Art Nor AS

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Singapore
“Market potential for sous vide in Singapore”

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Executive Summary

This research project is conducted for Art Nor AS with the aim of evaluating the market potential for sous vide in Singapore, especially in the HoReCa (hotel, restaurant, catering) market.

An external analysis was conducted to identify opportunities and threats for sous vide in the Singapore seafood market. Moreover, an internal analysis was done to see if the company is ready to enter into a new market. All these findings are based on secondary data.

In addition, primary research was performed to identify attitudes, knowledge among end consumers, and to obtain more in-depth information on the seafood market in Singapore. The primary research was conducted through expert interviews and focus groups.

The research gave the following findings:

- There are no sous vide products in Singapore today.
- Many established companies are providing seafood to the Singapore market.
- Increased labour- cost and shortage might lead to a higher potential within the next 2-5 years.
- Previous sous vide investments in Singapore have failed.
- The general consumers are not familiar with sous vide.

The recommendation given to Art Nor in this project is to not move into Singapore yet, but to await and closely monitor the changing trends in the market regarding labour and trends in the HoReCa market.

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Imagine a package of frozen seafood. Inside the package there is a mix of premium Norwegian salmon, vegetables and potatoes. The same package goes into hot water. After three minutes, out comes a nice, nutritious, premium quality ready-to-eat meal. Unbelievable? Think again.

The cooking method “sous vide” has revolutionized the way of preparing food. Sous vide is a technology for processing food which goes back to the 1970s. However, sous vide is getting more attention now than ever. There are unique benefits of sous-vide processing that does not apply to the earlier enhanced cook-chill technologies, such as taste, colour, food quality, nutritional quality and shelf life.

Our purpose for this study is to find out whether there is a market potential for sous vide in Singapore. Singapore might be an interesting market as it is known for being a metropolis for new product inventions and its function as a hub for the South East Asia Region.

The topic for this study has been carried out in cooperation with our sponsor, Art Nor AS. Art Nor is a Norwegian company that produces sous vide products, with a focus on seafood. The findings in this study will help them to decide whether they should enter Singapore or not.

**Problem definition**

In response to the purpose for doing a research study on sous vide in Singapore, a four-legged problem definition was developed;

What is the market potential for Art Nor’s sous vide products in Singapore, how is this affected by the competitive situation in the industry, what are the characteristics of the distribution network in the seafood industry, and how is the general perception towards sous vide in Singapore?
Research objectives
The primary objectives of this research study are the following:

- Identify the awareness and attitude towards sous vide products among potential customers and end consumers.
- Define the market potential for sous vide products in Singapore by identifying essential barriers of entry, type of competition, competitors and rivalry in the Singapore seafood industry.
- Describe the current situation for sous vide products.
- Identify relevant distributors in the market.

The following chapters will cover an external analysis of Singapore, an internal analysis of Art Nor, followed by a methodology chapter and finalized by a discussion and conclusion.
Chapter Two :: Background Information
2.1 Market background

The packaged food market in Singapore

“The packaged food market in Singapore consists of the total revenues generated through the sale of bakery, cereal, canned foods, confectionary, dairy, dried and frozen foods, ice cream, meat, fish, poultry, oils and fats, pasta and noodles, ready meals, sauces, dressings and condiments, savoury snacks, soups and spreads.”

Market growth

The market grew by 4.7% in 2007 and reached a value of $3.1 billion, and the meat, fish and poultry accounted for 33.4% of the market value. In addition Singapore is the hub for distribution around Asia-Pacific and accounts for 1% of the total market value in The Asia-Pacific region. This region consists of Australia, China, Japan, India, Singapore, South-Korea and Taiwan.

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1 Datamonitor, Packaged foods & meats in Singapore, February 2008
2 Ibid
3 Ibid
Market growth forecast

The performance in this market has been estimated to continue rising with an anticipation of 4.4% Compound Annual Growth Rate (CAGR)\(^4\) by 2012, that will increase the market value up to $3.9 billion. In addition the Chinese and Japanese markets are forecasted to grow with CAGR of 8.5% and 1.4% over the same period reaching $180.2 billion and $125.9 billion by 2012.\(^5\) The market value forecast for the packaged foods and meat industry in Singapore is illustrated in the figure below.

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\(^4\) Describes the growth over a period of time of some element of the business

\(^5\) Datamonitor, Packaged foods & meats in Singapore, February 2008
A study from Business Monitor International Ltd’s shows that Singapore’s position and location makes the country highly appealing to the food and drink investors. This is rated on the basis of food and drink consumption, the market size, future growth prospects in the industry, the legislative environment, and possible barriers of entry.  

On the other hand, the market’s maturity in this industry might make it hard for a company to successfully enter Singapore. Furthermore, this market is very low-risk in terms of the economic and political climate. With this said, even if the industry is mature, consumers in Singapore enjoy trying new products. Therefore the Singaporean market is a good venue for introducing new premium products.  

### 2.2 Art Nor AS

Art Nor is a small Norwegian food manufacturing company situated in Silsand, north of the arctic circle in Norway. The company currently has 18 employees and their turnover in 2006 was NOK 20.5 million. Due to the exclusive location of Art Nor, the company has excellent access to fresh seafood of high quality.

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Footnotes:


7 Business Monitor International, *Singapore Food & Drink Report Q1 2008*
Art Nor is specializing in the production of sous vide products for the HoReCa (hotels, restaurants, catering) and the consumer market. In 2006 their production volume was 3000 tons.

Art Nor is looking to expand to possible central markets in Sweden, Finland, Spain, France and Singapore. The company is therefore in need of some basic market research. The main focus in this study is to discover potential entrance barriers and to identify some of Art Nor’s main competitors in Singapore.

Art Nor offers a wide range of sous vide manufactured foods through their trademark “Kokt & Klar®”, and their main focus is to produce high quality Norwegian seafood sous vide. The product category ranges from filets of salmon, cod and saith, to bacalao, and some fish filets are marinated in various sauces. Art Nor also offers several different products of potatoes and other vegetables.

### 2.3 About Sous Vide

Sous-Vide is French for “under vacuum” and is a method for processing food. The process starts by sealing food inside an airtight plastic bag. Afterwards the bag is placed in hot water, beneath boiling point, for an extended period of time. After being processed under low temperature, the bag is chilled until it reaches freezing point, and below. The whole process might take several hours, even days to complete. In the end, the finished product is ready to be defrosted and served within 3-5 minutes.

Sous vide products serve several benefits. It is proven to hold the fat in the meat and give better texture. Chefs say that the process works because cooking sous vide keeps the flavours inside the bag while its cooking, which works like a hermetic seal. This way the bag keeps all the aroma and juices inside the food, and prevents the foods from drying out.\(^8\)

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\(^9\) Ibid
Other benefits are the possibility of a shelf-life of up to 42 days\textsuperscript{10} for the fresh foods, and at least 2 years for the frozen products. Once defrosted, it can hold quality of up to 14 days. The products also have improvements in sensory and nutritional quality with the improved sous-vide technology. By controlling the causes of negative changes like exposure to oxygen and extreme temperatures, the products have benefits that other food processing technologies can not offer.\textsuperscript{11}

The high product quality comes from the evenly distribution of heat from the moving water bath, in addition to the low temperature. Using the sous-vide process always ensures the same quality of the food. A salmon cooked sous-vide will come out moist and perfectly cooked all the way through, even if the thickness of the filet is uneven.\textsuperscript{12}

Like the Wolf stove and the immersion blender the sous-vide can change the way chefs cook.\textsuperscript{13} Chefs have also started to use more industrial food processing techniques and science for manipulating the chemical make-ups of proteins, fats and starches for the purpose of creating new textures and flavours, like fried mayonnaise and hot gelatines.\textsuperscript{14}

Cooking sous vide is very convenient for preparation of large quantities of meals on air planes, cruise ships, long distance trains, casinos and also in public institutions. Furthermore it is very suitable for creating unique individual dishes for discerning clientele.

\textbf{Sous-Vide drawbacks}

Since the sous-vide processing is dependent on the absence of oxygen, the botulinum bacteria\textsuperscript{15} can produce deadly toxins. The processing must therefore be performed carefully and under controlled conditions to avoid poisoning. Such food issues became a concern in the early days of sous-vide and it had a

\textsuperscript{10} Ibid
\textsuperscript{11} Ibid
\textsuperscript{12} Hesser, Amanda, New York Times, “Under Pressure”, 2005
\textsuperscript{14} Ibid
\textsuperscript{15} Taylor & Francis Group, “Cook-Chill processing”, 2006
tremendous effect on the popularity when it was first introduced. For the last 30 years there has been improvements on the technology, as well as the equipment. Strict procedures were also set out to prevent these damaging effects.

2.4 Previous research
According to research, consumers have a tendency of changing their attitude towards new products. Sometimes this alteration happens through influences of marketing and that consumers are becoming more acquainted with the new products. In order for researchers to register these changes, they need to monitor consumer attitudes on a regular basis.

Functional foods like sous vide demonstrates a new way of preparing food. This method is considered to be healthy and is recommended by nutritionists. However, the technology of sous vide or cook-chill technologies are still unfamiliar to the consumers and it might take some time becoming accustomed to it. The idea of health effects associated with functional foods is not yet in the mindset of the consumers, and they are sceptical since they don’t know much about it.

Studies show that consumer’s attitudes are negative when it comes to the quality and acceptability of functional foods. Such products are still considered to be inferior. A survey from the USA shows that older generation’s negative perception on functional foods came from the earlier experiences on limited diets and poor quality foods in the 1930s and 1940s. However, it seems like the younger age groups are more accepting of processed foods and are willing to adopt this product.

Another survey shows that when eating out, 27 % of people over the age of 65 and 60% of people between the age of 20 and 24, found functional foods acceptable. The general perception is that when dining out, the chef is preparing the meal just for them. The thought of this same meal being prepared some time earlier gives a sense of poorer quality. However, if the
restaurant has a wide range of selections on the menu at an affordable price it is seen as more acceptable to use pre-cooked solutions. (ŽCreed, 1998b.)

Studies conducted on perceptions formed through years of cultural experiences and people’s backgrounds, shows that the older generations determine that the traditional cooking is the best, safest and healthiest way of cooking. (ŽRozin & Tuorila, 1993; Cardello, 1994, 1996.) The social situation surrounding consumers will have an affect on their overall attitudes. This means that if a society is not familiar with sous vide this will have an affect on their overall attitude. It was also obvious that lack of awareness and knowledge was an essential factor for these perceptions. This is why people can alter their attitudes through awareness.

Different demographic factors like gender, age, education and lifestyle in addition to attitude factors strongly affect acceptability or the intention to use functional foods. (Bhaskaran & Hardley, 2002; Bower, Saadat, & Whitten, 2003; Cox, Koster, & Russell, 2004; de Jong et al., 2003; Urala & La¨hteenma¨ki, 2004; Verbeke, 2005). The older generation that has grown up with the traditional cooking has a different perspective on cooking today. The younger generation is more tolerant towards new technologies, and this might be due to the time they live in where rapid changes have an impact on their daily life.

Other surveys have shown that the perception of functional foods was dependent on the type of functional product. The functional foods are not seen as a homogeneous group (de Jong et al., 2003; Urala & La´hteenma¨ki, 2003; Urala & La´hteenma¨ki, 2004). Most people seem to believe that for example soups and sauces are products that will not be negatively affected when pre-cooked. Eventually the functional food benefits might become the standard option of healthyness (“Consumers changing attitudes towards functional foods” Nina Urala, Liisa La´hteenma¨ki 30 June 2005).

The negative attitudes might derive from the idea that pre-cooked foods are made of fully processed components rather than from fresh foods. It seems that
the consumers perceived this kind of food as compounding of additives instead of a perception that fresh foods can be processed without toxins and still be healthy and have a long shelf life.

Food scientists, technologists and nutritionists face challenges with people’s attitudes towards functional foods. Educating and providing customers with knowledge and research data, can help support their work with developing functional foods that can satisfy customer needs (Elsevier, Philip G. Creed, Potential of foodservice systems for satisfying consumer needs, 2001).
Chapter Three :: External Environment
3.1 General environment analysis

When analyzing a market and its potential it is important to see the overall factors affecting the market. The PESTEL analysis was used to better understand the general Singapore environment.

3.1.1 Political

Singapore is a parliamentary republic with Sellapan Ramanathan as head of state. He has been president since 1999 and the next election will be held in 2011. The president elects the prime minister and the cabinet, which in turn is responsible to parliament. Prime Minister Lee Hsien Loong came to power in 2004.\(^\text{16}\)

The political scene in Singapore is very predictable and stable. People’s Action Party has been the ruling party in the country since 1959. The opposition is relatively small, and at the last General Election in 2006, the party won 66.6% of the votes.\(^\text{17}\) The party has emphasized the need for providing a stable framework for business in Singapore.

Singapore as a nation has invested massively in infrastructure to sustain competitiveness, and enjoys a high national education level compared to the neighbouring countries. This has been due to the fact that Singapore has seen the need for an educated population in order to build competitiveness. This is in line with their strategy of focusing on a high value-added export-strategy.\(^\text{18}\)

The export-oriented strategy and a pro-business environment make Singapore interesting for many foreign investors. Due to limitations in size and natural resources they are dependent on direct foreign investments to contribute to the value creation in the nation. Singapore is currently following a “three-legged” strategy which focuses on three different aspects of value creation; multi-national corporations, government-linked corporations and small and medium sized enterprises.\(^\text{19}\)

\(^{16}\) CIA World Factbook, “Singapore”, 2008

\(^{17}\) Channel News Asia, “Singapore's PAP Returned to Power with 66.6% of Valid Votes”, 2006

\(^{18}\) Varaprasad, Dr. N., “National Development and Technological Education—the Singapore Experience”

The government does not differentiate between the local and the foreign companies. Consequently, in general there is no protective policy to keep the local companies competitive. Overall there is free capital-, profit- and cash-flow in and out of the country, making Singapore an interesting market for foreign investors.\textsuperscript{20}

### 3.1.2 Economic

Singapore is a highly developed country which is driven by a market economy. The country enjoys a corruption-free environment with a transparent government, stabile prices, and a GDP per capita at the same level as the four largest countries in Western Europe.\textsuperscript{21}

The main economic driver is export, particularly of consumer electronics, human capital, IT and finance services, and information technology products. Due to lower interest rates, an increase in exports and internal flexibility, Singapore experienced massive growth in the years 2004-2007, with a real annual GDP growth of 7%.

One of the main strengths of the Singapore economy is a current account surplus of over 20% and external finances in good shape with top marks awards.\textsuperscript{22}

Singapore has one of the most stable economies in Asia. However, Singapore is a small, export- oriented market and consequently very vulnerable to changes in the global economy. Due to the strong external focus that the Singapore economy has adopted, one of its main weaknesses is that the economy is easily affected by global changes in trends and demand for export goods.

Other weaknesses in the Singapore economy are low productivity, competition from low cost neighbouring countries like China and India, and growing structural unemployment that has a negative effect on the economy.

\textsuperscript{20} Innovation Norway, “Markedet”
\textsuperscript{21} CIA World Factbook, “Singapore”, 2008
As of now, 2008 has experienced a global increase in uncertainty, due to the American subprime crisis, that is currently affecting markets on a global scale. The exchange rate between Singapore Dollar and the US Dollar is now at its lowest in 13 years (1.45 at the end of 2007), and this may inhibit increased economic growth. But the government is not likely to move away from the steady appreciation to fight inflation, which has worked for the country for many years. Therefore a continued appreciation, as mentioned above, is the most likely prediction to fight the rising inflation.23

The monetary policy of Singapore is governed by a strict exchange rate policy, which is being rated against several big currencies to stay competitive. Monetary Authority of Singapore stated in October 2007, a continued gradual appreciation of the Singapore Dollar, in order to “remain supportive of economic growth while capping inflationary pressures and ensuring price stability over the medium term.”24

One of the most important aspects of attracting businesses to Singapore is the tax regime which is profoundly pro- business. The government has used tax incentives as one of the most important areas to be competitive in. The corporate tax rate is currently at an 18% rate which has decreased substantially in the last years. Also there is no capital gains tax and no restrictions on tax loss carry forward25. Furthermore there are no taxation on funds, and developing costs. The goods and services tax is 7%.26

Some of the biggest opportunities to experience continued growth for the Singapore economy in the future, is diversification to boost competitiveness. Such diversification can be done by additional development of new areas such as biomedical sciences, tourism, medical and financial services27

Competition from “low cost economies” such as China and India will continue to pose a threat to the Singaporean economy, as it might lose its

24 Monetary Authority of Singapore, “Recent Economic Developments”
26 Inland Revenue Authority of Singapore, “Introduction to GST”, 2008
27 Ibid
competitiveness. This is apparent in moving investments and businesses to low cost countries.

**Economic competitiveness**

At the release of the World Competitiveness Yearbook 2007, Singapore was ranked as the second most competitive economy in the world.

“*Sustaining international competitiveness is a fundamental tenet of Singapore's economic philosophy and Singapore has constantly ranked high, being one of the world's most competitive nations*.“  

The World Competitiveness Yearbook is published by the International Institute for Management Development (IMD). IMD’s ranking is based on measurement of business and government efficiency, business performance and infrastructure.

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**IMD WORLD COMPETITIVENESS YEARBOOK 2007**

The World Competitiveness Scoreboard 2007

1. USA
2. SINGAPORE
3. HONG KONG
4. LUXEMBOURG

*Figur 4 IMD World Competitiveness Scoreboard*

In addition, Singapore was ranked as the seventh most competitive economy in the Global Competitiveness Report 2007-2008, by the World Economic Forum (WEF).

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28 Ministry of trade and Industry, “*growing our economy*”, 2007
29 IMD Business School, “The world competitiveness scoreboard 2007”
30 Ministry of trade and Industry, “*growing our economy*”, 2007
3.1.3 Sociocultural \textsuperscript{31}

Singapore is a multicultural society which consists of many different ethnic groups. The 4.5 million inhabitants in the country are mainly Chinese, representing 77% of the population. Furthermore, there are 14% Malays, Indians with 8%, and others representing the remaining 1.4%. Overall, the population has grown older in the later years, with a median age of 36 in 2005, but expected to increase to 38 years in 2010.\textsuperscript{32} This has mainly been due to the declining birth rate that Singapore has been facing in recent years. It is expected that the elder population will continue to grow and thereby lead to an increased market size for those catering to these segments. The government has been implementing incentives to increase the birth rate. However, the results are yet to be seen, with a reduction in fertility rate from 1.83 children per female in 1990 to 1.32 children per female in 2005.

The unemployment rate in the country is relatively low, and there is a high demand for labour force. The unemployment rate in 2007 was estimated in the CIA’s The World Factbook to be 1.7\%.\textsuperscript{33} The female employment rate has increased from 42\% in 1990 to 54\% in 2005. This implies that dual income families are becoming more common in Singapore due to increased life cost, higher standards of living and education cost. The overall working environment in Singapore is better that in the neighbouring countries. The government enforces strict work regulation regarding benefits, working hours, overtime and leave. The income gap between males and females have decreased during the last years and implies a higher educated female workforce.

The mean annual household gross income in 2005 was US$ 32,492. This is an increase of 157\% since 1990. As we can see the mean income has grown substantially but there is now a higher percentage of households in the high income brackets. Close to 50\% of the households enjoy a disposable income of more than US$45,000 in 2005. These households are also expected to

\textsuperscript{32} Ibid
\textsuperscript{33} CIA World Factbook, “Singapore”, 2008
experience a higher income growth in the following years as compared to the lower income brackets.

Eating out is common in Singapore and represents a large proportion of expenditure on foods and drinks. The higher education and increased number of career oriented people in the country is a big factor that explains this. Many couples with dual incomes and no children are too busy to eat at home, and therefore choose dining out. It saves time and the dining possibilities are wide in Singapore. On big occasions such as Chinese New Year or family birthdays, even more families decide to dine out. The four main cuisines in Singapore are Chinese, being the most popular, Malay, Indian and international food cuisines.

The consumer expenditure on food and beverage related articles, was approximately S$ 5.5 billion in 1990, with an increase to S$ 8.9 billion in 2005. It is expected to continue the growth passing S$ 10 billion in 2014.

3.1.4 Technological
Singapore is known as a technological metropolis in South East Asia. In The Global Competitiveness Report 2007-2008, Singapore was ranked 3rd out of 131 countries in infrastructure, and 12th in technological readiness.34 Also, in the Global Information Technology Report, published by INSEAD, Singapore was ranked 3rd in the Networked Readiness Index 2006–2007.35

Technology and innovation are key drivers for economic growth in Singapore. These key drivers are emphasized more now than ever. The World Economic Forum introduced a new index, Economic Creativity. This index measures a country’s growth competitiveness in terms of innovation, technology, and pro-enterprise environment. In this new index, Singapore was ranked 3rd, after the USA and Finland.36

34 World Economic Forum, “Country Analysis”
35 Soumitra, Dutta, “knowledge”
36 IDA, Singapore, “Technology & Innovation: Key Drivers for Economic Growth in the New Economy.”, 2006
In the past few years, Singapore has developed an advanced and stable infocom (information communication) infrastructure that has met the requirements and demands of a modern economy and society. In one of the latest studies on broadband usage amongst the population in Singapore reveals a household broadband penetration of 78.2%. Internet penetration among households is at 71%. These numbers have been made possible caused by a solid and stable National Infocomm Infrastructure.  

Singapore has set impressive goals for the next years to come, in order to make strategic investments to launch the Next Generation National Infocomm Infrastructure. The Next Gen NII consists of a nation wide ultra high speed fibre access infrastructure. Adding to this, there will be a complementary pervasive wireless network. “The Next Gen NII will support new industries like the digital media and the biomedical sciences industry as next engines of growth for Singapore’s economy”.  

Singapore confirms its technological leadership in the global market, through its well-developed telecom and infocomm system. “Leading infocom players continue to leverage on Singapore's vibrant infocomm environment to innovate, develop and invest in cutting-edge products and services”. For Singapore to take advantage of business and economic opportunities, early adoption of new technologies is crucial.

3.1.5 Environmental
Singapore is an export- oriented country. Therefore it is very important for the government to be part of trade organizations and other bodies that will improve the living condition in Singapore. The country is currently a member of many such bodies. ASEAN is a regional trading organization for South East Asian countries. This implies trade agreements and other collaborations

37 IDA, Singapore, “Infrastructure”, 2008
38 Ibid
39 Ibid
40 IDA, Singapore, “Technology”, 2006
41 Ibid
between Singapore and the regional countries. This will be a factor if considering Singapore as a hub for catering to the Asia Pacific region.

Furthermore, Singapore is a member of WTO and has free trade agreements with several countries. The EFTA countries (Iceland, Lichtenstein and Norway) and Singapore has an FTA (free trade agreement) to promote trade between the countries.

3.1.6 Legal
When exporting to Singapore, there are mainly three ways to do so. First of all you can hire a freight forwarder or a cargo agent. Secondly, you can get a food & beverage supplier to import your products for you. Thirdly, there is the possibility of exporting/importing the products within the company.

Freight forwarders and agents can offer several door-to-door activities. These activities help a foreign company gain better contact with the market. It also provides important market information. Some of the services a freight forwarder or agent provides, are; goods & services tax (GST) and duty payments, handling customs documentations, customs clearance, insurance, pick-up and delivery, and warehousing and distribution.42

Freight forwarders and agents have access to TradeNet®. "The TradeNet® System is a nation-wide Electronic Data Interchange (EDI) System which allows the various parties from the public and the private sectors to exchange structured trade message and information electronically"43. The import, export and transhipment documentation processing procedures are integrated through the TradeNet® System. This reduces the cost and time necessary for preparation, submission and processing of trade and shipping documents.44

Including their access to TradeNet, freight forwarders and agents are more experienced with the Singaporean market, and they also have more knowledge

42 Enterprise One, Singapore, “Import/Export”
44 Ibid
on customs procedures. Finding a suitable freight forwarder or agent can be
difficult, since there are so many. To establish contact with freight forwarders
and agents, a company might contact Singapore Logistics Association\textsuperscript{45}, the
Singapore Shipping Association\textsuperscript{46}, or the Singapore Aircargo Agents
Association\textsuperscript{47}.

If a company wants a food & beverage supplier to import their goods, first of
all it needs a supplier in that specific market. Such a supplier might not have
the same range of market information and market network as an agent or a
freight forwarder.

The third option of exporting or importing into Singapore is to do it all in-
house. This is the most expensive option, as huge investments in warehousing,
networking and distribution are required.

\textbf{Customs Laws & Regulations}

No matter how a company sets up its import/export activities in Singapore, all
companies must register with the Singapore Customs before the goods are
ready for sale. The registration for traders is free of charge. Registered traders
are given certain central registration numbers, which you need to apply for, in
order to access import and export permits.\textsuperscript{48} All companies are required to pay
Goods and Services Tax (GST) on imports that are brought into Singapore for
consumption/sale in the market. Additionally, as an importer you may also
have to pay fees for documentation, imposed by Singapore Customs.

\textbf{Goods and Services Tax}

When goods are imported into Singapore, GST is a requirement. GST is
administered by the Inland Revenue Authority of Singapore and collected by

\textsuperscript{45} Singapore Logistics Association, “MTO Registry>Member Directory”
\textsuperscript{46} Singapore Shipping Association, “Registry of Accredited Shipping agents”
\textsuperscript{47} The Singapore Aircargo Agents Association, “The Singapore Aircargo Agents Association”
\textsuperscript{48} Enterprise One, Singapore, “Import/Export”
Singapore Customs. GST on imported goods is 7% of the CIF value (Cost, Insurance and Freight) plus any customs duty, commission and other incidental charges applicable.”

The payment of GST can temporarily be suspended if the imported goods are in a free trade zone (FTZ), in Zero-GST warehouses, in licensed warehouses, or under the major exporter scheme. If you keep goods in FTZ, which are specific designated areas in the Singaporean air and sea ports, duties and GST are temporarily suspended on imported goods. This means that a company must pay GST once the goods are brought out of the FTZ.

**Singapore Customs Fees**

As an importer/exporter you have to pay fees for procedural and administrative activities by the Singapore Customs. These fees are to cover activities like supervising the destruction of goods, supervising the unpacking from containers, and certified true copies of customs permits.

**Licences for Controlled Goods**

Before importing/exporting food and beverage products, the trader must obtain licences from the “Competent Authority”, which is the Government agency that sets regulations for these goods. To obtain a licence there are certain criteria which you must comply with.

“To import meat/fish products, you need to obtain a licence from the Agri-food and Veterinary Authority (AVA) and you must comply with the relevant food laws and regulations”.

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49 Enterprise One, Singapore, “Taxes & Fees”
50 Ibid
51 Ibid
52 Enterprise One, Singapore, “Importing goods from overseas”
53 Ibid
AVA

AVA is the Agri-food and Veterinary Authority of Singapore. To import foods and beverages into Singapore, a licence from the AVA is required. Before the AVA licence can be granted, or a company can be registered with AVA, a set of criteria must be fulfilled:

1. The applicant must be registered with the Accounting and Corporate Regulatory Authority.

2. The applicant must have received a central registration number, which is granted by the Singapore Customs. A company that does not have such a number can apply to the Online Business Licensing Service.

3. The applicant must open a GIRO account in cooperation with AVA, for securing the payment of the annual licence fee. ^54 The different fees for AVA permits to import, export or shipment of food must also be paid through GIRO.

There are basically three steps to complete the application with the Online Business Licensing Service:

a) “The applicant must fax/submit a hard copy of the central registration letter from the Singapore Customs or submit soft copy of central registration number online through OBLS.” ^55

b) “With effect from 1 October 2006, there will be an application fee of $21.50 (inclusive of 7% GST) for every new application submitted via OBLS.” ^56

c) “The application will then be routed to AVA for processing” ^57

For obtaining a licence to import, export and tranship meat or fish products, the importer/exporter is required to pay a fee of S$ 84 per annum.

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^54 Agri-Food and Veterinary Authority of Singapore, “Licensing and Registration of Traders”

^55 Ibid

^56 Ibid

^57 Ibid
Norway’s FTA with Singapore

Norway has a free trade agreement with Singapore through the European Free Trade Association. This means that if you import products from Norway, your imported goods may be entitled to “preferential tariff”. Preferential tariff means that customs duties for the imported goods are lower or totally eliminated for countries with a FTA agreement.58

To sum up this analysis one can see that Singapore is a very stable and highly developed country and economy. It has a pro business strategy and a free trade agreement with Norway, which further lowers the barriers of entry for a company. Furthermore, the spending power of the consumers in Singapore is among the highest in the region and the country is considered one of the most competitive countries in the world. Therefore we can conclude that the general environment of Singapore is healthy and positive for a prospective company entering the market.

3.2 Seafood industry analysis

Porter’s Five Forces is an important tool for analyzing an industry’s structure in strategic processes. “It is based on the insight that a corporate strategy should meet the opportunities and threats in the organizations external environment”.59 It is important that an operative strategy is based on an understanding of the structure in the industry, and the changes in the specific industry.

3.2.1 Bargaining power of suppliers60

Art Nor’s potential suppliers of raw materials such as fish, potatoes and vegetables in Norway are relatively fragmented. In 2006 there were 1415 licenses for fishing and fish farming in Norway, meaning a large pool of

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58 Singapore Customs, “Preferential Tariffs”
59 Recklies, Dagmar, “Porter’s Five Forces”, 2007
60 Statistics Norway, “Fishing and Fish Farming”
suppliers.\textsuperscript{61} Norway is a relatively small country and Art Nor gets its supply from the 3 northern counties. They are situated strategically in the midst of several suppliers, and thereby strengthening their relationship with current suppliers. Taking into account the number of suppliers and the volume produced in Norway each year, with a volume of 626 000 tons in the salmon industry alone\textsuperscript{62}, it would not be easy for them to raise the price.

External factors that affect the price are tax increases or other non-commercial factors. The switching cost for Art Nor is low since there are many suppliers to choose from. The contract lengths vary depending on the individual negotiation. If the contract lengths are relatively short-term oriented, a switch to a different supplier in Norway will be feasible, both due to availability, and effective and low cost transportation.

The bargaining power of suppliers is therefore \textit{medium-low}.

\subsection*{3.2.2 Bargaining power of Buyers}

Regarding the bargaining power of buyers we have chosen to focus the analysis on the Singapore market and not on a global scale. This is to better illustrate the current situation in Singapore.

Art Nor is mainly catering to the HoReCa market in Norway, and now wants to explore the potential in Singapore in the same market segments. A customer operating in the HoReCa market will in most cases purchase large quantities, leading to an increase in buyers bargaining power.

In Singapore, fresh foods are both competitive in price and availability. The expert interviews in the report points out price as the key factor in choice of supplier for these companies. They are highly price sensitive and will not hesitate to shift supplier to obtain a lower product cost. Referring to paragraph 3.5, there are many providers of seafood in the Singapore market, which also contributes to an increased bargaining power.

\textsuperscript{61} Statistics Norway, “\textit{Fishing and Fish Farming}”

\textsuperscript{62} Statistics Norway, “\textit{Fish Farming 2006. Preliminary Figures}.”
However, the buyers in Singapore are fragmented. This count both in regards to segments as HoReCA, and within the specific segment as hotels, restaurants and catering. There are large differences in which segments the companies cater to. These include both chains and stand alone businesses. Other than the Singapore Chefs association, the Restaurant Association of Singapore and the Singapore Hotel Association, which acts as a union for the different groups, there is little communication between companies. This results in a lower bargaining power for the buyers.

There are currently no companies who delivers seafood sous vide to the HoReCa market. With this in mind, a potential customer will not have many alternatives to the products offered by Art Nor. But as long as Art Nor does not have an established brand in the market, or there is not a particular demand for sous vide products, one can still argue that the bargaining power of the buyers are high.

The labour costs have increased in the latest years, and is expected to continue doing so. Labour shortage is also an increasing problem in Singapore, which affects the HoReCa market. This is because this situation will lead to a need for an easier food preparation process, which will relieve the work force and enhance efficiency in the kitchen. When labour costs and labour shortage increases, a company might want fewer employees in their respective kitchens. If these future predictions turns to reality, a company might be given incentives to buy sous vide products. This is a future expectation which will lead to a decrease in the bargaining power of buyers.

However, the bargaining power of buyers is currently high, due to low switching costs and many providers of similar products that meet the companies’ needs.

Conclusively, the bargaining power of buyers is high.
3.2.3 Threat of new entrants
The Singapore food and beverage market can be defined as a mature market. The market is highly developed and can be compared to that of Western Europe in terms of maturity. There are over 14,000 companies present in Singapore today.\(^{64}\) And with such a mature market and limited size, the number of entrants will not be very high. However, imports of foods and beverages are expected to rise by 7.2% by 2012 and a move to “premiumisation”, meaning a larger increase in value compared to volume.\(^{65}\) This, in addition to a potential sous vide market, might create an interest from niche companies who target these premium markets. Taking into consideration the low entry barriers regarding regulatory restrictions, one can see that the new entrants targeting niche markets might be a concern for Art Nor.

As of today there is no information on any companies with sous vide products, or any other information that might suggest a threat in this market. Based on these facts there is a potential for new entrants, especially those targeting niche markets such as value-added food products similar to Art Nor’s sous vide products. The threat of new entrants would also increase if labour costs increases, as discussed earlier, due to labour shortage in the restaurant market and an overall increase in wages. The level of threats might increase as changes in the labour market occur.

Consequently, the threat of new entrants is medium.

3.2.4 Threat of substitutes
The substitutes to Art Nor’s products must be defined, before a decision regarding the threat of substitutes can be drawn. At the most direct level other seafood products, fresh, frozen and pre-cooked, are substitutes. At the most generic level all kinds of foods can be considered as possible substitutes for Art Nor’s products. According to this research, which will be elaborated later in the report, all kinds of seafoods are possible substitutes for Art Nor’s sous

\(^{64}\) Enterprise One Singapore, “Overview of the F&B industry”, 2008

vide products. This will prove to be a major challenge for Art Nor, unless they manage to show the advantages of their products.

Information from the conducted focus groups, which will be elaborated later on, shows that Singaporeans might be willing to try this product. However, they show reluctance to use it on a daily basis, even though Art Nor does not intend to target the consumer market. The price of raw material is relatively low in Singapore and is significantly lower than for sous vide products imported from Norway. However, as stated earlier, in the case of increasing labour costs, sous vide products will probably be more attractive and thereby the threat of substitutes will decrease. The information gathered from the expert interviews and focus groups has identified all kinds of seafood as possible substitutes for Art Nor’s seafood products. Consequently, the threats of substitutes are high.

3.2.5 Rivalry in the industry

The product level competition model is used to determine the rivalry in the industry. The model operates with 4 levels of competition and those are; product form competition, product category competition, generic competition, and budget competition.

The product form competition can be explained as very similar products from different companies. The products are not significantly differentiated and the consumer is just as likely to buy either of the products if there is no brand loyalty to consider. An example of such products will be Norwegian seafood produced sous vide. As we have stated earlier there are no such products available in the market and therefore there will be no rivalry at this level.

A definition of product category competition is products that are naturally placed within the same category, for example sous vide seafood products. This research has not revealed any significant sous vide providers in Singapore, and this means that the rivalry at this level will be non-existing. Generic competition is the next level in this framework, and identifies all providers of seafood as rivals to Art Nor. The competition has increased tremendously from
the previous levels, and this is natural since we now see Art Nor in comparison to all industrial providers in Singapore. Examples of competitors are Fassler Gourmet, Marine Harvest, Singapore Food Industries (SFI), Snorre Food, and Pan Ocean Singapore. To describe the budget competition level, one can say that they will be competing for a share of the budget of companies in the HoReCa market as a whole. At this level the market is moving towards perfect competition, which implies that the only reasons why companies choose one supplier over the other is based on quality, fulfilment of the contract, and price.

The Singaporean packaged foods and meat market has experienced a growth of more than 4.5 % annually since 2003, which is considered moderate and might contribute to a slight decrease in rivalry. However, the competitive nature of Singapore’s food market will force companies to price their products competitively.

Therefore, the rivalry in the industry is considered to be high.

**Conclusive comments on Porter’s 5 forces**

To sum up the analysis, the intensity of rivalry in the seafood industry in Singapore is at a high level. This is due to the fact that there are many substitutes of sous vide today, and the buyers are in possession of a high bargaining power. The threat of new entrants is medium, whilst Art Nor’s suppliers still has a medium-low bargaining power. Entering an industry at a time when the rivalry is characterized as high might be risky, since there are many companies fighting for the same market. Whether Art Nor is strong enough to cope with such a challenge will be further analysed in this report.

(For illustration, see Appendix 1, Figure 1)

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3.3 Distribution in Singapore

The distribution of packed foods and meats in Singapore is mostly accounted for by hypermarkets and supermarkets with 50.3% of the market’s revenue for the grocery segment in 2007.\textsuperscript{69}

In Singapore seafood is mainly sold by agreement in price with the buyer, in the wholesale markets. Daily volumes of seafood traded in two fish markets in Singapore is about 250 and 45 metric tons respectively. This market is managed by the Primary Production Department and operates from 02.00 to 07.00 hours every day. However, for Art Nor it would be better to supply directly through restaurants, hotels, catering firms and supermarkets. In addition, some of the chilled fish is also selected and packed for re-exporting to neighbouring countries.

Distributors

There are many seafood importers present in Singapore today. This is because the domestic production is relatively low. Subsequently, the imports are high as in many other industries. The need for distributors in the country is high, and the establishment of Seafood Industries Association Singapore (SIAS) shows that this industry has grown substantially. The association has 77 members, which are all companies dealing with seafood either in regards to processing or distribution.\textsuperscript{70} Some of them are already importing Norwegian frozen seafood, such as Far Ocean Sea Products (Pte) Ltd and Snorre Food. However, none of the 77 is importing nor producing sous vide products. But several of them are importing seafood from European countries, including fish products such as cod and salmon.

Besides the SIAS members, there are also many other companies in the same industry, both specialized distributors such as Chun Cheng Fishery enterprise Pte Ltd. They are mainly processing and distributing tuna products, as well as more general distributors such as Singapore Food Industries. However, the specialized distributors might have higher competency on the seafood industry in general and knowledge on how to best meet customer demands.

\textsuperscript{69} Datamonitor, “Packaged Foods & Meats in Singapore; Industry Profile”, 2008
\textsuperscript{70} Seafood Industries Association Singapore, “Members List”
Some of the distributors in the market have actually been discussed under the competitor analysis. Using the example of Fassler Gourmet Ltd they are both importing fish and processing it. In the expert interview with Mr. Fassler, he expressed curiosity in the sous vide products from Art Nor if they were to be competitive in price. This will be shown in the methodology chapter of this report.

To conclude, the distributor environment in Singapore is large, containing many potential business partners for Art Nor if they decide to enter the market.

### 3.4 Competitors in the market

Conducting a competitor analysis will be crucial when considering an entry into the market. This gives Art Nor an overview of the main competitors and information about their businesses.

Regarding the level of international development and specializations, many differences can be seen between the seafood companies in Singapore. Such information will be valuable for Art Nor, when considering their position in the potential market.

When searching for information about competitors and their product lines, it is hard to find specific information on narrow product categories, while overall information is easily accessible.

This analysis will be based on market research published by the government, and the research findings on the individual companies. In order to analyse Art Nor’s competitors we use the competitor analysis components framework.71

Sales of meat, fish and poultry accounted for 33.4 % of a total packaged food and meat value of $3.1 billion in Singapore in 2007.72 There are large providers of seafood to the retail sector. Regarding the Norwegian salmon there are many providers of products to Singapore.

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There are many companies that provide seafood to the HoReCa market in Singapore\(^{73}\), but for this analysis we have chosen to focus on the following three, to give an image of the competitive situation in the seafood industry.

### 3.4.1 Fassler Gourmet\(^{74}\)
Fassler Gourmet has been present in Singapore for 16 years, and the company currently employs 52 workers on its production site. The company provides seafood to both the retail sector as well as the HoReCa sector. They produce mainly high quality smoked and value added seafood specialities. The price range depends on the product offered.

(For price illustration see Appendix 2, Figure 2).

**Current Strategy**

Fassler Gourmet imports seafood to their processing site where they add value to the products by cut portions to meet customers demand. This is in line with their philosophy; “to make our customers happy.”\(^{75}\) They have also a wide range of products with different marinades and so on, to meet variations in preferences. They have a solid customer base as stated on their website; “We are proud to supply just about all hotels and quite many restaurants in Singapore with some of our over 200 freshly made seafood products.” They also cater to Cold Storage with both chilled and frozen salmon. However, they do not have products that can be directly compared to Art Nor’s products, but they have previously invested in sous vide. This had limited success and therefore they decided to stop the production of sous vide products. Nevertheless, Fassler Gourmet is currently delivering products that indirectly compete with Art Nor’s products. Due to this one should be aware of Fassler Gourmet before entering Singapore since they deliver to many of the potential segments in the market.

\(^{73}\) [www.hotfrog.sg/Products/Seafood](http://www.hotfrog.sg/Products/Seafood)

\(^{74}\) [www.fasslergourmet.com](http://www.fasslergourmet.com)

\(^{75}\) [www.fasslergourmet.com/profile1.htm](http://www.fasslergourmet.com/profile1.htm)
Future objectives

Currently, Fassler Gourmet is not doing any sous vide production but a future investment in sous vide is likely. Referring to the expert interviews, Mr. Fassler claims that they will probably invest in this at a later stage, when labour costs have increased further in the commercial kitchens, and the labour force is even scarcer.

The emphasis will continue to be on fresh and frozen salmon, and thereby remaining to be an indirect competitor. However, if they decide to start producing seafood sous vide, they will go from being an indirect to a direct competitor. Since they have such a solid customer base, this may be a challenge to Art Nor.

In 2004 they expanded their production facilities. This might indicate their interests in future expansions in terms of a possible increase in market demand.

Capabilities

Fassler Gourmet is a major competitor, because they provide seafood products to the same segments that might be ideal to Art Nor. They also have a solid customer base and great flexibility. Since they have been established in Singapore for so long they have been able to set the grounds for good customer relations. This is a great advantage that Art Nor does not have at this moment.

Assumptions

Their experience and reputation have made Fassler Gourmet a well known player in the seafood industry. They will most likely stay up to date on trends in the market, such as increased labour costs or labour shortage. They believe that this will occur in the years to come, and will constantly try to provide the best solutions to their customers. Because of their recent expansions it is likely
to assume that they believe the market will continue to be profitable and that Fassler Gourmet will be a part of it.

### 3.4.2 Marine Harvest

Marine Harvest is the world’s largest provider of farmed salmon and is the world’s leading seafood company. They have operations all over the world, and especially in the countries with large salmon productions, such as Norway, Scotland, Ireland, Chile and Canada. In addition, they have value added processing in USA, France, Belgium, Poland and the Netherlands.

The company currently employs 9,000 people in 20 countries and their Asian headquarter is situated in Singapore. The Singapore office has two main products that they sell, which are salmon fillets both frozen and fresh. However, Marine Harvest offers many other products in their product portfolio.

### Current Strategy

Marine Harvest does not have any sous vide products available in Singapore, and they are currently selling fresh and frozen salmon products. But, on a global scale, they have other products that may pose a more direct threat to Art Nor if launched in Singapore. Examples of these products are different species of fish, many different versions of salmon and also “elaborated seafood”. This means seafood that is value-added, by making it into various famous dishes such as salmon tartar, brochettes and stuffed salmon. They also have 700 grams of marinated salmon filets which are intended for families. These value-added products are currently produced in Belgium and France, and are not available in Singapore.

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76 [www.marineharvest.com](http://www.marineharvest.com)
77 Marine Harvest, “Marine Harvest in Brief, 2008”
Future objectives

Marine Harvest was acquired by Pan Fish in 2006 and in a Pan Fish press release, CEO Atle Eide, states the following;

“Pan Fish's overall goal of becoming the lowest-cost producer of quality salmon is shared by Marine Harvest (...). The lowest-cost position will be a strategic building block for the combined company, in addition to sustainable fish farming, good animal husbandry, seafood quality and high-level partnership with customers. To achieve these objectives, the key focus areas will be openness, continuous development of knowledge and a lean organisation.”

There is nothing suggesting that Marine Harvest will invest in sous vide products and cater to the Singapore market. However, Marine Harvest VAP Europe, which is the division for value added fish and seafood, had a production worth EUR 469 million in 2006, and the company’s goal is stated to reach EUR 500 million in 2007.

Marine Harvest is also currently in business with McDonalds in Norway, where they are delivering salmon for McDonalds’ salmon wrap. This is currently a pilot project in Norway, but might be a global venture. If resources are currently pulled in to this business, it is unlikely that Marine Harvest will invest in a totally new technology for the global market.

Capabilities

Marine Harvest is the largest and most powerful seafood producer in the world. Their operating revenue was US$2.7 billion in 2007. This implies financial strength that will challenge competitors in a marketplace, because of capital investment, facilities, and access to raw materials.

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78 NorTrade, “Pan Fish Acquires Marine Harvest to Form the World's Largest Fish Farming Company”, 2006
80 Aftenposten, “Marine Harvest Teams Up with McDonalds”, 2007
81 Marine Harvest, “Marine Harvest in Brief”, 2008
82 Marine Harvest, “Key Figures”, 2008
83 www.dnb.no, 09.10 - Wednesday April 09.2008. Exchange rate: 0.1974
Assumptions

Marine Harvest will most likely continue to focus on cost leadership in line with their overall goal. They have also invested in the collaboration with McDonalds and if this becomes a success, it is likely that the focus will be implementation on a global scale. Therefore it is not expected that they will be investing in sous vide machinery, and possessing knowledge within this area. They do not state anything about pre-cooked meal investments on their website.

Art Nor is small compared to Marine Harvest. But in a competitive context this might be an advantage. Finding niches in the market, which are not large enough for Marine Harvest, can be profitable for Art Nor.

3.4.3 Singapore Food Industries

Singapore Food Industries (SFI) is a well established company, and has from its beginning in 1973, grown to become a leading integrated food company in Singapore. “SFI is focused on meeting changing food needs driven by changes in lifestyle and demographic patterns”.

“SFI’s vision is to become a world-class integrated food company, through delivering premier value to customers, superior returns to shareholders and a rewarding work environment to employees.” SFI is a global company, represented in the UK, Republic of Ireland, China, and Australia. Their future plan of development is further expansion in the European and Asia Pacific markets.

The company has a wide product range, including frozen convenience food, ready-for-retail products, convenience food and meals, and chilled ready meals.

84 www.sfi.com.sg
85 Singapore Food Industries, “Company Overview”
86 Ibid
Current Strategy

SFI’s core business is divided into three business units; food distribution, food manufacturing, preparation and processing, in addition to Abattoir & Hog Auction.

One of SFI’s main strategic elements is to distribute fresh fruits, frozen or chilled meats/seafood, and several other food products to their customer base. This includes hotels, chandlers, ships, supermarkets and government institutions. Distribution is a key factor, and SFI is in possession of highly modern warehousing and cold storage facilities. They also own a large fleet of vehicles that contributes to their sophisticated distribution network. SFI believes in total customer satisfaction. In order to achieve this, SFI has a very well organized internal strategy. The overall strategy map is the top level strategy of SFI.

(For strategy illustration, see Appendix 3, Figure 3)

Second, the balance scorecard measures whether the small scale operations in SFI fits with the overall strategies, goals and vision. Furthermore, SFI has created a set of Key Performance Indicators (KPI), which describes several factors that are supposed to support the strategic intent. The KPI lead out to different action plans. The strategy action plan, from top management to staff, reflects a well developed and implemented company strategy. SFI strives to be innovative by constantly developing new products. The latest market trends show growth in the chilled ready-meals market. Due to this, SFI has combined its ability to anticipate market trends, in cooperation with an experienced and innovative team in the developmental kitchens. Chefs from around the world, specializing in the Far East cuisines and the more traditional Chefs De Cuisine, have contributed to these new product innovations. The new product developments have resulted in a series of Thai, Caribbean, Mexican and Moroccan cuisines.

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87 Singapore Food Industries, “SFI Business Excellence Framework”
“SFI has also adopted “The Six Sigma”, which is a business oriented approach focused on customers requirements and then systematically & rigorously analysing internal systems and processes to achieve zero defects in the products & services delivered to customers.”  

Future objectives

It is to be expected that SFI, through International Cuisine Ltd (ICL), which is one of the fastest growing brands among the manufacturers of chilled ready-meals in the United Kingdom, will try to expand even further in international markets. Since the Singaporean market is very limited in terms of size, it is likely that a company of SFI’s size will look abroad for new potential markets. Furthermore, since SFI is a huge company with several business units and activities, they will also make sure to defend their position as one of the main food suppliers in Singapore.

Capabilities

Singapore Food Industries is a serious threat to Art Nor, because they operate in the same market segment that might be attractive to Art Nor. Some of SFI’s strengths are market experience, a well developed distribution network, innovative and skilled employees, market leading, a solid financial backbone, and a well established brand. Having this in mind, Art Nor will have to look out for SFI, if entering Singapore.

Assumptions

SFI is a vast and well known player in the Singapore food market. Leveraging on their experience and SFI’s recent product developments and innovations,

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88 Ibid
89 International Cuisine Ltd, “Welcome to International Cuisine”
90 www.sfi.com.sg
one can assume that some changes in the market will be seen. It is reasonable to assume that SFI will stay on top of things, and try to meet the changes in customer’s demands. If these changes opens up for sous vide in Singapore, SFI would probably attack this opportunity with quickness, since they know the Singaporean market well.

3.4.4 Other Competitors
So far the analysis has covered Art Nor’s largest competitors in Singapore, and will now give examples of other possible competitors in the seafood market.

**Snorre Food**[^91]

The Norwegian company, Snorre Food, distributes a wide range of seafood products in South East Asia. Their main focus is airline catering, but they also deliver to hotels, caterers and public institutions.

**Pan Ocean Singapore**[^92]

Pan Ocean Singapore is a supplier of seafood to wholesalers, supermarkets, hotels, retail stores and other foodservices. They promote fresh, live, frozen, processed seafood, valued added, instant cooked and ready to eat cuisine from local fishing grounds in the region and worldwide.

Other potential competitors for Art Nor are companies such as Ken Ken Food Manufacturing Pte Ltd, Blue Oceans Ltd, Pan Seas Enterprises Ltd, Far Ocean Sea Products Ltd, Thong Siek Food Industry and Haisia.

3.4.5 Conclusions on competitor analysis
As one can see there are many competitors for Art Nor to be aware of in Singapore. There are both large multinational corporations, regional companies and local companies, only catering to the Singapore market. All of these companies are currently competing in the HoReCa market which indicates that all of these are indirect competitors of Art Nor.

[^91]: www.snorrefood.com.sg
[^92]: www.panoceansin.com.sg
If these companies decide to invest in sous vide, they have a customer base build through several years, which can more easily be persuaded, than if Art Nor attempts this in a first mover act. However, there is currently a niche market in Singapore in which none of the competitors mentioned earlier are in.

(For illustration of competitor framework analysis, see Appendix 4, Figure 4)

**3.5 Price Comparison analysis**

To analyze whether Art Nor can be successful in the Singapore market or not, a price comparison has been conducted. The products being compared is not exactly alike, but are the closest one can get with the limited product descriptions available. The companies have not been willing to share information regarding their production costs. Because of this the price comparison will be performed on the basis of sales price. It is important to understand the difference between the different kinds of price listed below. The import price is the price a customer will have to pay for a product imported to Singapore. Shipping cost and 7 % GST is included in this price. Retail price is the price an end consumer would pay for the product in a retail store, such as Cold Storage.

**Price**

<table>
<thead>
<tr>
<th>Product</th>
<th>Price</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>N Moom NM Buddha Jumps Over Wall 425 g       (Cold Storage)</td>
<td>$SGD 10.95</td>
<td>(retail price)</td>
</tr>
<tr>
<td>Bacalao Vizencia 450 g            (Art Nor AS)</td>
<td>$SGD 7.40</td>
<td>(import price)</td>
</tr>
</tbody>
</table>

Both of these products are whole meals, and only needs to be heated up by microwave or stove to be ready to be served. We do not know what profit Singaporean retailers command, but we assume that they are on the same level as European retailers which are 10 – 20 %. In that case, Cold Storage will pay somewhere between S$ 8.75 and S$ 9.85 for the product. Art Nor’s products,
with 10 – 20 % profit added on, would be priced in the range of S$ 8.15 and S$ 8.90. Based on these numbers one can come to the conclusion that Art Nor are competitive on price, but the cost of shelf space has not yet been considered. This can be a significant cost, and will increase the total cost of the product since Art Nor most likely will pass it on to the end consumers. In that case their products might become too expensive for the end consumers.

Skinless Salmon Steaks 2 x 125g (Fassler Gourmet) $SGD 24.00 (per kg)
Norway Salmon Fillet (Cold Storage) $SGD 35.90 (per kg)(retail price)
Salmon Natural (Portion Cut) (Art Nor As) $SGD 30.35 (per kg)

These three products can be compared since they are somewhat the same, but the difference in price is quite significant. One must have in mind the differences as to whether the prices shown are retail price or import price. If the retailers command a profit of 10 – 20 %, the Norway Salmon Fillet will cost between S$ 28.70 and S$ 32.30 when the store purchases it from the producer. Using the same percentages, Art Nor’s product would cost between S$ 33.40 and S$ 36.40 if imported directly to Cold Storage. That would put them in the same price range as the products already sold at Cold Storage, but it will be approximately S$ 10 more expensive than Fassler Gourmet’s product.

Compared to Fassler Gourmet’s Skinless Salmon Steaks, Art Nor’s products will not be able to compete on price. This is of greater importance to Art Nor than the price comparison with Cold Storage since Fassler Gourmet operates in the segment Art Nor is interested in entering.
3.6 Identifying segments
The desired market segment for this report is, by Art Nor, defined as the HoReCa market. This is not a homogeneous market segment, as hotels, restaurants and caterers must be separated in terms of segment attributes. The HoReCa market differs in the matter of business activities, buying behaviour, size, and organizational structure. There are also differences within each industry in the HoReCa market, meaning that all hotels in Singapore are not the same. This means that it is difficult to define one specific market segment for Art Nor.

To perform a segmentation of the HoReCa market in Singapore, it is suitable to perform a separate analysis on the three separate industries.

3.7.1 The hotel industry
A hotel segment suitable for Art Nor is a mid-range hotel segment.

The hotel industry in Singapore has experienced an increase in occupancy rate for the last years ending at 85.2% in 2006, even though the prices has increased in an ever increasing rate. The revenue from food and beverage in the hotel industry was S$ 1,867,600,000 in 2006, which is an increase of 7.6% compared to the previous year.

(For illustration, see Appendix 5, Figure 5)

There are many potential customers in Singapore. “The Singapore Hotel Association (SHA) is the representative body of the hotel industry in Singapore. SHA Member Hotels account for about 90% of the total inventory of gazetted hotel rooms in the country.”93 This is a good association to use in order to identify the different hotels in Singapore. This analysis does not identify specific hotels, but gives the overall view of how the industry appears.

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93 Singapore Hotel Association, “About SHA”, 2006
3.7.2 The catering industry
The catering industry in Singapore consists of almost 200 companies who employ close to 5,000 workers. Totally, the industry has a turnover of S$ 555 million and reaps a profit of S$ 97 million which is 17.5 % of the total revenue. Similar to the restaurant industry, a catering company’s biggest expenditure is in food and beverage. (Appendix 5, Figure 6)

The catering industry is not segmented into high- or low- end companies. The trend seems to be that most companies cater to almost all events. In that aspect, it would not be of great importance for Art Nor which caterer they supply to in relation to product specifications. However, the company itself plays an important role, in regards of name in the market.

3.7.3 The restaurant industry
The restaurant industry in Singapore is highly fragmented, consisting of 1,256 restaurants. Foods and beverages account for the 33.4 % of the total cost in the industry and the operation profit is averagely at 4 % of the total revenue.

(For illustration, see Appendix 5, Figure 7-9)

This indicates high price sensitivity and therefore intense competition among suppliers since the restaurants quickly will change supplier if they do not get a favourable price.

Identifying mid-range restaurants has proved to be difficult, since these do not tend to provide much information about their business, compared to the high-end restaurants in the market.

Conclusive comment
The analysis of the industry has proven somewhat difficult and turned out to be relatively vague due to restricted information. However, a distributor in Singapore would have a customer base and knowledge about the market which might prove crucial for a successful launch of Art Nor’s products in the
HoReCa market. Therefore, the information about specific companies in these industries is not as important as being able to join forces with the distributor which has the best contacts, and caters to the market suited for Art Nor’s products.
Chapter Four :: Internal Environment
4.1 Financial analysis

4.1.1 Profit

The financial statement for Art Nor AS in 2007 is not yet compiled. Therefore, the economic analysis is based on figures from 2004 – 2006.

Return on assets measures the company’s profit on the capital available in the company. For companies with high financial costs this measurement can give a somewhat wrong impression.

As seen in the table above, the ROA of Art Nor has seen a downwards trend in the last years. It has decreased from 5 % in 2004, to 3.4 % in 2005 and ended up at – 2.3 % in 2006. These figures have to be seen in connection with the interest coverage grade which has been 8.57, 16.40, and -0.93 for the years 2004 to 2006. These numbers are an indicator of how efficiently the company manages the available capital. To illustrate one can say that in 2004 every NOK 100 spent would generate NOK 5 in earnings. But for 2006 every NOK 100 would cause a loss of NOK 2.30.

The profit margin is a measurement on the size of the earnings, in percentage of the turnover before tax costs. For Art Nor AS the numbers were positive in both 2004 and 2005, but fell to negative 2.71 % in 2006. If a company has high fixed costs, the profit margin will normally be quite low. In most industries a profit margin between 5 % and 15 % is considered to be normal.

To explain the interest coverage ratio economists generally operate with a 1/3 ratio. This implies that the financial costs should never exceed 1/3 of the financial incomes and turnover. Art Nor had an excellent interest coverage ratio in 2004 and 2005, but fell to negative coverage ratio in 2006 due to investments in the production plant in Silsand.

Return on equity shows the profit the shareholders gain on their equity. This formula can give a biased picture of the situation in a company, if this is not

94 Investopedia, “Asset Coverage Ratio”
95 Dun & Bradstreet, “Tolkningsguide – DB Standard”
96 Purehelp, “Nøkkeltall, Art Nor AS”
seen in connection with the other numbers in the economic report, such as the shareholder equity ratio.

(For illustrations, see Appendix 6, Figure 10)

4.1.2 Financing

Dept Ratio is a measurement of how large the debt is in comparison to the shareholder equity. It gives an indication of how well the company can handle losses before it weakens the ability to pay its liability. A debt ratio of 1 means that the debt is equal to the shareholder equity and a high debt ratio increases the sensitivity towards fluctuations in the interest rate. As shown, the debt ratio has increased over the last 3 years. In 2004 their debt equity ratio was 29.5%/70.5%, for 2005 it was 81.5%/18.5%, and for 2006 it was 82.5%/17.5%.

In this case, loss buffer is the calculated shareholder equity as a percentage of the company’s turnover.

It is also a measurement on how much equity the company has. Under the assumption that this year’s turnover will be the same as last years, the loss buffer indicates how large a deficit (in percentage of the turnover) the company can uphold before the shareholder equity is depleted.

Shareholder equity ratio explains calculated shareholder equity in percentage of total capital. This ratio is used to determine how much the shareholders would receive if the whole company was to be liquefied, and the percentage represents the amount of assets the shareholders has a claimed. In this case that would result in NOK 8,405,964 (37.80% * 22,238,000),

When calculating the asset coverage ratio one should keep in mind that the book value of total assets can give a somewhat misleading ratio since the liquidation value might differ from the former. It is considered as a rule of thumb that industrial companies (such as Art Nor) should have a ratio of at least 2. This is not the case for Art Nor, even though it has improved greatly in 2006 compared to 2005.

(Illustrations shown in Appendix 6, Figure 11)
4.1.3 Liquidity

Liquidity is used to determine a company’s ability to pay off short-term debt. The higher the ratio the company has, the larger the margin of safety they have to cover their short-term debt. There are two types of liquidity;

The liquidity of Art Nor was rather poor in 2005 due to their investments, but as seen in appendix 6, figure 10, they have almost recovered to the level prior to the investments.

Art Nor has a liquidity ratio of 1, which means that the company has just about enough current assets to cover their short-term debt obligations. However, Art Nor’s liquidity ratios of 1.94 (1) and 1.53 (2) prove that they will not have problems covering their short-term debt.

This is a measurement in NOK on how much more current assets the company has, compared to the short term debt. If this is negative then the company has a strained liquidity

In 2005 Art Nor invested in a new production plant and this explains some of the changes seen in the financial statement for the years 2005 and 2006. Some factors are influenced more than others, especially debt ratio, shareholder equity ratio, profit margin, return on assets and interest coverage ratio, and of course the liquidity. Their financial- and operating costs have increased and this alone is enough to explain the deficit in turnover in 2006. One must also consider that it might take some time before the investment becomes profitable, and even longer before it breaks even. But even if they continue to operate with a deficit of NOK 555 000 annually, they will not have depleted their equity until 15 years from now.

(Illustrations shown in appendix 6, Figure 12)

The prices of the products will be shown below. These prices include shipping and 7 % GST.
<table>
<thead>
<tr>
<th>Product</th>
<th>Price in S$ per Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salmon Natural in portion</td>
<td>30,35</td>
</tr>
<tr>
<td>Pepper Salmon in portion</td>
<td>33,15</td>
</tr>
<tr>
<td>Bacalao Vizencia 450 g</td>
<td>16,50</td>
</tr>
<tr>
<td>Bacalao Vizencia 2,5 kg</td>
<td>14,70</td>
</tr>
</tbody>
</table>

*Figur 5 Prices for Art Nor products in Singapore*

Exchange rate as of 9.06 am 03.april.2008: 0.27 NOK 100 = S$ 27

### 4.2 VRIO Analysis

#### 4.2.1 Introduction

The VRIO analysis is used to determine a company’s core competencies and measure how strong these competencies are.

“The difficult managerial decisions concerning recourses, capabilities, and core competencies are characterized by three conditions: uncertainty, complexity, and intra-organizational conflicts. (…) Biases about how to cope with uncertainty affects decisions about the recourses and capabilities that will become the foundation of the firm’s competitive advantage.”

Not all recourses and capabilities are core competencies in a company. This analysis will take a closer look at Art Nor’s capabilities, resources and competencies.

#### Creating value

The value that is created for the customers is what ultimately creates value for the company. This is given through the product characteristics and attributes that customers are willing to pay for. Art Nor is providing the customers, be it the HoReCa customers or the end consumers, with a time saving cooking method that gives excellent food quality which is tasteful and nutritious.

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4.2.2 The Analysis
To be able to detect Art Nor’s core competence, one must separate between Art Nor’s resources and capabilities. Furthermore, a resource is divided into tangible and intangible resources, while capabilities are the firm’s ability to capitalize from these resources.\(^9\) Secondly, the framework asks the overall question: Is the competence valuable, rare, imitable and well organized?\(^10\)

**Intangible recourses and capabilities**
The human resource of knowledge on sous vide production that Art Nor has established is a Valuable capability. Art Nor’s range of products is focused around seafood. Since processing seafood sous vide is more difficult than processing other meats in the manner. Art Nor’s knowledge on this processing is a capability that others might not have. As far as the research goes it can not identify any other specific company that produces Norwegian seafood using the sous vide preservation technology. This method is not new, but it is new to the extent that it is not widespread today.

As mentioned, the company possesses valuable knowledge on this production method and they constantly try to further develop their products. This means that the company might be able to neutralize threats from competitors. The knowledge Art Nor has on sous vide is also a rare capability in terms of the number of competitors. We haven’t found any direct competition in the Singapore market for sous vide today. Therefore this can be a source of competitive advantage to Art Nor in Singapore.

The knowledge of processing food sous vide in general is not very costly to imitate, especially for a large corporation. The cooking method has been known since the 1970s, and all details on how the process takes place, are revealed. But if the R&D department in Art Nor is well developed, and future products requires specific education or competencies, their knowledge can be costly to imitate. Whether the knowledge on seafood sous vide is well

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organized or not is hard to say, as no information on the organizational structure of Art Nor has been given. However, since they have been successful in the domestic market, one can assume so. Such knowledge is easy to substitute, in terms of knowledge on frozen food, fast food and other types of food.

**Tangible resources and capabilities**

Technology and raw materials are two of Art Nor’s main resources. The technology behind sous vide is a physical resource, in terms of sous vide processing machines. This gives them the capability of producing high quality Norwegian seafood products, with side dishes that takes approximately 5-10 minutes to prepare. Their raw materials are all from north of Norway, and the products have received professional food evaluation from both consumers and the Norwegian foundation Culinary Institute of Norway\textsuperscript{101}, who expresses ”high quality for Art Nor’s products”.\textsuperscript{102}

These resources are valuable because there are no other Norwegian seafood products on the market today made sous vide. This gives Art Nor the opportunity to exploit the market and achieve first mover advantage if entering the right market at the right time.

The processes of manufacturing are in constant development through innovation. Still, the technology behind sous vide is not rare, as it has existed since the 1970. It is neither costly to imitate, since it would require low R&D costs to come up with the same technology today. This technology is non substitutable in order to make sous vide products.

Additionally for the sake of raw materials, this resource is valuable in the sense of being the foundation of Art Nor’s products. The resource is rare and costly to imitate since Norwegian seafood is seen as prime quality, but it is not

\begin{footnotes}
\footnotetext{101}{www.gastronomi.no/en/}
\footnotetext{102}{Art Nor, ”Produkter,”}
\end{footnotes}
non-substitutable and can easily be replaced with other seafood or food products.

Having analyzed what is recognized as Art Nor’s main resources and capabilities, the following diagram is the result of the VRIO analysis;

<table>
<thead>
<tr>
<th></th>
<th>Is the recourse or Capability Valuable?</th>
<th>Is the Recourse or Capability Rare?</th>
<th>Is the Recourse or Capability Costly to imitate?</th>
<th>Is the Recourse or Capability Non substitutable?</th>
<th>Competitive consequence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Knowledge</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes/No</td>
<td>No</td>
<td>Temporary competitive advantage</td>
</tr>
<tr>
<td><strong>Technology</strong></td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Temporary competitive advantage</td>
</tr>
</tbody>
</table>

Figur 6 VRIO Scoreboard

4.2.3 Core competence conclusion
A firm’s core competencies are what contribute the most to create customer added value.

The VRIO analysis shows that Art Nor’s core competence is their knowledge on sous vide. The way they combine this knowledge and the technology behind sous vide, with innovation and product development, is what creates value for the customers. This gives them a temporary competitive advantage. It is only a temporary competitive advantage because it is not very costly to imitate nor non-substitutable. Meaning that, if other companies want to explore the opportunity of becoming a manufacturer of sous vide products, it will be difficult to hinder them from doing so.

4.3 The ACE Model (is Art Nor prepared enough?)
This analysis consists of three components: attitude, competence and embodiment. The ACE model is a framework that aims to show if a company is organized and focused towards exporting. It does not, however, give an absolute answer to whether the company will succeed or not.
Nevertheless, this model will analyze how well prepared the company is to move into another market, and whether it is ready for export or not. The purpose is to find out whether the management, and the employees of the company, have the proper attitude towards export. This will affect the company’s decision making. Examples can be the attitude towards risk taking, whether they are market oriented or not, in addition to their attitude towards other cultures. Art Nor have stated their willingness to produce Asian dishes if this is what the Singapore market wants. Initiating this market research is another example which indicates the attitude within the company’s management.

Embodiment identifies whether there is an agreement regarding which goals the company should focus on, and what they should do to achieve them. Art Nor has defined France, Finland, Sweden, Spain, Belgium, Luxembourg and Germany as potential markets. The fact that the company is exploring the market potential in both Spain and France in addition to Singapore shows their interest in expanding their market.

Art Nor has set specific goals regarding internationalization. One is to have a known brand in the European HoReCa market within three years, and they have a goal of exporting 260 metric tons annually, of seafood produced sous vide, within 2010. A specific plan has been set as to when the different stages in the internationalization process should be accomplished. This would not have been done if they did not have the proper attitudes towards export. As to the embodiment, it is suitable to claim that the whole company knows what is at stake, and are dedicated to succeed with their plans of internationalization.

When addressing the competence of Art Nor, the company has been working on sous vide for a number of years. They have stated their capability of making Asian dishes or preparing Asian cuisine products. The fact that they are a relatively small company makes them flexible. Therefore, they can easily adapt to changes in the market conditions and customer preferences. Their knowledge about, and expertise in, utilizing the sous vide technology is considered Art Nor’s core competency.
Conclusively, Art Nor is market oriented and consequently accumulating the necessary knowledge, through cooperation with students from Norwegian School of Management, stationed in different countries, to successfully move into new markets. They seem highly devoted to their goals of internationalization, and it appears to be consistent throughout the company. Their knowledge on sous vide, and expertise in utilizing it, will be one of their main strengths, and should be leveraged on throughout the whole internationalization process, together with their flexibility. The analysis supports a belief that Art Nor could successfully enter the Singaporean market, if the market conditions prove to be favourable, but that will be up for discussion later in this report.
Chapter Five :: Analysis Summary
**5.1 Weighted SWOT Analysis**

This framework will identify the most important strengths and weaknesses, opportunities and threats for Art Nor. The SWOT will be weighted to better identify whether the company stresses the strengths that are of most importance in the market, and the seriousness of threats and weaknesses.

### 5.1.1 Strengths

Those of Art Nor’s strengths which is most comparable with the importance for that strength in the market, is their knowledge on sous vide, their ability to make product changes and developments, and their access to raw materials. The knowledge on sous vide processed seafood, as discussed in the VRIO analysis, is one of Art Nor’s core competencies. This is highly important in the market because it contributes to a competitive advantage towards competitors. Art Nor is flexible in terms of product customization. This is urgent when entering new markets, as different clients might demand small changes made in different products. High quality Norwegian seafood is the foundation of Art Nor’s products, and the company has easy access to these resources. This factor is important in the market, as it creates competitive advantage in terms of product quality.

<table>
<thead>
<tr>
<th></th>
<th>Score</th>
<th>Importance in the market</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strengths:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- knowledge on seafood sous vide</td>
<td>5</td>
<td>5</td>
<td>Core competence</td>
</tr>
<tr>
<td>- technology</td>
<td>4</td>
<td>3</td>
<td>Urgent when expanding to new markets</td>
</tr>
<tr>
<td>- ability to adapt to change in customer demand</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>- Management attitude and motivation toward internationalization</td>
<td>3</td>
<td>3</td>
<td>“Prime Norwegian salmon”</td>
</tr>
<tr>
<td>- Access to raw material</td>
<td>5</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>
5.1.2. Weaknesses

Art Nor’s greatest weaknesses are identified as having very restricted financial resources, lack of international experience and restricting themselves to one product category. When entering international markets, Art Nor should be prepared to suffer financial losses in the initial phase. Examples are investments in distribution channels, promotion of the products and establishing presence in the market. Art Nor is in the first stage of becoming an international company. According to the ACE analysis, the management and the company as a whole has the right attitudes and motivation to succeed. However, the lack of experience might cause problems when setting international strategies and goals, deciding entry markets and making similar managerial decisions.

<table>
<thead>
<tr>
<th>Weaknesses:</th>
<th>Score</th>
<th>Importance in the market</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Small company</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>- Restricted finance</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>- Little or no international experience</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>- Restricted to one product category</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

The weighted scale of the strengths and weaknesses ranges from: 5 = significant strength, 1 = significant weakness
5.1.3 Opportunities

As mentioned in the external analysis, one of the greatest opportunities for Art Nor in Singapore is to enter the market if the labour costs increases. Since the Singaporean market is very price sensitive, this is an opportunity for Art Nor to become competitive on price. Another opportunity is to target niche segments, and diversify themselves from the established companies, by delivering nutritious frozen foods of high quality into the market. As stated earlier in the report, the food industry enjoys a growth of about 4 %, while also reaching a mature stage of development, making niche products more attractive in the market.

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Probability</th>
<th>Attractiveness</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Increased labour costs and labour shortage</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>- Singapore as an &quot;export hub&quot;</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>- First-mover advantage</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>- Market growth</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Figur 9 SWOT Opportunities

The scale of opportunities and threats ranges from: 3= very likely 1= not very likely

5.1.4 Threats

There are a significant number of established seafood companies in Singapore. These companies have better knowledge on the Singapore market. They have already established distribution networks, direct contact with customers, and a better opportunity to monitor market- trends and changes. If these companies discover an opportunity for sous vide in Singapore, and by that start producing sous vide products, they will have a significant advantage in terms of better
market knowledge. The price level on food in Singapore is very low compared to Art Nor’s current markets, and might impose a challenge to be able to be competitive in Singapore.

<table>
<thead>
<tr>
<th>Threats</th>
<th>Probability</th>
<th>Degree of gravity</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Established companies in Singapore start production of sous vide</td>
<td>3</td>
<td>3</td>
<td>If Singapore “accepts” sous vide</td>
</tr>
<tr>
<td>Low Price</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Strong competitors</td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

![Figur 10 SWOT Threats](image)

The scale of opportunities and threats ranges from: 3 = very likely 1 = not very likely

**Conclusive comments**

The result from a weighted swot is necessary to determine which strengths, weaknesses, opportunities and threats Art Nor should focus on, and which to not.

Art Nor’s definite strength is their knowledge on processing seafood sous vide, and their greatest weakness is their limited financial resources. As for the biggest opportunity it is difficult to predict what happens in the future. Still, our analysis and expert interviews shows that an increase in labour costs could be one of them, which will create a greater opportunity for sous vide in Singapore. Furthermore, our analysis shows that the biggest threat to Art Nor is the danger of competing companies starting to produce sous vide products.

(For illustration of weighted swot matrix, see Appendix 7, Figure 13-15)
Chapter Six :: Methodology
6.1 Introduction
To better understand the market potential in Singapore for sous vide there was a need for primary research. This was done in two stages. Firstly, three experts were selected to provide information on the sous vide market in Singapore. These three represented the three different industries hotel, restaurant and catering, which is the target market for Art Nor. Secondly, after retrieving valuable information, two focus groups were conducted to identify attitudes towards sous vide products. It was important to incorporate the end consumer to get the overall view of the potential for sous vide in Singapore. Seeing the differences and similarities between the two research parts was also important as it made the conclusive findings more apparent.

6.2 Expert Interviews
The expert interviews gave important information on the market for sous vide in Singapore. The outcome was valuable industry insight which provided information on how the market operated, general product information, production costs and other factors that would affect a potential launch of sous vide products in Singapore. This gave more depth to the overall analysis of the market potential and identified critical issues which could lead to a failure if entering now.

Research design
An exploratory design technique, by collecting relevant data through expert interviews, was used to gather information about the seafood market.

Sample design
The target population for the research were people with relevant knowledge on sous vide who were in all of the three industries in Singapore, working with seafood. The importance of interviewing the right people was stressed, because it would be crucial for retrieving useful information. The selection for the expert interviews was done by sending out e-mail requests to food
companies in Singapore, which would be relevant for our research. The reason for choosing this sampling was the importance of interviewing the right people as well as low-cost.

**Field Work**
The fieldworkers in this study consisted of four NTU/NSM BI students specialized in international marketing. The draft on the research was verified by the supervisor at NTU for this research project. The interviews were conducted in the different interviewee’s respective offices. The expert interviews ranged from 45 minutes to 70 minutes in length.

**Data Collection**
The three expert interviews were done with the following participants;

- *Snorre Food Pte. Ltd*, represented by Mr. Frank A. Naesheim, Managing Director and Mr. Hugo E. Schwartz, General Manager Executive Chef in Airline Catering
- *Fassler Gourmet Pte. Ltd*, represented by Mr. Martin Fassler, Managing Director
- *Grand Hyatt Singapore*, represented by Stig Drageide, Executive Sous Chef

The questions were open-ended, trying to reveal their knowledge about sous vide in Singapore, the potential for such a product and what factors would affect a potential entry of the sous vide products. All the interviews have been audio taped.

**6.3 Analysis of expert interviews**
In the analysis, the findings have been categorized into different subjects, in order to better see the answers given by the respondents.
6.3.1 Findings regarding product

The first topic to be discussed was sous vide as a product. All interviewees had knowledge on the technology, and most of them had experience in working with it. The general opinion of the product quality was positive. However, some concerns were stated about preparing fish sous vide.

Stig Drageide stated: “food that is prepared sous vide must be quality secured and it depends on the manufacturer, and sous vide does not give a product less quality. Like a steak filet, with uneven thickness, can be cooked at the same quality within the whole filet, so you would have less waste”

Mr. Drageide points out the difficulties with seafood sous vide by a further statement: “it is more delicate and sensitive in the cooking process and you will notice a difference in the quality compared to frying or boiling the fish. The texture of the fish fillet might be compromised in sous vide cooking so for fish it might not be optimal. Maybe even when defrosting the fish a lot of the juice will be lost”

This implies that processing fish sous vide can be more difficult than with other meats.

Furthermore, product safety was brought up for discussion. All interviewees considered sous vide safer than regular cooking, if the process is done in a controlled environment. This is illustrated by Mr. Frank A. Naesheim: “One thing that counting for it is that it’s convenient and food safety is good, and it’s easy to document the food safety when using sous vide, and the more scare you have of bird flu or mad cow disease and other things like that, will make it better if you can document that the food was prepared safely and is not opened on the way to the customer”

When doing seafood in Asia, the interviews pointed out the importance of product customization. This is due to the distinctive taste of the Asian cuisines. Products specifications that suit the customers’ needs are important. This
might be a challenge for Art Nor’s sous vide products in Singapore. Since all marinades and other customizations are added before the product leaves the factory, it becomes very difficult for the potential customer to make changes to the product.

This was highlighted by Mr. Naesheim: “If someone want to do it here, they will have to think in an Asian way not western or European regarding what goes into the packages, size, slice, vegetables, seasoning, the whole package have to be made for the Asians.”

Mr. Fassler also mentioned this customization as important; “hotels here they are really funny. Each one must have their own, that’s why we now do portion cut business. We have pretty much all of it, because we go totally custom specific. We do from slant cut 20 grams, to center cut 300 gram portion, whatever. For standardized products, factory style, you will have to first see what the customer actually want, what size.”

6.3.2 Findings regarding market potential
High-end hotels will not be suitable for sous vide. Markets with high volume might be more suitable. Mr. Drageide gave an example of airline catering being a possible market for sous vide products.

“I cannot say that there is no market for this product in Singapore but maybe not for the five star hotel and restaurants. The target group is essential for this product to succeed, maybe in airline catering. But they might require certain sizes on the filets.”

However, Mr. Schwarz stated that airline caterings use too much time from preparation until serving. This might cause the meals to be spoiled. Furthermore, he states that if sous vide products are stored for several hours after being cooked it might be overcooked during the time of storage.

Moreover, Mr. Fassler mentioned restaurant businesses as a more volatile market than catering and hotels.
“If you target restaurants, you will see that the restaurant business is not a very steady business, restaurants come and go. Most of the time, we have to charge cash because it might be closed the next day. Even if the food is great, the rent is killing them. Price is what it all boils down to”

6.3.3 Findings regarding price
All four participants mentioned price as a key factor. Mr. Fassler states that: “Sous vide is more expensive, and even though it brings down your labour cost it brings up your food cost, but that is one thing where I think a few previous research where they failed. The cost came up too high even though you save a lot of labour but your food cost (…)”

Snorre Food also mentioned the cost as important, and that sous vide can not compete with fresh food as of today in Singapore; “The cost aspect is important for them, they compare the cost of the raw materials with the cost of sous vide and now the gap is so big that they wouldn’t consider it.”

Since sous vide can be used to reduce staff, this will have an impact on cost, and using this product makes up for costs of using chefs. This saves time and remuneration. This was stated by all the expert interviewees.

6.3.4 Findings regarding costs
Mr. Fassler discussed whether a Norwegian company could compete on price and used an example from his own company to illustrate the labour costs in Singapore. He was sceptic to a Norwegian company being competitive on price due to high production costs in Norway.

“If your prices are comparable with substituted, or just a bit higher, then you have an advantage. I’ve been in Norway 4-5 years ago and it was a real eye opener, I have a staff of 51, and most of the cost me less than S$1000 a month for a 5 day week”
Mr. Frank A. Naesheim claims that using sous vide products will help the hotels and restaurants save money, because they do not need a storage area as large as usual. He also mentions that this seems to be a general trend in Asia since the land cost goes up, and then they have to think of new ways to save money.

6.3.5 Findings regarding labour shortage
There were some concerns that Singapore as a market is not receptive towards sous vide products. But the labour shortage is increasing, especially in commercial kitchens, both due to other markets attracting them, such as Dubai, but also the big integrated resorts that are currently being established in Singapore. They will employ 800 people in the kitchen and will lead to further shortage.

“(…) open they need 800 people in the kitchen (…). As long as you have cheap labour sous vide will probably fail, but as soon as the labour cost is like in Europe then... the higher the labour cost the higher the chances that the industry will accept this product, and I think timing is good, labour charges is going up so fast especially with the casinos opening.”
This is stated by Fassler. By good timing, he means within the next few years, as the integrated resorts open and the overall HoReCa climate have matured even more.

Additionally he pointed out a possible upcoming labour shortage in the hotel business. He said that there were twice as many people working in commercial kitchens around 10 years ago.

Mr. Drageide added a comment which supports Mr. Fasslers thoughts on labour costs.

“(…) Singapore produces nothing and everything is imported so what they have is work force. And work force here is cheap now this might change for the chef’s profession. All sorts of products come through her to all over this region so the right segment might be here.”
Conclusions drawn from the expert interviews
The interviewees were overall positive to the idea of sous vide in Singapore, but this was in the long term. In the immediate future this will be difficult according to the interviewees. However, in a few years the potential customers will be more receptive to sous vide seafood products. Higher labour costs and labour shortage might lead to a higher potential for such products in the future, since it can lead to a lower need for professional employees in commercial kitchens. This is the overall perspective from all of the respondents.

Conclusively one can argue that there were three main findings;

- Price focus in the industry
- Need for product customizations
- Timing of the entry

Generalization
The expert interviews are based on individuals providing their views and information on the Singapore market. Some of the information can be confirmed through secondary data. However, some can only be based on their verbal statements. In addition, their assumptions can not be tested. Nonetheless, being experts operating in the Singapore market, these statements can be used as a part in the conclusion in this report.

6.4 Focus Groups
The focus groups were conducted after doing the expert interviews, which allowed the agenda in the focus groups to become clearer, thereby achieving a better flow and information gathering from this stage. They were shown a video on sous vide, and the session involved discussions around several aspects of the product shown such as attitude, price and health concerns.
Research Design
An exploratory design technique was used to gather information on the consumer's attitudes and knowledge about sous vide. Focus groups allowed us to get the overall meaning from the end consumers. It also made it possible to see these attitudes in connection with the expert interviews and to get some thoughts on how sous vide will be accepted in the market.

Sample Design
The target population was decision makers in their respective families. This was the one important criterion for the participants. By doing so it would help in showing the attitude of the people buying food products to the family. Convenience sampling of the population were used for the focus groups, by advertising in Cold Storage and using posters around Singapore. The reason for choosing such a sampling was time restraints and cost factor.

Data collection and field work
The fieldworkers in this study consisted of four NTU/NSM BI students specialized in international marketing. The draft on the research was verified by the supervisor at NTU for this research project. The group discussions were held at a conference room at NTU Alumni club in Buona Vista. Duration was about 30 minutes on average.

The two focus groups comprised of decision makers with different demographic variables. There were five females and two males in total, and the age ranged from mid 20 to 70 years.

For accurate information to execute the analysis, the respondents needed to be educated about this food preparation method in order to give any useful answers to the survey. The participants in the focus groups were all educated on sous vide through a video shown before the discussions.

All questions were mostly open-ended to get the in-depth opinion and attitudes from the respondents without influencing the responses with leading questions. All the interviews have been audio taped and in addition, the focus group
discussions were video taped to ensure that all information was gathered properly.

6.5 Analysis of focus groups
In this analysis the findings has been categorized into different subjects in order to better see the answers given by the respondents.

6.5.1 Findings regarding overall knowledge
The participants were overall not familiar with the cooking method sous vide. Still, there were two exceptions. In focus group 2, Marcus mentioned “I don’t think this is something new, I think it was tried back in the 60s”. In focus group 1, Katherine stated “it sounds very impressive, but I’ve actually seen this before. Yeah, when you actually cook with the plastic bag”.

Despite of this, all participants had to be educated about sous vide before being able to make a statement on this type of food processing.

6.5.2 Findings regarding safety issues
The participants’ emphasized great concern in using a plastic bag when cooking food because of toxins. They stated that this would be one of their main safety issues.

Caroline showed great concern with the use of the plastic bag. “(...) but what I’m concerned about is the safety issue (...) over here, we don’t put things in a plastic bag, we know about the safety reason (...) so is the food still safe to eat? That’s the main concern I have.”

Ms. Tan agreed with Caroline: “We are worried (...) all of us are thinking it is dangerous.”

The combination of food and plastic might make the participants hesitant from buying such products.
6.5.3 Findings regarding price
The participants tend to be price conscious, and said that price would be one factor that would influence the decision of buying sous vide products or not. One example is Katherine’s statement in focus group 1: “If it is above 8 dollars, I would hesitate. And 1 portion is for 1-2 persons? So for a family it would be 30-40 dollars? That’s kind of expensive”.

Caroline had a similar perception: “yes it would be very expensive, cause it is imported... so I think it should cost a bit.”

6.5.4 Findings regarding fresh versus pre-cooked food
Other key findings that surfaced during these sessions were that the participants generally preferred fresh raw material over types that were already prepared in some way. They also expressed concerns regarding the nutritional value of sous vide products since they perceived it as a variation of already existing ready-to-eat meals. The participants in the focus groups stated that it is safe if the meal was prepared with the expertise of a chef.

6.5.5 Segment attraction
One topic that was mentioned was what type of segment sous vide would appeal to. Marcus said; “But I think for busy urban life people, who are looking for a fast cooked solution for a meal... I think it would be an option for them”.

Fulin also stated: “I think it would appeal to the working adult... you know now they don’t have the time to exercise... and a fast cooked meal, healthy, would sell, probably in this aspect”.

Adding to the issues that could cause sous vide failure in Singapore, is the fact that food is so convenient and easy accessible in Singapore. Food is everywhere, and it is ready to go. As Katherine stated: “Another thing is, on days I don’t want to cook, Singapore is so convenient. I just go downstairs (…), there’s food everywhere. You can go everywhere to get food. Food courts
and such, even at midnight downstairs, the food store is open. For 3 dollars I come home, filled, warm, and I don’t even have to do wash up my plates”.

Conclusions drawn from the focus groups
From our focus group study we can report a set of key findings. Singaporeans have an initial negative perception of the “sous vide” concept. Our focus group study shows that end consumers would hesitate on a request of buying sous vide products. It would be important for the company to transform and change this mind set of Singaporean customers’. This study highlights safety issues, quality, price and convenience as key success factors.

The participants also discussed some possibilities that could make sous vide a success in Singapore. They mentioned that the product should be launched as a healthy and nutritious product, rather than a pre-cooked meal, since pre-cooked meals are perceived as having a lower quality than fresh foods.

Statements and key findings are indicators for what opportunities and challenges Art Nor would face if introducing sous vide in Singapore, when it comes to the end consumers attitudes for or against the products.

When analyzing these statements, one can say that, by excluding all other factors, there are possible segments for sous vide in Singapore. This segment is described as “working adults without children”.

Generalization
The focus groups are not representative samples of the population. Therefore the results can not be generalized from this study. This means that the attitudes and perceptions described by our focus group participants might not harmonize with the general public. The results are only guidelines towards trends and attitudes among end consumers.
6.6 Results
The findings showed very similar results from both the focus group interviews and the expert interviews, and it might all narrow down to the price on the product for the Singapore market. However, it still looks like there are market possibilities in Singapore. Such market opportunities might arise if the company have enough resources to educate their potential customers on the benefits and necessity of their sous vide products, compared to what they are using today. When the labour costs of employees in Singapore increases, it might be more interesting to use such a product that doesn’t require expert preparation and that can cut costs for the companies.
Chapter Seven ::
Recommendations, Conclusions
and Future Research


7.1 Discussion
On the basis of the findings in this report several challenges for Art Nor have been identified. The information gathered from the expert interviews indicates that Singapore might not be receptive to sous vide products at the moment, but all the expert interviewees stated that, in the event of rising labour costs, sous vide would become a serious competitor to traditional methods of preparing meals. The reason given was the labour saving aspect of sous vide compared to other ways of cooking. This brings us to the price aspect which is the main reason they did not believe sous vide would catch on in Singapore. Easily accessible raw material and relatively low labour costs makes it cheaper to produce most meals from scratch compared to using pre-cooked products such as sous vide. Their general consensus was that the labour cost has to increase to a certain level before companies in the HoReCa market will adopt sous vide as their main way of preparing meals. The price comparison analysis confirms the assumption of sous vide being more expensive than other seafood.

The presence of large companies catering to the HoReCa market will also be a major challenge for Art Nor if they decide to enter the market. They will have to exploit a theoretical first mover advantage to the fullest to be able to compete with the companies already present. Some of these are large international corporations with the financial backbone and capabilities to quickly move in with sous vide products, if the market requests it. A downside of being the first company to move into a market with a new product is the costly and time consuming process of creating customer awareness, product – and user knowledge, and convincing them of the superior benefits of the product.

If Art Nor does not exploit the first mover advantage, it can be both positive and negative. One positive aspect is that another company has already educated the market about the product, and therefore Art Nor does not have to bear this cost. Negative aspects can be that the companies already in the market have established customer loyalty and this will make it difficult to penetrate the market. If customer loyalty is not an issue, then the established
companies will defend their market shares vigorously, and possibly engage in a price war to prevent Art Nor from getting a foothold in the market.

Singapore is an attractive and fruitful market that catches the attention of foreign investments due to political stability, favourable macroeconomic conditions, low barriers of entry, and a general pro-business environment.

If entering Singapore, Art Nor will most likely not face any legal obstacles. This is supported by the Singapore government’s foreign investment policies, and the Free Trade Agreement between Norway and Singapore. However, this is not only favourable for Art Nor, but for potential competitors as well. Since Singapore is highly trade dependent, the low entry barriers is not an opportunity unique for Art Nor.

A trend discovered from the focus groups is that the participants were generally sceptical towards sous vide products. This relates to safety consciousness, price sensitivity and product unawareness. However, as they gained knowledge about the product, they became more positive towards trying it. This might reflect the product adoption process if launching sous vide in the Singapore retail market. Education of customers through promotion will most likely affect the customer’s perception.

In terms of industry rivalry, this report shows that the Singapore seafood market is a though market to compete in. Being a small foreign company entering Singapore, several challenges will arise. In a mature market, such as seafood, both opportunities and threats will surface. To cope with these challenges at an entry stage, a company must diversify in such matter that the threats will be neutralized, and the opportunities exploited. Due to the high intensity rivalry one can assume that the players in the market will be highly responsive in terms of changes in market demand. This implies that a shift towards demand for sous vide products will be monitored by competing firms. This is a huge threat to Art Nor, as they will lose their competitive advantage when the prospective emerging sous vide market is attacked.
Distributors and competitors are hard to separate in Singapore. Many of the companies are wholesalers and distribute products around the market. To Art Nor this means that when looking to enter the market through distributors they need to be aware of the potential dangers of contacting them. If the company has intentions of launching sous vide products the interest from Art Nor might give them the courage to speed up the process, and deprive Art Nor of a possible first mover advantage.

### 7.2 Recommendation

The recommendation in this report is very dependent on future trends and changes in the market. Today’s market situation indicates that Singapore is not ready for sous vide yet. However, if the predicted changes regarding the labour situation will occur, it is believed that the market conditions will be more favourable in a couple of years.

Thereby Art Nor should consider entering Singapore in the near future, to get hold of a possible first mover advantage. Monitoring the seafood industry will be essential, and timing of entry is a key factor. This timing is balanced by:

1. **Market readiness and labour costs**
   
   When the remuneration costs in the HoReCa market exceeds the costs of food and beverage, it might be profitable for them to invest in sous vide, in order to lower their total costs.

2. **Assumptions of competitors launching sous vide products in Singapore.**

   The first company to launch seafood sous vide will have a first mover advantage. Depending on whether Art Nor wants to be first mover or market follower, will affect how long they can afford to wait to enter the market.

### 7.3 Limitations

It was difficult to find relevant secondary research on sous vide in Singapore since the technology is not present in the market. The number of respondents in the interviews should preferably have been higher, but it was difficult to get participants. Many requests for interviews were sent out, and only the
beforehand mentioned replied. However, the interviewees that did contribute were very helpful and provided much needed information. Interviewing more experts would have led to more information to draw conclusions from.

We recognize that the number of participants in the focus groups is not as high as desired. For this reason we would be careful of generalizing the results to the entire population. The respondents were given 25 $SGD for participating. This might have motivated them to contribute for the wrong reasons. However, such an incentive was necessary to attract people. Initially, getting hold of participants for the focus group study was much more difficult than expected. Also, dominant participants in the focus groups might have influenced the response from the others.

We can not generalize the results from this research study.

7.4 Future research
For future research it is recommended going deeper into the HoReCa market. The market in Singapore has a perception that the seafood products sous vide does not hold the quality they desire. In addition the products are not thought to be competitive in price, due to the low labour costs in Singapore and low costs on raw materials. Therefore it might be important to do further analysis of trends in the market, either through more primary research or secondary research. This is to identify changes in costs for commercial kitchens. New trends can be identified by conducting more interviews at a later stage.

It is also recommended that Art Nor does further and deeper research on the Singaporean end consumer’s perceptions and attitudes towards their products. However, such a deeper research requires the respondents to be educated on sous vide to be able to make an accurate statement. The next step could be an introduction of product samples, followed by a survey on how customers perceive their product. This way Art Nor can get a view of the general Singaporeans’ attitude towards making food with the technology of sous vide.
Even if Art Nor focuses on the HoReCa market, the end customers’ attitudes is important to bear in mind, as retail might be an interesting market as well.
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