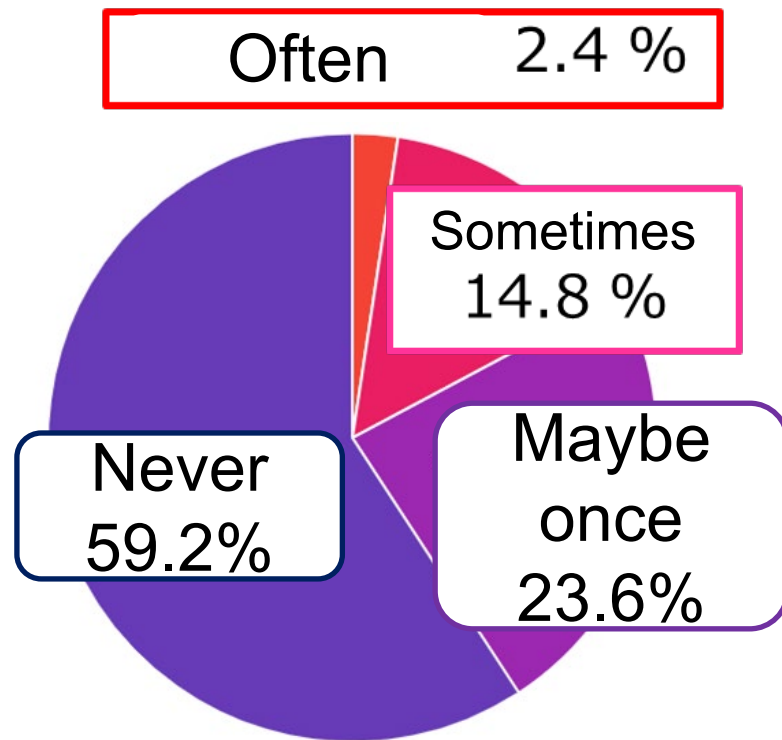
Survey result

Q2. Knows how to cook fish



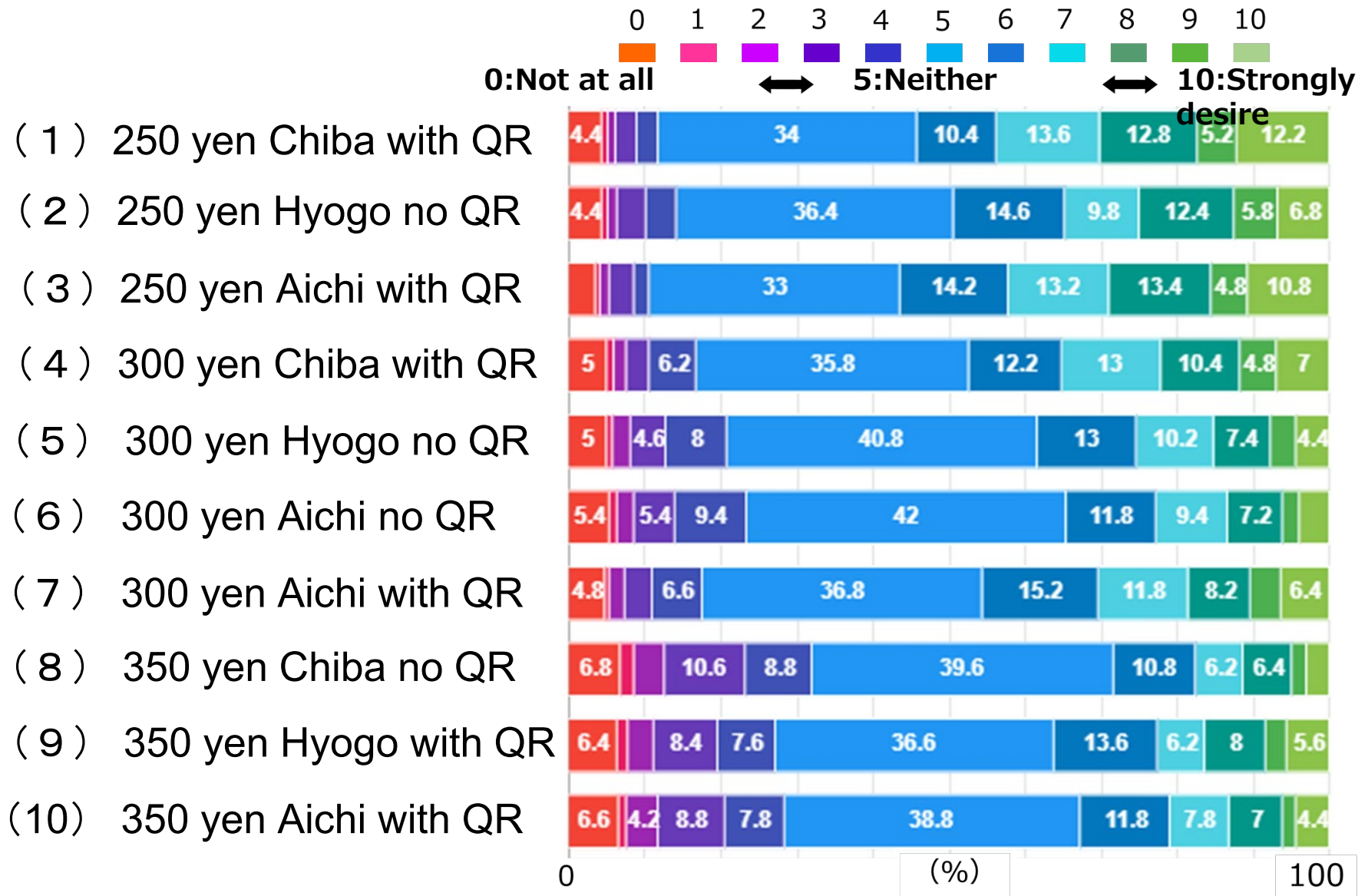
Survey result

Q3. Purchased perch before



Survey result

Q4. Level of consumer's desire to buy



Survey result

Q4. Conjoint analysis

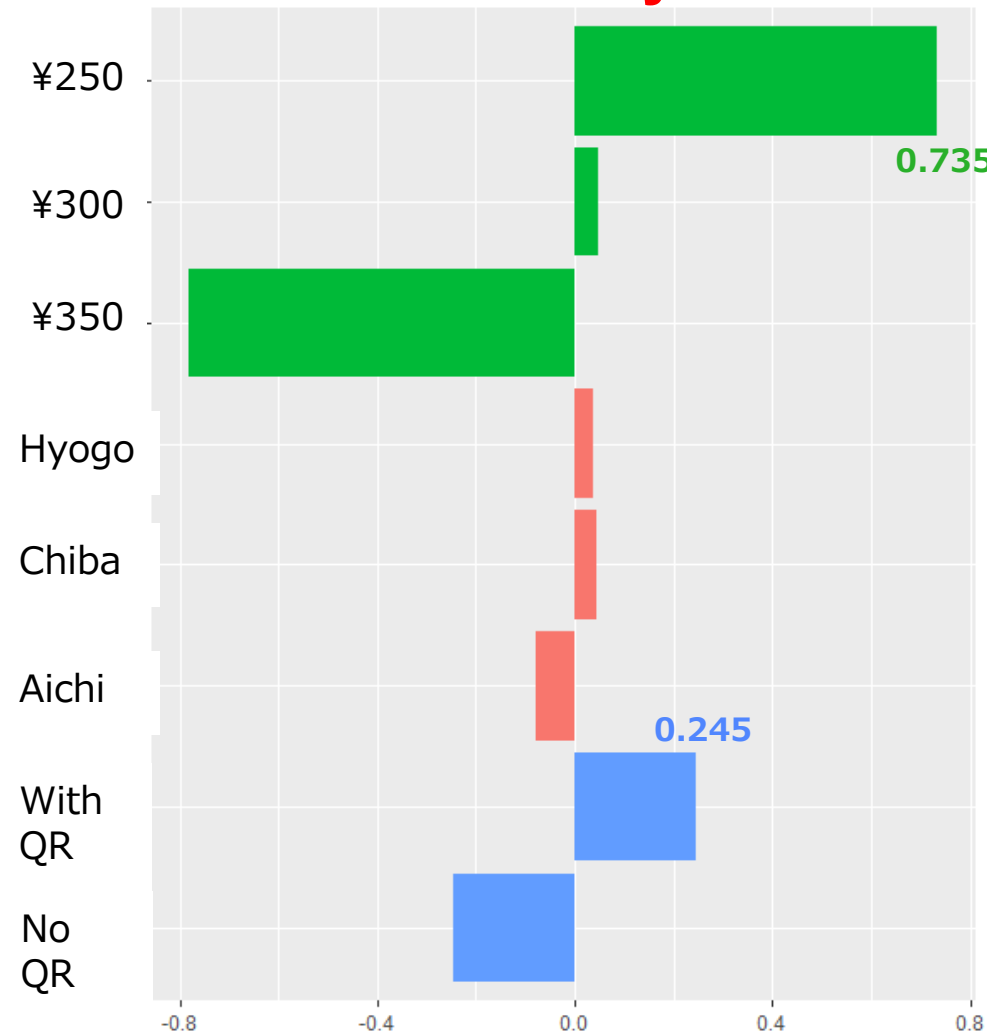
	Coefficient	Standard deviation	T value	P value
_Cons	5.77	0.04	143.45	0.00
250 yen	0.73	0.05	14.07	0.00
300 yen	0.05	0.05	0.89	0.38
Chiba	0.44	0.05	0.85	0.40
Hyogo	0.04	0.06	0.59	0.56
With QR	0.24	0.05	5.09	0.00

- Price: For ¥250, **willingness to purchase increased significantly.**
- Location : Neither Chiba nor Hyogo prefecture is significant.
- QR : When present, **willingness to purchase increased significantly.**

Survey result

Q4. Conjoint analysis

Partial utility value



- The partial utility value is a number calculated from the regression coefficient and indicates **quantitative satisfaction**.
- The utility of having QR information is approximately **62~70%** **compared to the utility of a 50 yen change in price.**
- ⇒QR info cost approx. **31~35yen.**

Survey result

Q4. Conjoint analysis

Sea bass purchase experience

	Coefficient	t value	
_Cons	6.03	0.00	***
250 yen	0.68	0.00	***
300 yen	0.02	0.76	
Chiba	0.01	0.87	
Hyogo	0.03	0.73	
With QR	0.25	0.00	***

No sea bass purchase experience

	Coefficient	t value	
_Cons	5.54	0.00	***
250 yen	0.79	0.00	***
300 yen	0.07	0.35	
Chiba	0.07	0.31	
Hyogo	0.04	0.63	
With QR	0.24	0.00	***

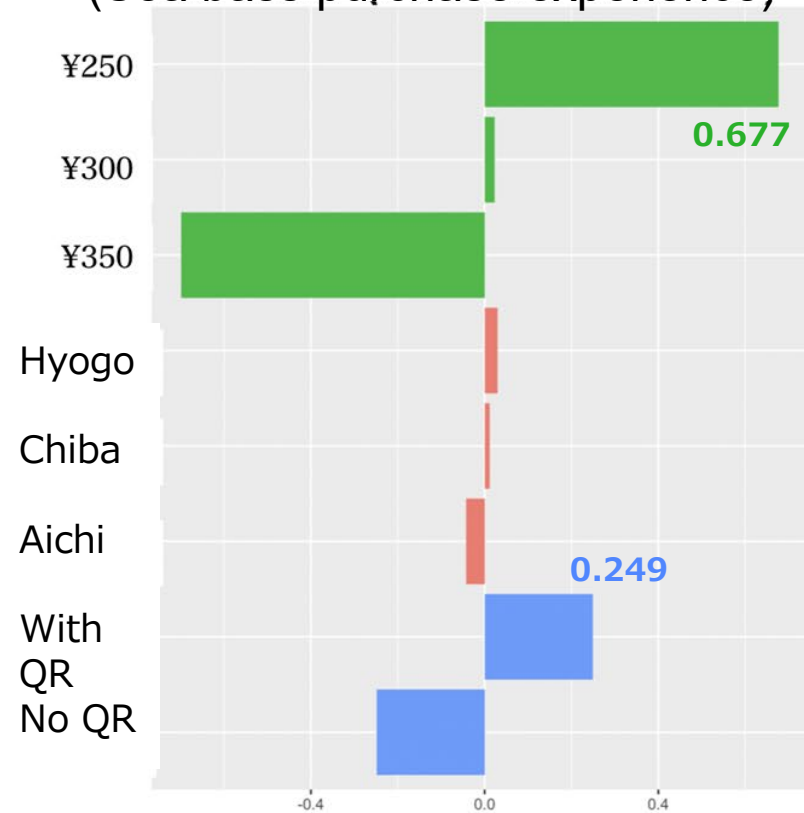
- The willingness to purchase was originally higher among those who "have purchased before," and was less influenced by price and more influenced by having QR.

Survey result

Q4. Conjoint analysis(Partial utility value)

Partial values

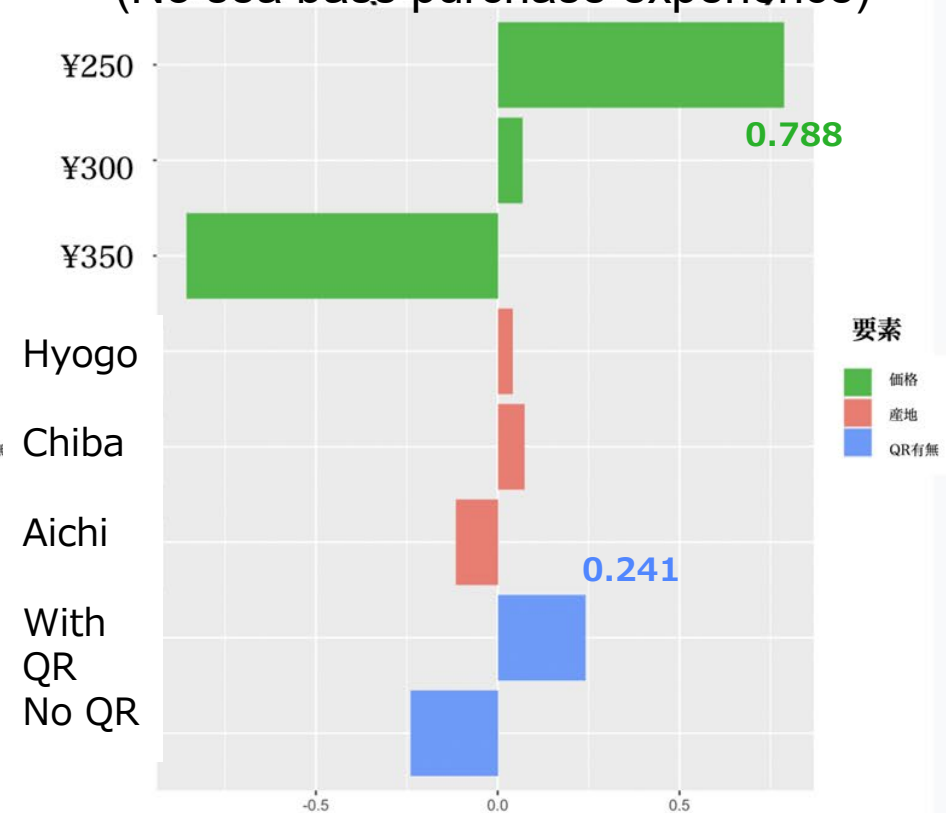
(Sea bass purchase experience)



- QR info values at 30 to 38 yen

Partial values

(No sea bass purchase experience)



- QR info values at 26 to 33.5 yen

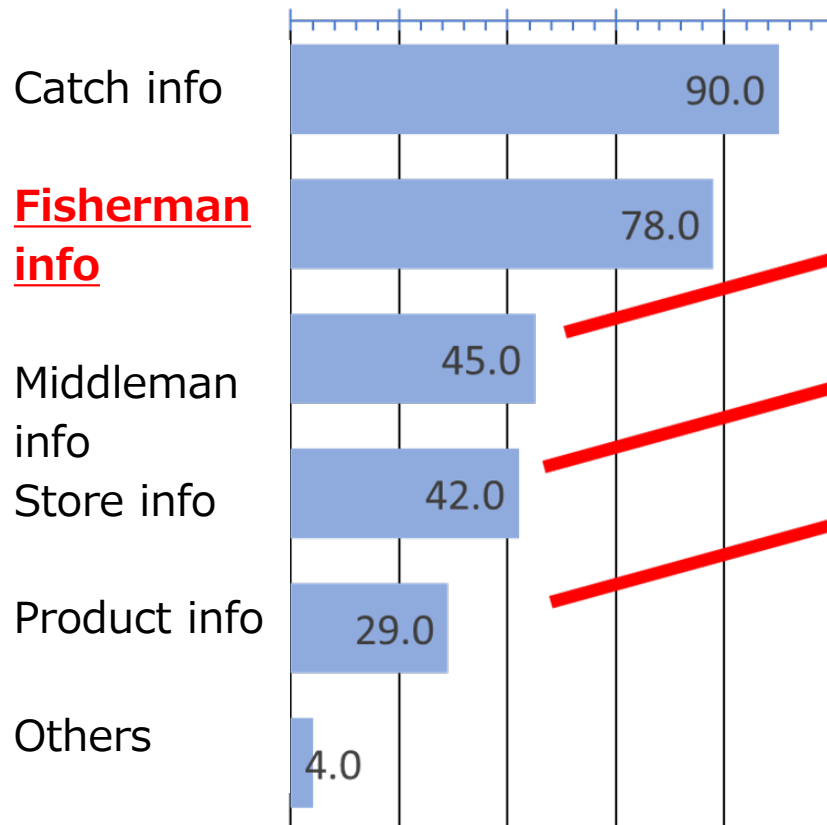
Survey result

Q5.QR info (existing) ranking

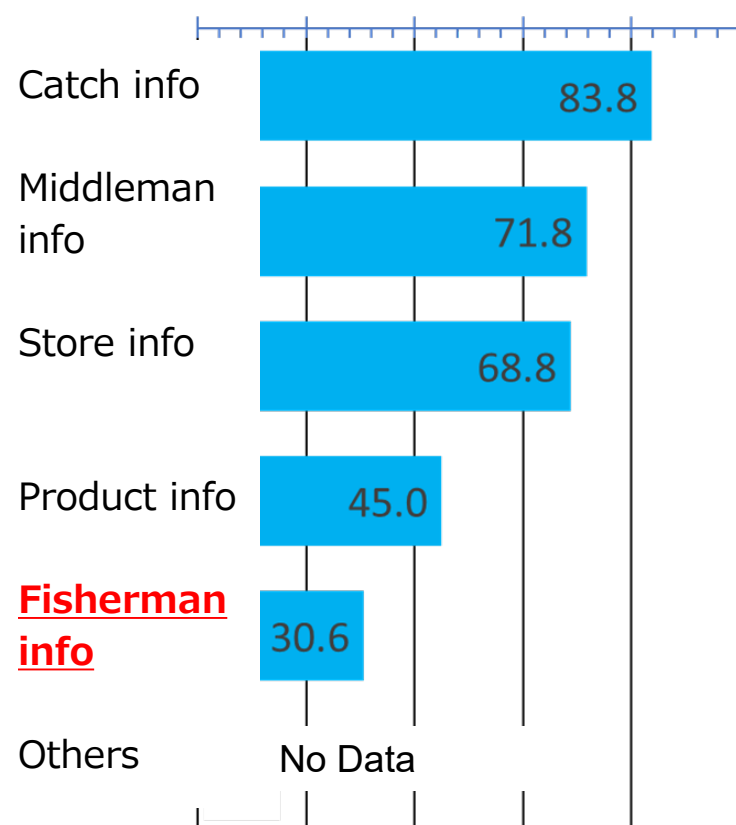
Q(IKI). Which info would you like to know?

Q5. Select from below 3 info you would like to know.

0 20 40 60 80 100(%)



0 20 40 60 80 100(%)



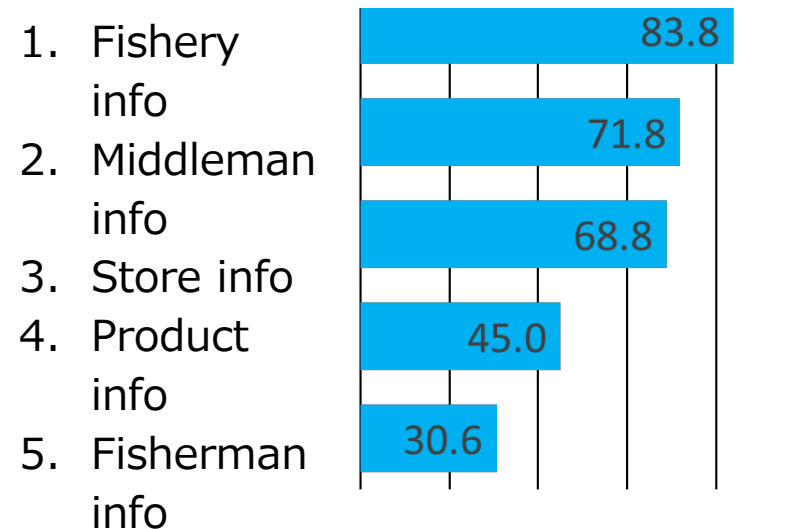
■ IKI survey result

■ Our survey result

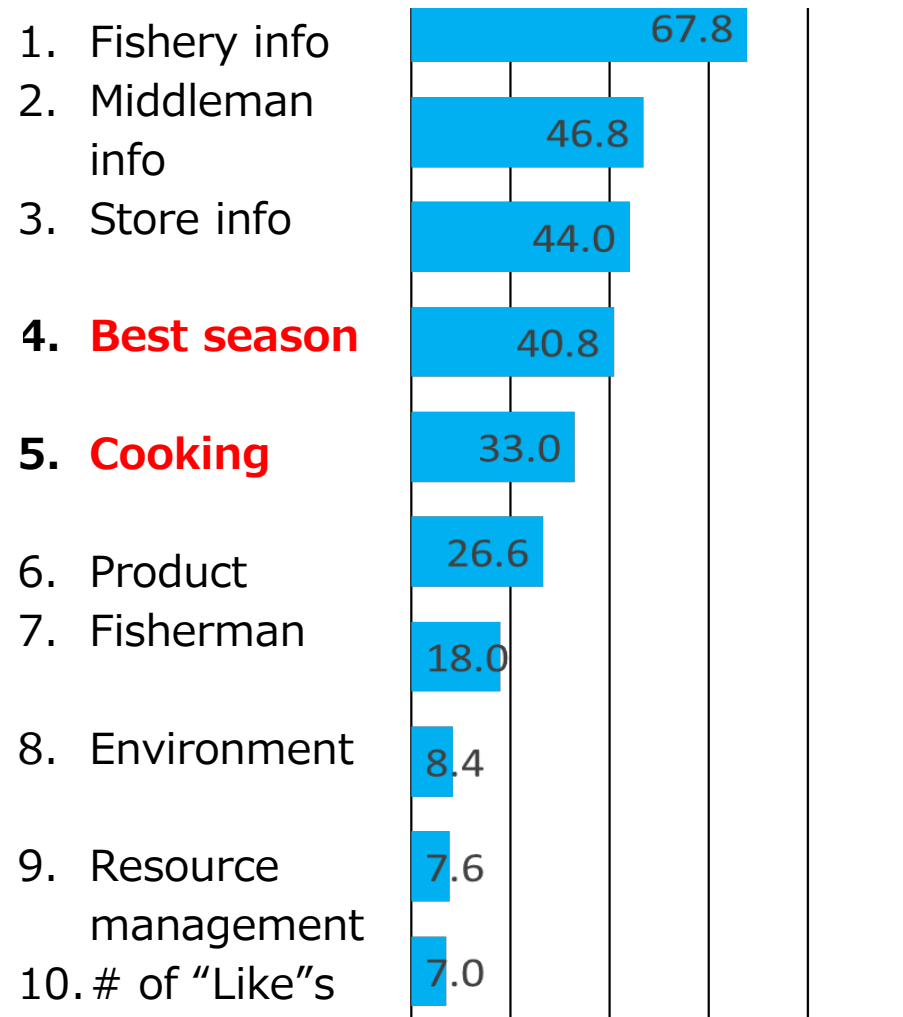
Survey result

Q6. Information to be added

Q5. Please select information you would like to have from below 3



Q6. Please select information you would like to have from below 3



Summary

(Q4)① QR increases the general public's willingness to buy.

② The economic value is approximately 31-35 yen.

③ Those who have purchased before pay up to 38 yen.

(Q5) Information important to consumers

Catch Info > Middleman info > Store Info > Product Info > Fisherman Info

(Q6) Information that should be added

Best season to eat, Cooking method

Future research topics

- Estimates from a “selection method” conjoint analysis. ⇒ Verify the robustness of the estimation results.
- Similar studies on fish other than sea bass. ⇒ Verify the robustness of the estimation results.
- Analysis by basic attributes of respondents (gender, age, etc.). ⇒ Specify the most appropriate target zone.