

A Profile of the Australian Seafood Consumer

Abstract

Seafood is an important food industry globally and increasing seafood consumption is high on the agenda of many developed countries. Understanding consumers is fundamental to the development of any marketing strategy, and while considerable research has been undertaken with European seafood consumers little is known about the seafood consumer in other markets including Australia. This paper presents a profile of the Australian seafood consumer designed to inform the decisions of key stakeholders in the seafood industry: producers, middlemen and retailers. The profile has been developed from a range of studies undertaken through the Australian Seafood Collaborative Research Centre, a government supported body with a mission to improve profitability in the seafood industry and increase Australian seafood consumption. Australians consume on average approximately 2.2 serves of seafood per week. Two thirds of all seafood is prepared and consumed at home with 61% of seafood for at-home consumption purchased at supermarkets and 18% at fish markets or fish mongers. Key drivers of seafood consumption are taste, convenience, health, and versatility and these vary across species. Key barriers are price, concerns about origin and freshness and a lack of knowledge/confidence. Overwhelmingly, Australian consumers prefer Australian seafood and 'Australian' serves as a surrogate for quality, safe, fresh and sustainable.

Introduction

Seafood is the fifth-most valuable food-based primary industry in Australia, with an annual gross value of production of over A\$2 billion (FRDC 2011). However, approximately 70% of seafood consumed in Australia is currently imported (IBISWorld 2010), with reliance on imports predicted to increase due to the growing demand for seafood, combined with falling domestic seafood production. Exports of Australian seafood have decreased over recent years driven largely by the strengthening Australian dollar. The sustainability of the seafood industry is further challenged by “under-investment, rising costs, inconsistent approaches to product quality, ill-defined value chains, and consumers' resistance to rising prices” (Dundas-Smith & Huggan, 2006). The increasing production costs, decreasing selling prices, increasing power of chain retailers and increasing competition currently facing the Australian seafood industry are common characteristics of many agribusiness industries in developed countries (Hingley, 2005; Taylor 2006). In addition, the seafood industry continues to encounter the threat posed by the relatively low share of animal protein consumption that Australian consumers direct to seafood as compared to meat and poultry (Pare et al., 2008).

Unlike other primary industries, the Australian seafood industry has limited co-ordination on a national level. The industry is fragmented with several hundred seafood industry organisations. A national marketing and promotion body, national peak council or a national service body for seafood do not currently exist. The Australian seafood industry is characterised by a predominance of small businesses (ABS 2001) who tend to focus strongly on production with little interest or expertise in marketing their catch after harvest (Mowat & Collins, 2000). These factors combine to limit the industry's ability to capitalise on market development opportunities. At a federal government level, the Fisheries Research and Development Corporation (FRDC) plays a pivotal role in fisheries research, development and extension. At a state government level, approaches and support for the seafood industry vary considerably. In brief, while Australia's research capacity in aquaculture, fisheries management and productivity is equal to other developed countries, Australia's capacity in post-harvest seafood research in fields such as consumer research and product development has been very limited (ASCRC 2011).

The Australian seafood industry currently faces a rapidly changing macroenvironment, which when combined with the strong production orientation by many of the small businesses that make up the industry presents significant challenges at an industry level. In order to remain competitive and respond to these challenges, it is imperative that the Australian seafood industry focus on increasing the value (both real and perceived) that consumers obtain from the consumption of seafood (Danenburg & Mueller 2011). Understanding the Australian seafood consumer is fundamental to the success and survival of the Australian Seafood industry.

Against this background, the Australian Seafood Collaborative Research Centre (ASCRC) was established. Co-operative Research Centres (CRC) are an initiative of the Australian federal government designed to support industry driven research collaborations to address major issues facing Australian industry. Since 1991, over 100 Cooperative Research Centres have been funded covering a diverse range of industries including manufacturing, medical research, tourism, mining and agriculture. Funding to establish a CRC is competitive, with CRCs having a seven year life ([ref CRC website](#)). The Australian Seafood CRC was approved in 2007 with funding of A\$140 million over 7

years (2007 – 2013). The Seafood CRC comprises 26 seafood industry groups and 12 research providers. The mission of the Seafood CRC is to assist end-users of its research to profitably deliver safe, high quality, nutritious seafood products to premium markets, domestically and internationally ([ref CRC website](#)). The Australian Seafood Collaborative Research Centre has completed the largest and most comprehensive seafood consumer research ever undertaken in Australia, with a variety of projects gathering data from over 12 000 consumers. This work has provided the Australian seafood industry with up-to-date information on consumers' attitudes and behaviours which have been essential in understanding seafood consumer behaviour.

The purpose of this paper is to present a profile of the Australian seafood consumer drawing from the ASCRC consumer studies as well as other current data sources. Before presenting the profile, a brief overview of the key studies will be given. The profile will then begin by outlining current consumption patterns followed by a discussion of how consumers make buying decisions. The focus will then turn to key drivers and barriers to consumption. The paper will conclude with a brief outline of some practical changes emerging in industry from this research.

The ASCRC Studies

This paper draws from three key ASCRC consumer projects: the Seafood Omnibus (with the University of South Australia as the lead research organisation), Repositioning Australian Farmed Barramundi (with the University of the Sunshine Coast as the lead researcher) and the Retail Transformation project (University of the Sunshine Coast as lead researcher).

The Seafood Omnibus was a communal project designed to provide information to all ASCRC industry members. The project tracked consumers' seafood consumption over time and measured consumers' acceptance of seafood offerings and innovations. Using an online survey incorporating both attitudinal and behavioural data as well as discrete choice experiments, this project surveyed 2,643 consumers in late 2009 (Danenburg & Remaud 2010), and in a second wave a further 3,629 consumers in early 2011 (Danenburg & Mueller 2011). The longitudinal element of this project allowed some description of trends.

The Repositioning Australian Farmed Barramundi project, while designed to meet the specific needs of barramundi farmers, also gathered considerable general data about seafood, particularly finfish. This project used a multi method design incorporating sensory evaluations (148 consumers) and focus groups (4) (Colmar Brunton 2009) and an online consumer survey (900) which in addition to barramundi specific attitudes and behaviours looked more broadly at fin fish consumption (Birch & Lawley 2010a). Similarly the Retail Transformation project used a multi method design incorporating accompanied shops (5), focus groups in five locations throughout Australia (10) and an online survey of 1,815 consumers to explore opportunities for improving the sales of Australian seafood in supermarkets (Colmar Brunton 2010).

In brief, all of these projects were national in scope with survey respondents drawn from online panels. For each study respondents had to be over 18 years of age and either be the main or joint shopper in the household. Respondent profiles broadly matched the Australian population in terms of location and age.

Current consumption and purchase patterns

How much? On average, Australians consume approximately 2.2 serves of seafood per week (Danenburg & Mueller 2011), with most consumers eating seafood more than once a week, but few eating seafood more than 3 times a week (Colmar Brunton 2010). This level of consumption is well below the average for many industrialised nations (FAO 2011), with many consumers still eating below recommended levels, indicating significant opportunity for further penetration of seafood into the Australian diet. Consumption levels vary based on the demographics of age and gender. Overall seafood consumption increases with age (regardless of gender) (Birch & Lawley 2010a) and families with children under 12 tend to be lighter seafood consumers (Danenburg & Mueller 2011). There is only a very weak relationship of seafood consumption slightly increasing with income; however, this effect is most pronounced for out of home consumption (Danenburg & Mueller 2011).

Where bought and consumed? Two thirds of all seafood is prepared and consumed at home, with 65% of seafood for at-home consumption purchased from supermarkets and 15% purchased from fishmongers or fish markets. The trend is towards greater purchasing from supermarkets and a decreasing share of purchases from specialist seafood retailers (Danenburg & Mueller 2011). Indeed Ruello (2011) noted a significant decline in the number of retail fishmongers operating in Australia. This overall pattern of purchase was confirmed in the Retail Transformation project (which rather than looking at overall volume bought through each channel reported the percentage of consumers who had bought seafood from each channel in the past 12 months) indicating that Australian consumers purchase seafood most frequently at the supermarket delicatessen section (63%), followed by fishmongers (48%), the supermarket self-service freezer section (45%), the supermarket self-service chiller section (44%), butchers (19%), and fish and chip shops (14%) (Colmar Brunton 2010). In terms of demographic patterns, older consumers tend to eat seafood at home more often than do younger consumers, as consumption of seafood out of home systematically decreases with age (Danenburg & Mueller 2011).

What was bought? The top four seafood products (by consumption occasion) for in-home consumption in Australia are canned tuna (19%), prawns (9%), canned salmon (7%) and fresh salmon (7%) with this ranking remaining consistent between 2009 and 2011 (Danenburg & Remaud 2010; Danenburg & Mueller 2011). For dining out, prawns hold the highest market share (18%), with barramundi and squid both having 11 percent, and fresh salmon and seafood-based sushi both having a 5 percent share (Danenburg & Mueller 2011).

Interestingly, in terms of penetration (the percentage of people who consumed a particular seafood over the past 12 months), prawns had the highest rate of 73 percent, followed by canned tuna (66%), and then crumbed or battered fish and barramundi both at 53 percent. All other species were consumed by less than 50 percent of consumers (Danenburg & Mueller 2011). What this finding regarding each species' penetration level reflects is that the customer base of any species is comprised of very light buyers, who typically make only occasional purchases of that species (Danenburg & Mueller 2011). Indeed, despite being a willing consumer of a species, some people do not make even one purchase of that species within a year.

When is seafood eaten? Turning to when consumers eat most seafood, contrary to anecdotal expectations of higher levels of seafood consumption on Fridays and weekends, the day of the week on which most seafood is consumed is Monday (22%) (Danenburg & Mueller 2011). Further

exploration of possible reasons for higher consumption on Mondays with industry members and seafood experts identified two possible explanations for this consumption pattern (yet to be quantitatively tested). Firstly, research shows that many Australian consumers believe that fresh fish needs to be eaten within one or two days of purchase (Birch & Lawley 2010a). If consumers have purchased or caught seafood on the weekend but not eaten it immediately, then it needs to be eaten on Monday. The second possible reason for high seafood consumption on Mondays is a health/dieting motivation, that is, after a weekend where many consumers may have overindulged, Monday is the day to 'get back on track' with healthy eating or a healthy diet, and seafood represents a good option for a light, low fat meal.

How consumers make purchase decisions for seafood

Research indicates that for many Australians the purchase of seafood, although highly habituated, is a higher involvement and riskier decision than for many other foods (Birch & Lawley 2012). The highly habituated nature of seafood purchase and consumption is evidenced by over 70 percent of seafood buying decisions for in-home consumption being planned (Colmar Brunton 2010). Further, over 76 percent of consumers like to serve the same types of fish that they have served before, and 51 percent always know which type of fish they are going to buy before they reach the store (Birch & Lawley 2010). However, impulse buying (27%) can be triggered by point of sale activity with the most influential factors at point of sale being a price promotion, followed by recipe cards and sampling the product (Colmar Brunton 2010). Further, Birch and Lawley (2010) found that 85 percent of consumers report being interested in trying new products, new ranges, and new species of fish, and 77 percent like to try different types of fish, and a key influence over what type of fish is purchased is when the respondent has a particular recipe they wish to cook (66.9%).

While many Australians express confidence in their ability to select, prepare and store seafood, a significant segment of typically lighter seafood consumers (approximately 24%) are not confident or knowledgeable when it comes to seafood and almost 50 percent of consumers would buy more fish if they were more confident in their ability to select good quality fish (Birch & Lawley 2012). Moreover, 52.4 percent of consumers would eat more fish if they knew of more ways to prepare and serve it (Birch & Lawley, 2010).

A key concern of Australian consumers surrounds the freshness of seafood. The majority of consumers (90%) will only serve fish, if they are confident it is fresh, with 95 percent of consumers believing that fresh fish should be eaten within one or two days of purchase (Birch & Lawley 2010). Almost half of Australian consumers (49%) agree that fish should be fresh and never frozen, with 60 percent agreeing that they would only purchase fish to serve, if they were confident it had never been frozen. Over half of consumers (51%) agree that fish is more difficult to assess for freshness and quality compared to other meats, while 41 percent agree that they cannot recognise if fish is fresh (Birch & Lawley 2010).

The higher perceived risk of seafood compared to other protein sources is also illustrated by the findings that many consumers eat seafood, such as barramundi, when eating out as they do not know how to cook it at home. The comparatively high price of seafood compared to many other proteins like chicken, lamb and beef adds to the level of risk involved (Birch & Lawley, 2012). Thus,

there is a need to educate the lighter fish consumer on how to effectively select and prepare seafood and to inform consumers that seafood is easy to cook and can be prepared in a variety of ways.

Australian consumers have a strong convenience orientation with the majority of consumers preferring meals that are easy (89%) and quick (88%) to plan, purchase, prepare and cook, and 79 percent agreeing that the less thinking they need to plan, purchase, prepare and cook, the better (Birch & Lawley 2010). While regular consumers in particular consider fish to be easy and quick to prepare, some consumers, and lighter consumers in particular are looking for more convenient fish meal solutions (Birch & Lawley 2010).

Focus group findings confirm the strong convenience orientation of Australian seafood consumers; with added insight into the growth of a food-related lifestyle segment of consumers, who while looking for convenience during the week, transform into 'master chefs' on the weekend when they have time to cook and entertain (Colmar Brunton 2010). Some types of seafood are also seen to be served only for special occasions or when entertaining, with prawns and oysters being prime examples of this behaviour. Peak demand for prawns and oysters occurs twice a year, at Easter and at Christmas (ref).

Drivers and barriers

The key drivers for consuming seafood, in order and based on unaided recall, are taste, convenience, health, versatility and diet variety, and availability of fresh fish (Birch & Lawley 2010). These key factors also emerged from the Omnibus studies (using a checklist approach) albeit in a slightly different order with health, taste and convenience, the top three drivers. Notably, the drivers vary across species, for example while health is a key driver of salmon consumption, taste is the most important driver for consumption of barramundi, while convenience drives demand for canned tuna.

For many consumers, seafood is all about taste and pleasure so messages stressing the health or convenience benefits of some species may prove less effective. Focusing on seafood's ability to deliver an enjoyable, pleasurable satisfying and rewarding consumption experience primarily based on its great taste may present a more compelling reason for consumers to switch to or consume more seafood. A low calorie message may also be effective given that seafood is seen as a particularly good option for a light meal (Birch & Lawley, 2012).

Price or perceived lack of affordability is the major barrier to consuming more seafood, followed by concerns about origin, concerns about freshness and not being able to tell if the seafood is of good quality (Danenburg & Mueller, 2011). Sixty eight percent of consumers express a preference for Australian seafood over imported, with 42 percent saying they are prepared to pay more for Australian seafood (Birch & Lawley 2010). Like the drivers of choice, the barriers differ in significance between species. For example, discrete choice experiments for prawns indicate that country of origin is the major driver of choice (41%), followed by format (22%) and price (19%), while a similar experiment for barramundi indicated price was the major driver (49%), followed by origin at 39% (Danenburg & Remaud 2010).

However, what is most interesting from these discrete choice experiments is what is not impacting choice, notably branding and sustainability. In both experiments these factors contributed less than 1 percent to a consumer's purchase decision. Research evidence supports that while an increasing number (albeit small) of consumers are expressing an increase in sustainability sentiment (Birch 2012) this is not being reflected in purchasing behaviour (as supported by the discrete choice experiments) (Danenberg & Remaud 2010). A key implication from this finding is that marketing related activities associated with sustainability accreditation and branding may have minimal impact on market share for seafood in Australia at this point in time.

In addition to barriers of price and perceived lack of availability, a key barrier hindering seafood consumption is habit, with seafood not being part of the traditional Australian diet and Australians needing to be persuaded and reminded to consume seafood on a more regular basis (Birch & Lawley forthcoming JFPM). Hence, increasing seafood consumption will not only depend upon leveraging the perceived benefits of seafood consumption and addressing perceived barriers, but also breaking habits and changing purchasing behaviours.

Comparative positioning

An understanding of how Australian consumers perceive seafood as compared to major competing proteins such as beef, lamb and chicken was explored in the 2009 omnibus wave, while the competitive positioning of various seafood was explored in more depth in the 2011 omnibus wave (Danenberg & Remaud 2010; Danenberg & Mueller 2011)..

In comparison to meats and poultry, seafood is considered to be less mentally accessible. As shown in figure 1, meat and poultry are associated with perceptions of being 'always safe to eat', 'freezes well', 'versatile', 'good for an everyday meal', 'widely available', and 'good value'. On the other hand, seafood is associated with perceptions that represent greater barriers to regular consumption including 'something I would like to eat more of', 'best eaten when dining out', 'needs to be eaten immediately', 'good for a light meal', 'generally more expensive', 'a luxury food', and 'good for a special occasion' (Danenburg & Remaud, 2010).

Figure 1 from Omnibus 1

The challenge for the Australian seafood industry is to reach light and occasional consumers of seafood with messages that remind and encourage them to make another purchase of seafood in favour of other proteins (Danenburg & Remaud, 2010).

In the second omnibus wave (2011), analysis of perceptions of different types of seafood revealed that seafood species are associated with different strengths and weaknesses (see figure 2). For example, prawns were perceived to have several strengths including being good for a dinner party and something people would like to eat more of, while oysters had mostly weaknesses in terms of consumer perceptions. Mussels had few strengths or weaknesses indicating ambivalence, possibly due to a lack of knowledge of the species, while barramundi was seen as expensive and best eaten

when dining out (Danenburg & Mueller 2011). Hence, marketing strategies for seafood need to be adapted across species to address these different perceptions.

INSERT FROM OMNIBUS

Some outcomes to date

One strategy adopted by the ASCRC to disseminate the key consumer research findings was the delivery of a series of workshops targeted at industry around Australia, with 92 participants attending workshops delivered at nine different locations Australia-wide. These participants represented a broad cross section of industry, from producers, both small and large, through to middlemen and retailers. Subsequent evaluation of these workshops between 1 to 8 months after delivery revealed a range of outcomes from immediate changes through to the development of longer term strategies. Participants reported improved sales, improved profitability and improved relationships with customers as key benefits of these changes. In cases where participants reported that they had not made any changes as a result of attending, they highlighted a benefit of now knowing or confirming why their current strategies were working well, that is, they valued the reinforcement of their current understandings.

In terms of immediate changes, two specific strategies reported by participants included changes to pricing strategies and the revision and/or adoption of recipe cards. One of the key barriers to increasing seafood consumption was the perceived high price of much Australian seafood. One retailer acknowledged this issue and reported the case of fresh crabmeat sales. When priced at over \$70 per kilo this product was not selling, when the pricing was changed to reflect price per portion size rather than price per kilo (i.e. \$12 per 150 grams), the retailer could not package the product quickly enough to keep up with demand. In the second case, a fishmonger had not been using recipe cards at point of sale but then adopted them. He reported a significant increase in sales specifically related to the species on each recipe card.

Longer term planned changes reported by workshop participants included changes to packaging, logos and promotional messages, as well as for a revision of new product development and future strategic planning. One participating association is in the process of revising their logo and developing a consistent marketing message for its members, while several producers and middlemen are in the process of developing value-added products that appeal to current consumer demands. Other seafood bodies, for example, the oyster industry as are in the process of radically revising their retailing strategies based on the research.

In brief, the baseline data gathered as a result of various ASCRC projects has provided a sound basis for stakeholders at all levels and from within all sectors of the industry to make informed decisions to better meet consumer needs.

Conclusions

Forces and trends facing the Australian seafood industry including increasing threat from imported seafood, a lack of a consumer-orientation, and relatively low levels of seafood consumption relative to meat and poultry have made it critical for the Australian seafood industry to better understand how and why consumers currently buy seafood, what the key drivers and barriers to consumption are, and how seafood is placed against its key protein competitors. In addition it is critical to understand how the seafood market is segmented and how different seafood species are positioned relative to each other. The body of research undertaken by the Australian Seafood CRC has provided this foundation upon which key stakeholders can build, from individual producers, to species groups, seafood processors and distributors, retailers and the community in general.

Given the predominance of small businesses in the Australian seafood industry, the body of research now available is invaluable. The breadth and depth of data Australian seafood businesses can now access is beyond the scope of any small or medium size enterprise and indeed many industry associations. Undertaking and presenting this research to various industry groups has promoted a significant change in the focus of many small producers who now acknowledge the need to be more than just fishers or farmers and move from a focus on simply producing or catching more seafood to understanding what happens after the seafood leaves their hands and what consumers actually want and value. The benefits of this research should then flow throughout the seafood value chain with retailers able to better deliver what consumers want and value, ultimately resulting in increased consumption of seafood by Australian consumers.

Finally, based on the understanding of consumers' favourable attitudes toward seafood, as well as key factors influencing decision choices for seafood, future research should focus on interventions to influence actual seafood consumption behaviours rather than re-measuring consumer attitudes. However, exceptions to this would be an ongoing monitoring of consumers' attitudes toward topical and changing issues such as sustainability, traceability and methods of production, as well as attitudes toward fresh versus frozen seafood.

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