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Nordic Innovation Centre

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# MmmmmSeafood

## Consumer oriented development of new Nordic seafood product concepts for young adults and families with young children

- Stimulating the consumption of healthy high quality seafood at home and in out-of-home situations
- Decision making processes of evening meals (seafood versus meat) among Nordic consumers
- Take home messages for the seafood sector



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<b>Title:</b> Consumer oriented development of new Nordic seafood product concepts for young adults and families with young children (MmmmmSeafood)		
<b>Nordic Innovation Centre (NICE) project number:</b> 06386		
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<b>Abstract:</b> <p>The aim of this project was to strengthen the Nordic seafood sector by a consumer oriented development of new fresh seafood product concepts for young adults and families with young children in order to stimulate the consumption of healthy high quality seafood at home and in out-of-home situations. The development of the seafood concepts has been carried according a structured approach via focus groups meetings with stakeholders in the seafood chain and the target consumers groups Norway, Iceland and Denmark.</p> <p>In the next phase ideas for new seafood products were generated within a multi-disciplinary team under supervision of an innovation company. Several seafood concepts were tested among the target consumer groups via web-based questionnaires. The outcome was used to develop a preliminary prototype seafood product, based upon outcome concept ‘mixture of seafood species and fruit’, which was tested in at-home situations of a small group of consumers in Norway. This seafood product prototype is suitable for further development by the seafood sector.</p> <p>In addition a study was carried out on the decision making process of evening meal (seafood versus meat) among consumers in the Nordic countries. The results show that planning was the most important phase of the evening meal decision-making sequence. Practical issues, such as convenience, pro-activeness in planning and responsibilities in the family were considered to be important but health and taste considerations, which represent the affective aspects of the decision-making sequence, were much less frequently mentioned as being important.</p> <p>A number of take home messages for the seafood sector are presented about future seafood product development for consumers with a low seafood consumption pattern</p>		
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## **Main objective**

### **The main objective of the project was:**

- To strengthen the Nordic seafood sector by a consumer oriented development of new fresh seafood product concepts for young adults and families with young children in order to stimulate the consumption of healthy high quality seafood at home and in out-of-home situations.

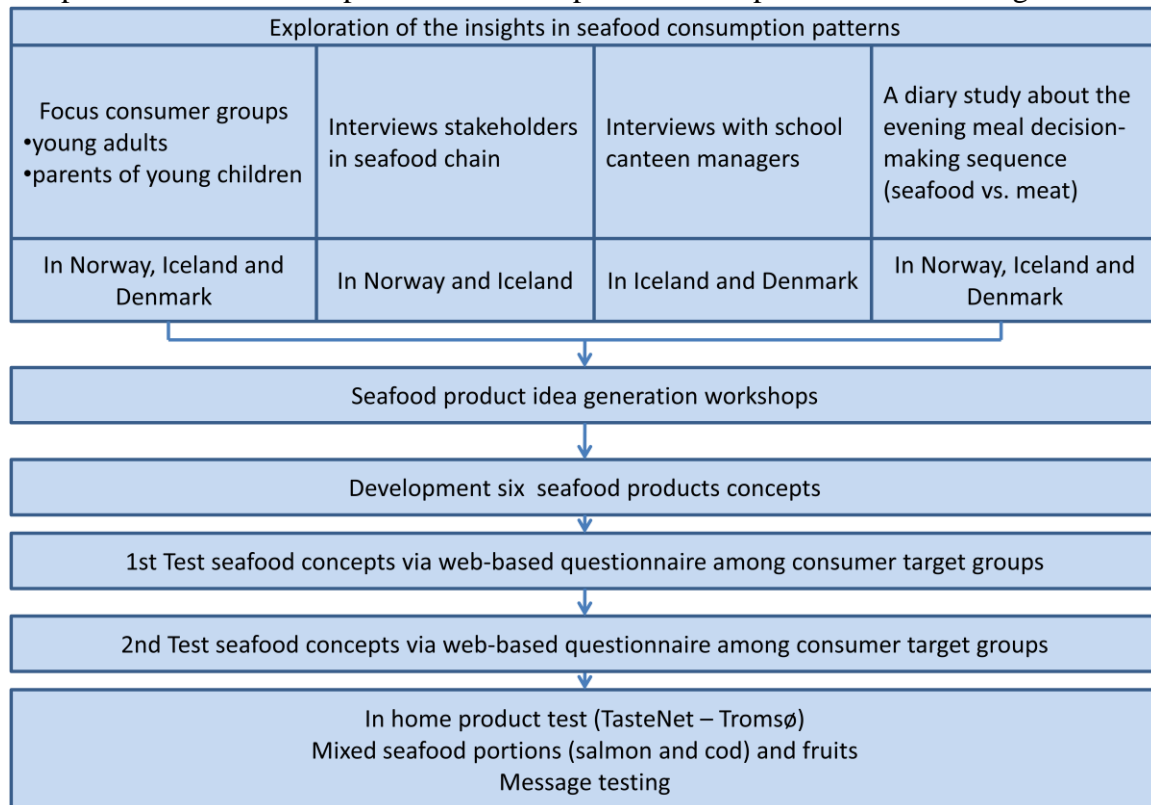
### **This goal has been achieved by:**

- Bringing together representatives of seafood producers, local fishery communities, gastronomists, seafood export organisation, catering, retail chain, dieticians, food designers and seafood research institutions with expertise in the area of marketing, consumer science and food technology
- The multi-disciplinary R&D team has mapped first via focus groups discussion with industry representatives and the consumer target groups existing knowledge and experiences regarding seafood consumption patterns, consumers' behavior and attitudes to (traditional) seafood, seafood product development according to best practice in the seafood industry, seafood consumption in out-of-home situations (school canteens) and consumer demands and barriers regarding seafood consumption
- The multi-disciplinary R&D team of MmmmmSeafood has developed and tested according to the stage gate principle a number new seafood product concepts for young adults and families with young children
- Finally a preliminary limited consumer test with a new seafood product, based upon concept of mixture fish species and fruit was carried out in a real life situation. In this test also three messages about convenience, quality and the image of fish were tested.
- Dissemination of the results via brochures, TV interview, national news papers, scientific publications, presentations at conferences, seafood exhibitions and Nordic NICE workshops.

## **Methods**

The MmmmmSeafood R&D team from three Nordic countries (Norway, Denmark and Iceland) was implemented by bringing together a consortium of 10 partners from research institutes (Nofima Marin and Mat, Matis, Culinology Institute, MAPP), private companies (TANK and Fylgisfiskar), authorities (Public Health Iceland, Reykjavik Town Centre) and the Norwegian Seafood Export Council. The expertises in the MmmmmSeafood R&D team consist of seafood technology, sensory science, consumer science, nutrition, packaging and food design, culinology and seafood marketing.

The process for the development of seafood product concepts was the following.



Focus groups discussions were held with the stakeholders in the seafood chain from Norway and Iceland with the goal to get insight in their experiences with product development and consumers attitudes to seafood.

In addition three focus groups sessions were held with young adults and parents from young children in Norway, Denmark and Iceland. They belong to the category of consumers with a low seafood consumption pattern. The aim of this study was to gain insight into the attitudes and behaviour regarding seafood consumption.

Nine consumer values (image improvement, freedom of choice, successfully prepared, healthiness, trust & visibility, convenience, price, availability and satiation) as an outcome of the focus group discussions were the starting point for the idea generation workshop under the supervision of an external innovation company. All ideas generated were evaluated in a structured manner and lead finally to six new seafood concepts. A number of these concepts with several variables were tested among the targeted consumer groups in Norway, Iceland and Denmark via a web-based questionnaire. The outcome of the 1<sup>st</sup> concept test was used to design a 2<sup>nd</sup> concept in which a smaller number of seafood product concepts were tested among the targeted consumer groups in Norway, Iceland and Denmark via a web-based questionnaire.

The results from the concept test were used to develop a first prototype of a seafood product for a test in real life situation among consumers in Tromsø (Norway). The seafood product (portions of salmon and cod with Nordic berries) and a recipe as well a

control seafood product (cod fillets with no recipe) were offered to approx. 100 consumers.

As a part of this consumer test also three messages about convenience, quality and the image of fish were tested on comprehension, trustworthiness, effectiveness, liking, sufficiency and fit to the consumers' eating habits.

In parallel to the product development it was important to study the decision making process of the evening meal and the role of seafood versus meat as a component of the evening meal. In total, 24 families in Denmark, Norway and Iceland were asked to fill in a one-to-two-weeks semi-structured diary regarding any thoughts they had about planning, purchasing, preparing and consuming their evening meals. This study was carried out in Norway, Iceland and Denmark

## **Main conclusions**

*Exploration insights among stakeholders in seafood chain in Norway and Iceland regarding seafood consumption:*

- The stakeholders assume that the seafood consumption will increase. However it is important to present fish in a more appealing way.
- In their opinion the preparation methods have changed among the young people. This implies that there is a need for easy to prepare seafood products, more simple recipes and pre-cut and refined products. Convenience seafood products are needed.

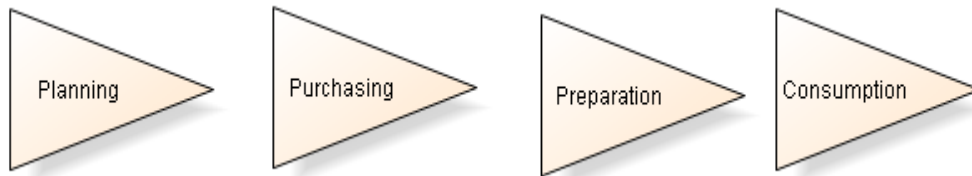
*Exploration of the insights among young adults and families with young children regarding seafood consumption pattern:*

- These consumer target groups thought of seafood as either healthy or convenient, although there were concerns about the amount of effort required to prepare seafood.
- These concerns resulted in an expression of their need for products that are attractive, healthy, pleasant, and convenient.
- In particular, the newly developed products should be accompanied by clear advice on preparation methods and ingredients.
- An increase in seafood availability coupled with lower prices would encourage these consumers to add seafood to their diet.
- Image improvement of fish, freedom of choice of the product, successfully preparation of a fish dish, healthiness, trust in and visibility of the product, convenience, price, availability and satisfied feeling were the most important consumer values to be used for the development of new products.

*Decision process evening meal choice*

- Planning was the most important phase of the evening meal decision-making sequence. It is very common that households undergo a daily food decision

making-process which is comprised of a sequence of thoughts and actions which end up to evening meal choices. The sequentially organized behaviors involved in the family's evening meal decision making process are planning, purchasing, preparing and consuming which are characterized as behavioral strategies that involve specific procedures or thoughts in their enactment. The following thoughts and notions compose the first stage of **planning**: "seafood and meat", "convenience", "proactiveness in planning", "responsibilities in family", "hedonism" and "health considerations". The food **purchasing** stage of the decision-making sequence deals with the thoughts and "shopping patterns" that consumers are involved in when shopping for evening meals as well as the "obstacles" that they face when they have to deal with procurement. The third stage is that of evening meal **preparation**, where consumers evolve thoughts of "reasons for no cooking", "convenience", "preparation's limitations" as well as of "pleasure while preparing" the evening meal. The last stage of **consumption** implies thoughts of "just fulfilling a need" and of "pleasure" while consuming the evening meal.



Cognitive (rational)	<ul style="list-style-type: none"> <li>- Convenience</li> <li>- Responsibilities in family</li> <li>- Proactiveness</li> </ul>	<ul style="list-style-type: none"> <li>- Buying limitations</li> <li>- Shopping planning</li> <li>- Own procurement</li> </ul>	<ul style="list-style-type: none"> <li>- Reasons for not cooking</li> <li>- Convenience</li> <li>- Preparation limitations</li> </ul>	<ul style="list-style-type: none"> <li>- Just fulfill a need</li> </ul>
Affective (emotional)	<ul style="list-style-type: none"> <li>- Health considerations</li> <li>- Hedonism</li> </ul>		<ul style="list-style-type: none"> <li>- Pleasure while preparing</li> </ul>	<ul style="list-style-type: none"> <li>- Pleasure</li> </ul>

- Within planning, Nordic respondents considered practical issues, such as convenience, pro-activeness in planning – how proactive, prompt and well organized consumers are- and responsibilities' distribution among family members. Consumers also seem to be engaged in more reasonable type of



- thoughts - considering seriously the cause and effect way of thinking – while it seems that planning is based on processes of employing knowledge, by the use of reasoning processes and not just intuition, spontaneity or impulse inclinations.
- Health and taste considerations, which represent the affective – emotional - aspects of the decision-making sequence, were much less frequently mentioned. The results of the study are presented in aggregate level of frequencies – how frequent consumers came up with these concepts - and not as of degree of importance. However, since the retrieval of these issues is salient – prominent - and unbiased then the frequency of mentioning reflects importance of these two aspects. That means that consumers consider more reasonable / rational planning related attributes – such convenience and buying limitations - as more important for their evening meal choices rather than the more spontaneous - emotional and affective aspects such as health and taste. Practically, that means rational planning-related attributes, such as convenience across the whole meal decision-making sequence, should be communicated explicitly by the seafood industry, given that seafood seems to be more attractive as a convenient rather than simply a healthy meal choice. Consumers are willing to forgo some benefits (i.e. health) to enhance the reasonable / rational efforts, as certain decision-making contexts require more rational efforts to process information fully. However, the health benefits of seafood consumption should not be downplayed either, and this should also be the case for the hedonic / taste aspect of its consumption. Subsequently, there is a need for the seafood industry to develop and promote a form of a “composite” functional benefit of seafood as both a convenient and healthy choice.
  - The dominance of logical / reasonable / rational thoughts was repeated in the successive stages of purchasing (i.e. shopping planning, own procurement, buying limitations), whereas the emotional / affective thoughts were elicited mainly during the later stages of preparation and consumption. The preparation (i.e. reasons for not cooking, convenience) and consumption stages are the only ones in which pleasure is highlighted by respondents, yet with no particular strength. The above figure depicts the stages of the decision-making sequence in which the cognitive and the affective aspects are predominant. In this respect, the affective aspects fade as the sequence proceeds towards its completion and they become critical for their stage only by the end of the decision-making sequence.
  - Furthermore, the comparison of seafood and meat as choices that complied with respondents’ demands and expectations revealed that the two products were perceived as substitutes for each other, and they were both appealing to respondents. In this respect, both products can be positioned as convenient, delicious, healthy or socially desirable solutions in the planning context. However, meat was considered a choice which respondents felt more confident with in terms of pre- and post-purchasing experience.
  - This means that seafood, although perceived as healthier than meat, was also perceived as more difficult to trust in terms of taste and pleasure expectations, and more difficult to handle in the preparation phase.
  - The main results were quite alike across the three countries under investigation.

*New seafood product concepts for young adults or families with young children:*

- First concept test
  - Products which were visible in their packaging were preferred. Same products in a closed packaging were rated less attractive, less trustworthy and were generally less appreciated.
  - Products as fillets or small portion of a fillet were preferred in comparison with seafood products which were minced
  - Products consisting of only one or more **fish** species were preferred. A mixture of fish, shrimps and scallops (mussels) in one concept was less appreciated.
  - Young consumer's attitudes indicated high interest in natural, new and convenient products.
- Second concept test
  - The consumer's evaluations of the seafood product concepts showed a clear ranking of the offered seafood product concepts. The seafood product concept of 'two fish species and fruit' was closely appreciated with the Nordic cod fillets being the control product concept.
  - As the size and shape of the fish in the seafood product concept decreased, the product concepts were less appreciated. The least appreciated product concepts were the ones based on minced fish (cod or salmon).

*In home consumer test of the concept salmon, cod and berries and message testing*

- Product
  - Consumers rated the innovative product (cod and salmon portions with Nordic berries and easy recipe) equally positive to the highly appreciated control product (fresh cod loins with no information). This indicated that the innovative product was accepted by the young adults and families in the study.
  - The only area where the innovative product needs to be improved during further development is naturalness. An increase in the naturalness that the consumers see in the product will make consumers trust and buy the product. Eventually this will lead to increased seafood consumption.
- Messages
  - Young adults could be approached with information about the convenience and quality of fish. Nevertheless, parents of young children seem to fit better with a message about the quality of fish. Both groups showed a preference for the message about the positive image (new, easy, tasty, appetizing, not dull, etc.) of fish. Therefore these positive image elements should be included in messages about convenience for young adults and quality for families of young children.

*Scientific output of project results*

- Two publications in peer reviewed journals and two articles accepted for publication, one PhD dissertation at University Tromsø (September 2010), two conference presentations and three conference posters.

## Recommendation for future activities

- The MmmmmSeafood experience in consumer oriented seafood product development can be further exploited and implemented the small and medium enterprises in the seafood sector in the Nordic countries and at a European level.
- Future product development in the seafood sector should take the findings of MmmmmSeafood into account. Especially the directly applicable findings about packaging, presentation, quality and communication regarding seafood products can be used in further seafood product development.
- The outcome of the MmmmmSeafood project can be used as a basis for final development of a range of new seafood products building on the concept of a mixture of Nordic seafood species in combination with fruits.
- MmmmmSeafood demonstrated validated methods that can be used in new product development. It was also demonstrated that innovative methods, such as in-home tests, can be performed in an academic, controlled way and ensure the validity and reliability of the results. Further research could continue with further development of these methods and expand the application of these methods in other countries and different food product categories.

## The take home messages for the seafood sector

The seafood sector and in particular the seafood processors has the challenge to offer consumers tasty and healthy seafood products in order to stimulate the seafood consumption. Recommendations to consume seafood a minimum of twice weekly are rarely met in European countries.

In this MmmmmSeafood project the outcome of the consultation meetings with the representatives of the seafood sector in Iceland and Norway showed that the sector is fully aware of the need for developing innovative appealing seafood products. In order to meet this challenge the seafood products should fit into the needs of the consumers. Consumers, and in particular those who don't eat regularly seafood (young adults and families with young children) prefer to have products which are easy to prepare with simple recipes or almost ready to eat products.



- There is a need for attractive convenience seafood products, easy to prepare and simple recipes for the preparation

One of the aims of the MmmmmSeafood project was to gain insight into the attitudes and behaviour of consumers with a low consumption pattern of seafood products. During analysis of the material the concept of a consumption circle was formed to describe consumption and eating habits of participants in especially Iceland and Denmark. It catches how participants described the relation between food and the household management, which crystallizes in the common experience of having 10-15 dishes that rotate on the table during the year.



- In order to increase fish consumption the challenge is to break into the relation between food and household management circle of having 10-15 dishes that rotate on the table during the year.

Fish is strongly connected to healthiness but also has several negative connotations. Across the three Nordic countries consumers mentioned poor access to quality fish, the high price of fish and their own cooking skills and insecurity in judging what is good quality in seafood. One of the strong messages coming out of the focus group is that better marketing of fish could possibly increase the intake of seafood. In Denmark marketing was explicitly mentioned as a reason for remembering to buy more fish and among Icelandic participants there is a general agreement that more marketing would lead to an increase of seafood products. In all three countries the fish counter also tends to be much smaller than the meat counter.



- Fish and seafood products should become more prominent visible in supermarkets and there is a need for information material about seafood products in all aspects.

Planning was in the decision process of evening meal choice the most important phase. Consumers consider more rational planning related attributes – such convenience and buying limitations - as more important for their evening meal choices rather than the more spontaneous - emotional and affective aspects such as health and taste.



- The seafood sector is recommended to communicate a “composite” message about the benefits of seafood being a **convenient** and **healthy** food choice.

The consumer driven seafood product development as applied in MmmmmSeafood product has delivered a number of practical recommendations for the seafood sector to be used in future innovative seafood product development.



- Seafood products which are visible in their packaging are recommended in order to meet consumer’s preferences. Products in a closed packaging are less attractive, less trustworthy and are generally less appreciated by consumers.

Take  
home  
message

- Offering seafood products consisting of **more than one fish species** is a way to meet consumer's needs for variation in seafood choice.
- A mixture of fish, shrimps and scallops (mussels) in one product is less appreciated.

Take  
home  
message

- Seafood products based upon minced fillets will not be appreciated by consumers. Small portions of fish fillets or fillets are the best size to offer in new seafood products.

Take  
home  
message

- The combination of **various seafood species and fruits is a new seafood product concept** that offers the seafood sector opportunities for further successful product development

Take  
home  
message

- The implementation of **consumer** driven seafood product development tools (focus groups, web based questionnaires for product concept testing, in-home product tests etc) in the seafood sector is recommended as a key to successful product development.

## **Annexes**

Altintzoglou Themistoklis

Young adults and Seafood

Using the voice of consumers to develop new seafood product concepts aimed at increasing consumption

A dissertation for the degree of Philosophiae Doctor, May 2010, University Tromsø, Norway

ISBN 13: 978-82-90263-59-1, 2010

## **Abstract**

Consumers in many European countries do not equally meet the recommended daily intake levels for seafood. Various factors that can influence seafood consumption behaviour have been identified. However, the exploration of potential barriers to seafood consumption could provide knowledge that can assist the development of new seafood product concepts that fulfill the needs of consumers. There is a difference in seafood consumption frequency between age groups. In particular, young adults consume seafood less frequently than older consumers and thus are the point of focus for this thesis.

The main aim of this PhD thesis was to contribute to the understanding of young adults' preference or avoidance of seafood. Additionally, to define and pre-test the relationship of health involvement and attitudes towards eating fish with fish consumption behaviour. Furthermore this thesis can provide input for future seafood product development by exploring barriers and opportunities for increasing seafood consumption. Moreover, advice will be given on how the existing seafood products can be improved through the NPD process in order to increase their acceptability and attractiveness. Finally, insight into young adults' seafood acceptance and potential choices, as well as confidence in seafood preparation and consumption when exposed to specific new seafood product concepts will be given. The results will be used for a next step towards a consumer led development of seafood product prototypes. To reach these aims, four studies were performed in several European countries.

The results of the first study, carried out in Belgium, Norway and Spain, suggested a discrimination of consumer groups, indicating a lower health involvement by younger consumers. Additionally, the results showed a positive association between health involvement and attitudes towards seafood consumption. Furthermore, it was shown that health involvement and attitudes towards seafood consumption were positively associated with total seafood consumption.

The second study used focus group discussions in Denmark, Iceland and Norway and was aimed at a deeper understanding of the barriers towards seafood consumption young adults are facing. The results of this study indicated that the participants thought of seafood as either healthy or convenient, although there were concerns about the amount of effort required to prepare it. These concerns resulted in an expression of their need for products that are attractive, healthy, palatable and convenient. In particular, newly

developed products should be accompanied by clear advice on preparation methods and ingredients. Additionally, an increase in seafood availability coupled with lower prices would encourage these consumers to add seafood to their diet. This study's results led to nine consumer values which were used as input for the development of new seafood product concepts.

In the third study, carried out in Iceland and Norway, various seafood product concepts were developed and tested on a web-based experimental survey. The development of the seafood product concepts was based on the values which were reported by the consumers in our focus group study. The young consumer's evaluations of the seafood product concepts showed a number of preferences for the experimental seafood product concepts. The products which were visible in their packaging, not minced, familiar by means of proposed recipes and consisting of only one or more fish species were preferred. Young consumer's attitudes indicated high interest in natural, new and convenient products.

In the fourth study, carried out in Denmark, Iceland and Norway, a smaller number of seafood product concepts than the previous study were further developed and tested on a web-based experimental survey. The development of the seafood product concepts was based on the evaluations which were reported by the consumers in the previous concept test study. The consumer's evaluations of the seafood product concepts showed a clear ranking of seafood product concepts. The innovative cod and salmon portions with wild berries were on the top of the list together with the Nordic cod fillets. As the size and shape of the fish in the seafood product concept decreased, the product concepts were less appreciated. The least appreciated product concepts were the ones based on minced fish.

The knowledge from the four studies led to the development of new seafood product concepts that can decrease the distance between young adults and their final choice for seafood products.

Altintzoglou T., Birch-Hansen K., Valsdóttir T., Odland J. Ø., Martinsdóttir E., Brunso K. and Luten J.

Translating barriers into potential improvements: the case of healthy seafood product development.

*Journal of Consumer Marketing*, 27(3), (2010) 224-23.

### **Abstract**

The aim of this study is to explore potential barriers to seafood consumption among young adults and the parents of young children. Knowledge of these barriers will be used to assist in the development of new seafood product concepts that fulfill the needs of consumers.

To gather this information, twenty-eight infrequent consumers of seafood participated in three semi-structured, two-hour focus group discussions in Denmark, Norway and Iceland. The results were then linked to the Stage-Gate model for consumer-based new product development (NPD).

The participants thought of seafood as either healthy or convenient, although there were concerns about the amount of effort required to prepare it. These concerns resulted in an expression of their need for products that are attractive, healthy, palatable, and convenient. In particular, the newly developed products should be accompanied by clear advice on preparation methods and materials. An increase in seafood availability coupled with lower prices would encourage these consumers to add seafood to their diet. Purchase-point-marketing and habitual behaviour were found to implicitly skew planned behaviour. Inputs for NPD related to convenience, attractiveness, quality, trustworthiness, knowledge and requirements about seafood preparation are discussed.

The present study combines qualitative methods to lead to practical input for NPD focusing on overcoming the barriers that keep consumers from choosing existing healthy seafood products. The importance of the consumers' confidence in their ability to successfully prepare a seafood meal was revealed and can be used in Stage-Gate based NPD.



Altintzoglou T., Einarsdóttir G., Valsdóttir T., Schelvis R., Skåra T. and Luten J.  
A voice-of-consumer approach in development of new seafood product concepts.  
Journal of Aquatic Food Product Technology, 19(2), (2010) 130-145.

### **Abstract**

This paper describes a consumer based approach for development of new seafood product concepts among young adults in Norway and Iceland. The aim of the study was to gain insight into how young adults determine their acceptance of seafood and make potential product choices. Additional insights measured were confidence in seafood preparation and consumption choices when exposed to specific new seafood concepts.

Based on consumer-reported values, three seafood product concepts were evaluated by 354 consumers in a web-based, conjoint experiment in Norway and Iceland.

Consumers' evaluations showed a number of consumer preferences for specific seafood product concepts partly associated with and partly conflicting with their original values. Understanding consumer attitudes can help to explain these results.

The results of this study will be used as a guide for the next step in developing seafood product concepts.

Altintzoglou T., Sveinsdottir K., Einarsdottir G., Schelvis R. & Luten J. (2010). Evaluation of seafood product concepts by young adults and families with young children from Denmark, Norway and Iceland.

Journal of Aquatic Food Product Technology, accepted with revisions.

## **Abstract**

This paper describes the results of a study that tested fourteen seafood concepts among young adults and families with young children in Denmark, Norway and Iceland. This study aimed at gaining insight into the evaluation of new seafood product concepts by individuals with low seafood consumption. Based on consumer-reported values and previous concept-testing, fourteen seafood product concepts were tested by 296 consumers in a web-based experiment.

Consumers' preferences depended on the size of fish, the presence of information and the fish species offered. Young adult consumers evaluated the product concepts differently to parents of young children. Three consumer clusters, based on attitudinal variables, were identified explaining the differences in the evaluation of the product concepts. The outcome of this study will be used to develop a product for realistic in-home testing.

Perrea T., Brunsø K., Birch-Hansen K., Altintzoglou T., Einarsdóttir G. & Luten J. (2010).

Decomposing the (seafood vs. meat) evening meal decision-making sequence: insights from a diary study in Norway, Iceland and Denmark.

British Food Journal, Accepted with revisions.

## **Abstract**

The present research was undertaken with the objective to decompose the evening meal decision-making sequence by means of a diary completion task, emphasizing the process involving seafood and/or meat decisions. In total, 24 families in Denmark, Norway and Iceland were asked to fill in a one-to-two-weeks semi-structured diary regarding any thoughts they had about planning, purchasing, preparing and consuming their evening meals. The aim was to cover all food-related circumstances and decision-making contexts, while focusing specifically on seafood and meat choice considerations. Data was analysed by means of content analysis, through the development of different abstraction level codes. In the coding process, efforts were made to uncover main themes of the decision-making sequence so to find characteristic patterns across respondents. The main results were quite alike across the three countries under investigation. Planning was the most important phase of the evening meal decision-making sequence. Within planning, Nordic respondents considered practical issues, such as convenience, pro-activeness in planning and responsibilities in the family, and engaged in more rational type of thinking, allowing cognitive aspects prevail in the decision-making sequence. On the other hand, health and taste considerations, which represent the affective aspects of the decision-making sequence, were much less frequently mentioned. This pattern was repeated in the successive stage of purchasing (i.e. shopping planning, own procurement, buying limitations), whereas affective aspects were elicited only during the later stages of preparing and consuming. Furthermore, the comparison of seafood and meat as choices that complied with respondents' demands and expectations revealed that the two products were perceived as substitutes for each other, and they were both appealing to respondents. In this respect, both products can be positioned as convenient, delicious, healthy or socially desirable solutions in the planning context. However, meat was considered a choice which respondents felt more confident with in terms of pre- and post-purchasing experience. This means that seafood, although perceived as healthier than meat, was also perceived as more difficult to trust in terms of taste and pleasure expectations, and more difficult to handle in the preparation phase.

#### Conference presentations

- Altintzoglou T., Schelvis R., Sveinsdottir K., Carlehøg M., Sveinsdottir K., Perrea T., Valsdottir T., Martinsdóttir E., Skåra T. Brunsø K. and Luten J. (2010). Consumer evaluation of an innovative seafood product concept and relevant communication strategies in an in-home real-life situation test in Norway. “40<sup>th</sup> WEFTA annual meeting” (4-7 October 2010), Izmir, Turkey.
- Altintzoglou T. \*, Skåra T., Valsdottir T., Schelvis R. and Luten J. (2009). New seafood concepts for young adults, a voice-of-consumers approach. “3<sup>rd</sup> TAFT Conference” (15-18 September, 2009), Copenhagen, Denmark.

#### Conference posters

- Altintzoglou T., Schelvis R., Carlehøg M., Sveinsdottir K., Valsdottir T., Martinsdóttir E., Skåra T. and Luten J. (2010). Consumers’ Preference for an Innovative Seafood Product Concept Tested in an In-home Real-life Situation. “A Sense of Quality” (5-8 September 2010), Victoria-Gasteiz, Spain.
- Perrea T., Brunsø K., Birch Hansen K., Altintzoglou T., Einarsdóttir G., Luten J. (2009). Consumers’ Cognitive Processes in Relation to Consuming Fish: A Diary Approach from the Nordic Countries. “3<sup>rd</sup> TAFT Conference” (15-18 September, 2009), Copenhagen, Denmark.



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## Nordic Innovation Centre

Nordic Innovation Centre (NICe) is an institution under the Nordic Council of Ministers facilitating sustainable growth in the Nordic economies.

Our mission is to stimulate innovation, remove barriers and build relations through Nordic cooperation. We encourage innovation in all sectors, build transnational relationships, and contribute to a borderless Nordic business region.

We work with private and public stakeholders to create and coordinate initiatives which help Nordic businesses become more innovative and competitive.

Nordic Innovation Centre is located in Oslo, but has projects and partners in all the Nordic countries.

For more information: [www.nordicinnovation.net](http://www.nordicinnovation.net)