EU-Japan Centre
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BIOSMED CONSULT

NUTRACEUTICALS AND FOOD SUPPLEMENT SECTOR IN JAPAN-OPPORTUNITIES FOR EUROPEAN PRODUCERS?

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Executive Summary

This report presents the current market situation and the main actors in the nutraceutical sector World Wide, with a particular focus on the functional food and beverages industry in Japan, including the market access issues and the business opportunities for European companies. The specificity of the Japanese market is presented in general context of the worldwide industry performance and consumption trends (US, Europe and Asia-Pacific).

The rationale of the Report is based on the fact that the European nutraceuticals to Japan have recently benefited from a steady growth but awareness of current market trends and consumer segmentation is vital to continue this expansion through targeted marketing efforts. Therefore, the Report attempts to provide some guidelines to the potential exporters to Japan on how to adapt their offer (product size, taste, contents, ingredients, packaging and labeling) to match the Japanese market's expectations as much as possible.

The Report is centered around the fact that, despite the general stagnation of its economy, the health food and beverage industry in Japan is one of the few sectors that shows a continuing growing trend in the context of its ageing demographic profile, and therefore, it is a sector of high potential for foreign exporters. Therefore, the Report presents the necessary information elements for drafting a market entry strategy in the health and functional food sector in Japan.

The Report highlights the fact that Japan has a highly sophisticated and mature nutraceutical market, where imported products are present throughout all distribution channels including retail, foodservice and institutions. The report further indicates that the health and functional food sector in Japan covers an extensive range of products, from unprocessed fruits to raw ingredients for supplements, and affects all market operators, whatever their product line. The Report also highlights that innovation and introduction of new items with different health benefits at a regular and quick pace are keys for meeting the needs of the Japanese consumers who are highly concerned by quality and safety of food in general, and nutraceuticals in particular.

The Report is structured as follows:

Chapter I offers an overview of the global nutraceutical markets scale and significance
Chapter II state the overview of international nutraceuticals market
Chapter III highlights key drivers, constraints and future trends, assesses the market size and sectors breakdown, regulatory, distribution channels, technology of the international nutraceutical market
Chapter IV presents the current nutraceutical market situation in Japan, the major actors as well as consumption trends, consumers segmentation, quality and convenience of distribution networks, exports, price.

CHAPTER I : INTRODUCTION

NUTRACEUTICALS: SCALE AND ECONOMIC SIGNIFICANCE

The nutraceutical industry represents a dynamic, evolving entity that offers novel opportunities to merge scientific discovery with growing consumer interest in health-enhancing foods. It tracks and monitors consumer trends, thus the products of this industry can represent a direct response to their demands. The nutraceutical industry encompasses three main segments which include functional foods, dietary supplements, and herbal/natural products.

Nutraceuticals-Definition

Nutraceutical combines two words the term 'nutrition/nutrients' (a nourishing food component) and 'pharmaceutical' (medicine or a substance used as a medication) applied to food or food component products sometimes with active principle from plants that can provide health and medical benefits, including the prevention and treatment of disease. The name of nutraceuticals was originated in 1989 by Stephen De Felice, founder and chairman of the Foundation for Innovation in Medicine.
The philosophy behind nutraceuticals is used to describe nutrient products derived from food sources and food ingredients and is focus on prevention. According to the Greek physician Hippocrates (known as the father of medicine who said 'let food be your medicine' the modern world embraces again the concept of 'healthy living' or healthy nutrition using food from natural sources, pharmaceutical condition, as well as biochemical compounds of the food products to keep them healthy and to maintain or prevent/treat diseases.
Nutraceuticals are products isolated from foods that are generally sold in medicinal forms. Nutraceuticals are of particular interest as a way to reduce the expensive, high-tech disease treatment approaches currently employed in developed countries.

Almost all dietary supplements represent a product that contains nutrients from food, and is often concentrated, in liquid form, capsule, powder or pill form. Although dietary supplements are regulated by the FDA as foods, their regulation differs from drugs and other food products.

Moreover the products and ingredients from food (animal and/or vegetal origin) are not subject to the same regulatory obligations as straight pharmaceuticals and there is minimal regulation over which products can use the terminology on their labels. There are two principle product types sitting under the broad umbrella of nutraceuticals: functional foods and vitamins, minerals, herbal and supplements (VMS).
Functional food is defined as *'foods with health promoting and/or disease preventing properties over and above their usual nutritional values'.* Products in this category include those with increased health boosting ingredients (such as fortified cereals), specially developed products (e.g. cholesterol lowering margarine) and fermented products (e.g. fermented soybean paste) with beneficial bacteria (e.g. probiotic yoghurts and soft drink).

VMS products include multivitamins, plant oils, minerals and herbal or animal supplements. These are mostly sold to consumers through pharmacies, grocery and health food stores.
The wider supply chain for this nutraceutical industry therefore is potentially very wide influencing on many industries from food and drink to agriculture and health and retail.

Medical food and herbal medicines (including KAMPO medicine or traditional Chinese medicine TCM) is formulated to be consumed or administered internally, under the supervision of a qualified physician. Its intended use is a specific dietary management of a disease or condition for which distinctive nutritional requirements are established by the medical evaluation (on the basis of recognized scientific principle).

Health benefits of nutraceuticals

Over the years nutraceuticals and/or some food ingredients have demonstrated considerable interest due to their potential nutritional, safety and therapeutic effectiveness. They demonstrated a role in a plethora of biological processes of organisms, including antioxidant property (e.g. polyphenols), gut immunity (e.g. probiotic yogurt) and sources of essentials amino acids and prevention of diseases.

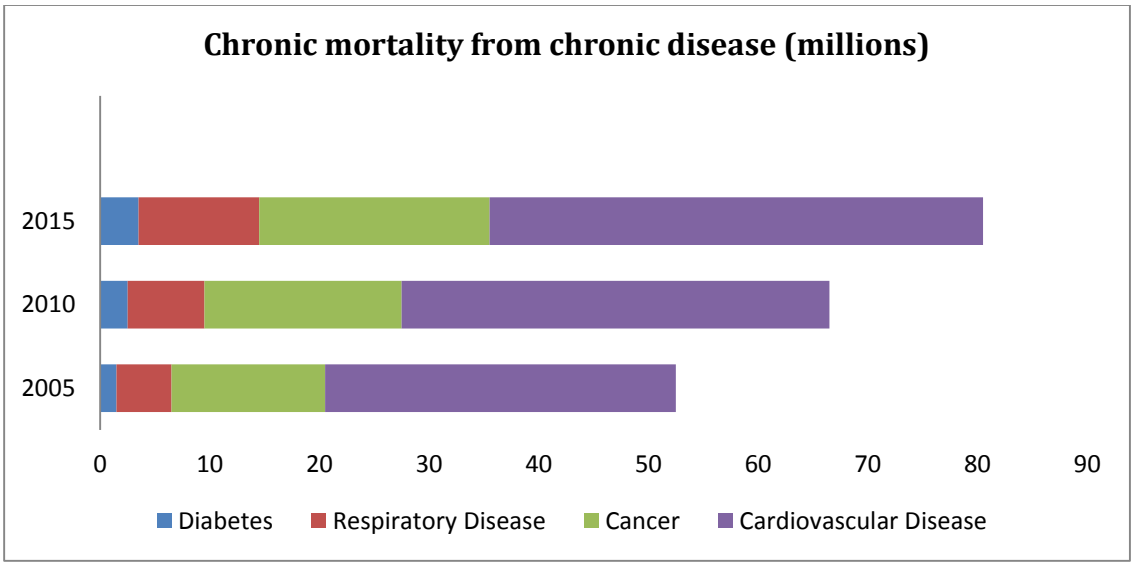
Nutraceuticals have their ability to improve life condition, or just support functions and integrity of the body. They are considered to be healthy sources (in concentrated form sometimes) of daily life for prevention of life threatening diseases such as diabetes, renal, urinary infection and gastrointestinal disorders, as well as protecting role against infections.

At global level, from 2012 to 2014, the number of adults who took any nutraceuticals rise from 72% to 78%; those taking a vitamin/mineral supplement from 72% to 64%, per Gallup's 2014 vitamins and supplements survey. Supplement use continues to increase with age; 85% of those aged 65+ used supplements in 2014; those aged 45-64 are the largest single cohort.

A wide range of nutraceuticals have been shown to impose crucial roles in immune status, cardiovascular disease and susceptibility to certain disease states. They also may improve diseases indications related to immunity, hormonal balance, allergy, neurological disorder, cardiovascular diseases, cancer, eye conditions, obesity and other health condition.

Kampō medicine the medicine traditionally practiced in Japan, based on ancient traditional Chinese medicine (using different mixture compounds from herbs, animals and others). Nevertheless Kampō medicine in its present-day in Japan sense is primarily concerned with the study of herbs and its use as treatment of approved medicine and is integrated into the Japanese national health care system. Kampō medicines are produced by various manufacturers in Japan. However, each formula is composed of exactly the same ingredients under the Ministry's of Health, Labour and Welfare standardization methodology.

The number of ageing population in developed country as well as chronical diseases as diabetes, cardiovascular diseases, neurological disorders and so on, together with increased in life expectancy will be a key driver in nutraceutical sector in the next period.



Source: OMS

Growth observed in the last decade in nutraceuticals industry showed that opportunities exist for a range of agricultural products for nutraceuticals ingredients and consumer ready nutraceuticals products as well as. For nutraceutical companies to tap into this dynamic market, they should be aware of several key factors affecting nutraceuticals purchase trends. These factors are: a rapidly aging population, diversification of eating habits, emphasis on high quality, increasing demand for convenience, and food safety and effectiveness concerns. The nutraceutical industry represents a dynamic, evolving entity that offers novel opportunities to merge scientific discovery with growing consumer interest in health-enhancing foods. It tracks and monitors consumer trends desire, thus the products of this industry can represent a direct response to their consumer demands. The nutraceutical industry encompasses three main segments which include functional foods, dietary supplements, and herbal/natural products.

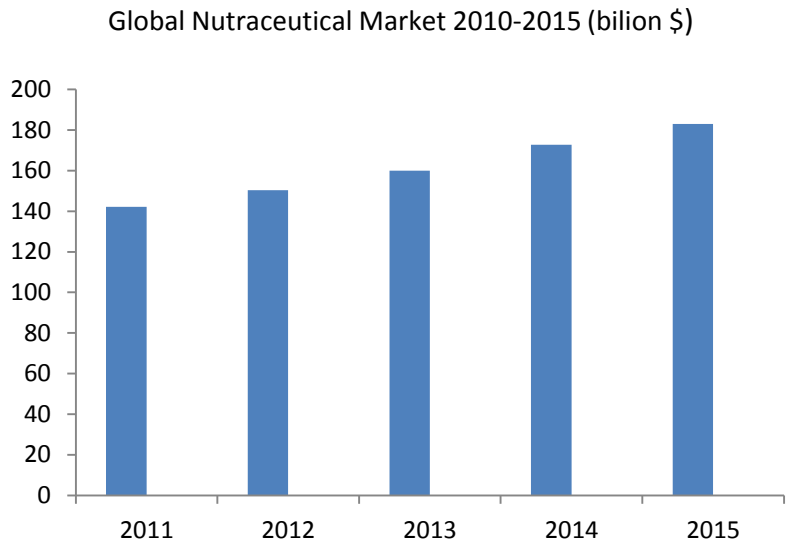
CHAPER II. GLOBAL NUTRACEUTICAL MARKET OVERVIEW

In the last years there is growing appreciation of the role in people health for nutraceuticals and dietary supplements in helping to induce prevention of health risks and improve health quality. In the global marketplace nutraceuticals and functional foods have become a multi-billion dollar industry and experienced maximum growth in the last decade and is estimates to grow to $204.8 billion by 2017.

Nutraceuticals as an industry emerged in the early 1990's, the world has witnessed its explosive growth in the first decade of this century. From 1999 to 2002 the industry grew at an annual average growth rate of 7.3%, while in this century the rate doubled to 14.7% and is estimates to rise to $278.96 billion by 2021.

Today, global nutraceutical market is estimate in health to reach $204.8 billion by 2017 growing at a CAGR of 7.3%, according to a new market report from Transparency Market Research (see fig). Current trends in the development of nutraceuticals are *personalization* and *customization*,

especially in developed markets of the world. Investment in R&D to find innovative approaches, verifying/confirming health claims of the nutraceutical products and market research represent key strategies for the industry.



Source: Transparency Market research

A primary impetus for such growth is consumer demand; consumers are looking to follow healthy lifestyles and obtain optimum nutrition to avoid chronical diseases such as diabetes, cardiovascular diseases and obesity etc. Although the US, European Union and Japan are currently the world's largest nutraceuticals markets, China is likely to surpass them all by 2030.

2. NUTRACEUTICALS INDUSTRY MARKET

The **US** nutraceutical market still represents the largest nutraceutical market in the world. Nutraceutical companies are looking to diversify their products and move towards natural ingredients in their products. The latter is a consequence of the push from US consumers, who are extremely health conscious and demand specific natural ingredients in the products they consume. The United States is clearly the market leader, both in terms of share and maturity. The country is expected to maintain its position, with a market share of 39% in 2017. Like other regions, it will see growth because of various shifts in product offer and marketing in response to consumer needs. The USA, as it becomes more and more concerned with living a healthy lifestyle and faces increasing health care costs, will increasingly seek out avenues to address wellness. In the recent past, nutraceutical products have most strongly been consumed by the elderly population. The opportunity for growth in the US now lies with younger generations, segmenting to appeal to the many different need perception of healthy living.

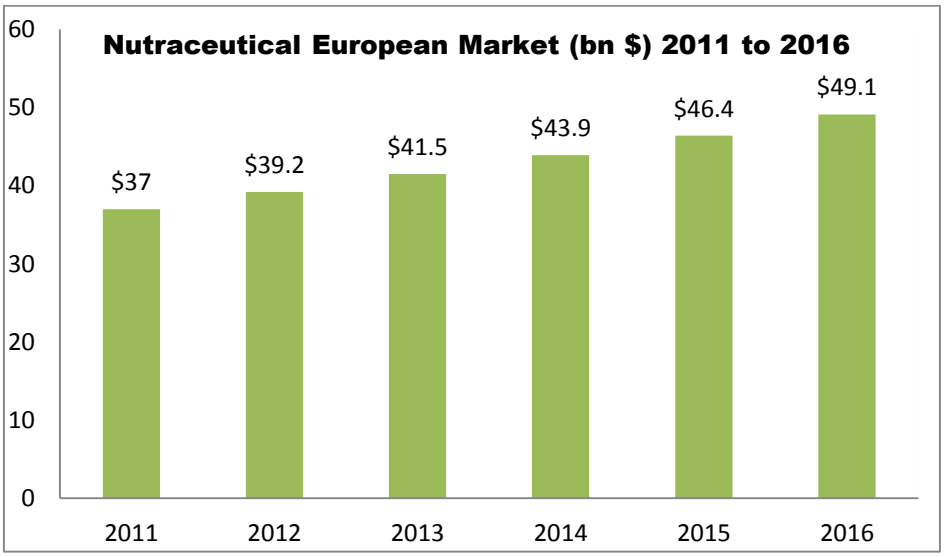
The market for nutraceuticals products in **Europe** represent the second largest market and is witnessing heavy fortification, with a focus on innovation and new products development as well as safety. An issue is a considerable increase in research and development – from 0.8% at the

beginning of the century to 1% in 2014. France and Germany account for nearly half the EU market (44%). Germany, Netherlands, France and Sweden have emerged as the key nutraceutical innovation hubs of Europe, whereas Spain and Great Britain act as significant test markets for new innovative nutraceutical products.

2.1 EUROPEAN MARKET SIZE

The European market was worth $35 billion in 2010. BCC Research study estimated the global market worth $151billion in 2011 and was due to grow at a rate of 6.5% by 2016. This growth rate for Europe is probably an overestimate of the prospects for this mature market but the US, which has a third of global sales has been forecast to grow by 5.8% per annum over the same period. At this rate the market value for Europe will growth to $49 billion by 2016. The global market will have grown to $207 billion by 2016.

Nutraceutical industry business is very mature in Europe and depends on the marriage of food and pharma. These days more than ever large companies are investing in the future of worldwide dietary supplements. Specifically, powerhouse food companies are directing their efforts in a seemingly pharma way. These large companies, in a move to focus on drug development, are consolidating. Well known food players like Nestlé and Danone have started to expand their portfolios by introducing advanced functional food products. Companies like this have sales forces dedicated to selling products to physicians and sponsor studies and start-ups, bypassing pharmaceuticals altogether.



Source: KADA, BCC Research

According to a recent report, total market for nutraceuticals in **Asia-Pacific** region is exponentially growing. In China and Japan it is currently a strong market trying to incorporate traditional herbal ingredients (most often ayurvedic, traditional chinese medicine (TCM) and KAMPO for Japan) into the nutraceutical portfolio. Still, its growth has surpassed global rates in recent years, mostly driven by functional food and beverages categories. Asia-Pacific (including Japan) is expected to have the second largest market share after North America by 2017 and

global nutraceuticals market players to find promising growth opportunities in Asia-Pacific region by 2020.
There is significant potential in Asia, particularly Japan, India and China, but also other emerging markets.
One of the most widely acknowledged driver is the growth potential of the Asia-Pacific marketplace due to the aging population and the high number of people encompass in Asian countries. The US and top European countries are well-established markets which have already experienced rapid growth in this field. There is significant untapped potential in Japan, the japanese market is growing rapidly and is identifying niche specialisms in the marketplace.

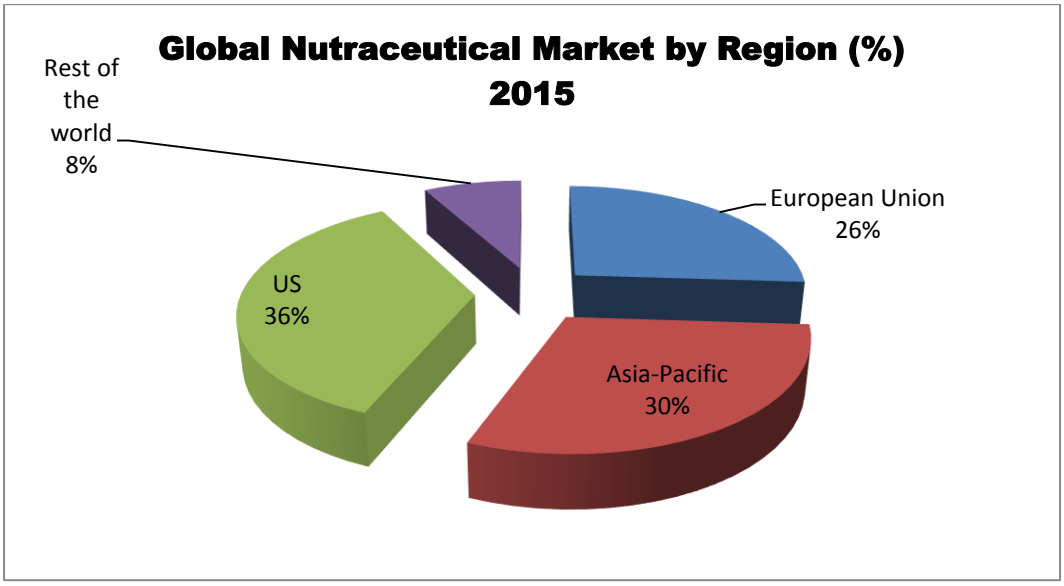
The Asia-Pacific region is strong and complex in nature. Japanese leads this part of the world with a long history of modern nutraceutical products going back in the 1980s and is extremely advanced on its product offerings, being the first country to recognize and regulate functional foods. Its regulating body (FOSHU) is both flexible and highly developed, putting it on par with the likes of US monitoring.
China, on the other hand, as a growing elderly population like Japan, but is not so developed in terms of nutraceutical products. China and Japan represent prime location for functional food expansion and benefits from increased awareness about health and wellness issue. Another important emerging market to keep an eye on is India which represents about 2 % from total of 24 % of Asia-Pacific nutraceutical market. The country, like China, India and Japan, has a huge population that is more health savvy every day. Recent increases in purchasing power of the middle class and peaked interest in sport nutrition further India as a top emerging market. India has by far registered the highest annualized growth rate of 19.1% over the span of 2006-2012 and has emerged as a major destination for the export of the fortified products and nutritional supplements in this region. The nutraceutical markets in India, South Korea and Australia have also grown at a healthy double digit growth rate over the past years, primarily owing to the expanding market of functional food and beverages in these countries.

The Asia Pacific nutraceuticals product market is growing on account of the growth in dietary supplements and functional food segments. Asia-Pacific nutraceuticals dietary supplement market will have high growth rate during the forecast period (from 2012 to 2017). The growth thrust for Asia-Pacific nutraceuticals dietary supplements market will primarily come from herbals and vitamins and mineral product segments. Moreover, the dietary supplement segment of the Asia-Pacific nutriceuticals market will continue to enjoy largest share of revenue among all product categories during the forecast period. Functional food will be the second largest product category of Asia-Pacific nutraceuticals market during 2012 – 2017. The functional beverage market is expected to witness steady increase in growth rate during 2012-2017 due to improvement in adoption of healthy drink products among consumers.

Additionally, nations such as India, China and Japan also exhibit long histories of the usage of herbal medicine products for treating diseases and maintaining health. China will become soon the second largest consumer and largest producer of the nutraceuticals in the world. On the other hand, developed countries such as South Korea and Australia have also noticed an increasing growth trajectory in the nutraceuticals market. On the whole, nutraceuticals industry in Asia Pacific has been driven by strong belief for health and wellness across the geographies.

Japan is the largest consumer of nutraceuticals products in the region followed by China at the second place. The Japan and China nutraceutical market is expected to have respective market share of 54.8% and 39.5% of the Asia-Pacific nutraceuticals market in 2017. The Indian nutraceuticals market will continue to grow at high growth rate during the forecast period. People in India are gradually generating preference for nutraceutical products as an alternative for pharmaceutical medicines. The lifestyle of Indian people is also changing and they are gradually becoming more aware about natural supplements and their benefits for good health. With this regards, dietary supplements market will have high growth rate in India whereas functional food will have slow relative growth during 2012-2017.

The improving healthcare opportunities, falling death rates and increasing life longevity has led to a gradual increase in the population of the old aged people in the Asia-Pacific region. The fast ageing rate in countries such as Japan, South Korea and Australia has been propelling the growth in the consumption of nutraceuticals in the Asia-Pacific. Additionally, increasing disposable incomes and growing middle class population have also been providing the necessary impetus to the growth of the nutraceuticals sector across the nations. With the increasing investments being made in the nutraceutical industry by the domestic and foreign players, the future growth of the industry is hugely optimistic and profitable with revenues growing at a CAGR of 11.5% over the period of 2015-2017



Japan (14%) and China (10%) are the major markets in Asia-Pacific region.

2.2. GROWTH OF ASIA-PACIFIC MARKETPLACE

One of the most widely acknowledged drivers is the growth potential of the Asia-Pacific marketplace. The US and top European countries are well-established markets which have already experienced rapid growth in this field. There is significant untapped potential in Japan

and China nutraceutical products in particular. The Japanese market is growing rapidly and is identifying niche specialisms in the marketplace. In India, there is a trend towards acquisitions by global players. Whilst there is undoubtedly opportunity in the Chinese market, it is also recognised that China has the capability to build its own industry and compete in the global marketplace on its own terms.

For consumers, the main driver for considering such products is the desire for a more healthy life, particularly as people are living longer. New products appear regularly on the market and claim to give better results than 'standard' or earlier iterations of specific products. It is also apparent that consumers in the Asia-Pacific region are interested in nutraceutical products which are customised to address the specific needs of different age groups.

Product acceptability in other countries also impacts on the approach of global players in how they manufacture and market their products. The major manufacturers use the country's local representatives and sales channels to promote their products in Asian markets in particular. Using direct local knowledge of consumer requirements and expectations – as well as understanding of national/regional legislation and the regulatory environment – is considered the most effective and acceptable way of promoting products in these emerging markets.

3. NUTRACEUTICALS INGREDIENTS

Nutraceutical ingredients are defined as a part of food or a whole food that have a medical or health benefit, including the prevention and treatment of various chronic diseases such as obesity, cancer, high blood pressure, and diabetes. With increasing educational levels, people are gaining awareness regarding the types of food & beverages that help in maintaining a balanced diet and proper health.

Manufacturers are also taking in consideration the convenience factor for consumers and providing them with healthy nutrients in the form of food & beverages instead of supplements.

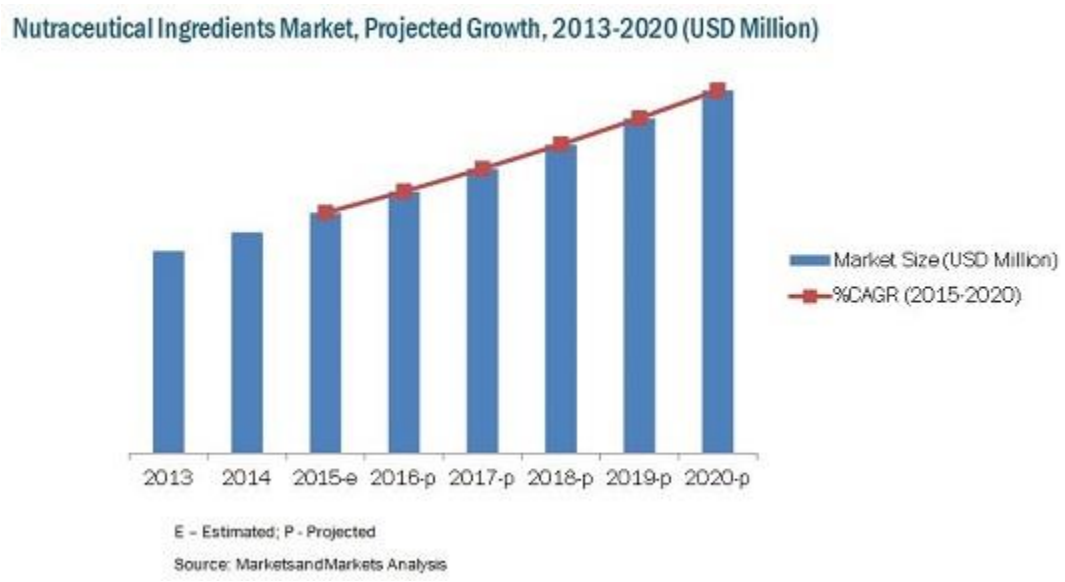
The nutraceutical ingredients market is segmented on the basis of types into prebiotics, probiotics, proteins & amino acids, vitamins, minerals, Omega-3 fatty acids, phytochemicals & plant extracts, fibers & specialty carbohydrates, carotenoids, and others. Phytochemicals & plant extracts is the fastest-growing segment in the market.

On the basis of applications, the nutraceutical ingredients market is segmented into functional food, functional food beverages, dietary supplements, animal nutrition, and herbal. Dietary supplements form the major application of nutraceutical ingredients.

On the basis of health benefit, the market is segmented into gut health, bone health, heart health, immunity, nutrition, and weight management. The market has also been segmented on the basis of regions into North America, Europe, Asia-Pacific, Latin America, and Rest of the World (RoW).

The nutraceutical ingredients market, in terms of value, is projected to reach about $38.7 Billion by 2020. In 2015, the market was dominated by the Asia-Pacific region, followed by Europe. The Asia-Pacific market is projected to grow at the highest CAGR with rapid growth in the functional food & beverage industries in developing countries such as India and China. The growing health awareness and rising cases of various chronic diseases such as blood pressure,

diabetes, and rickets in this region are also driving the market. The market for nutraceutical ingredients is projected to reach about $38.7 Billion, at a CAGR of about 7.2% from 2015 to 2020.



The market for nutraceutical ingredients is projected to grow as a result of the increasing use of nutraceutical ingredients in different applications and rising opportunities in countries such as India, China, Italy, and Brazil. In 2014, the Asia-Pacific region was the largest market for nutraceutical ingredients, and is projected to grow at the highest rate during the forecast period.

Global growth has been spurred primarily by dietary supplements. In this market, protein and peptides are growing to 6.6% during the forecasted period (2012-2017). Meanwhile, functional foods and beverages also make up a significant segment. The study shown that foods fortified with omega fatty acids grow 6.7%. Another study on the U.S. nutraceuticals industry, from Research and Markets, shown sales reach $75.3 billion by 2017, on 6% CAGR, driven by rising consumption of dietary supplements (which retain 36% market share) and the booming functional food and beverage market. Rising health concerns, improving economic conditions, the growth of key demographics and an increased focus on e-commerce among consumers factor into market success. In addition, more mergers and acquisitions, new prebiotic/probiotic product launches and heart health-enhancing nutraceuticals will augment market growth.

Nutraceuticals consumers worldwide are looking at nutraceuticals products as a means to fortify their health and also as an alternative to OTC drugs, the outlook for the global nutraceuticals market looks positive. According to a recent report published by Transparency Market Research, the global nutraceuticals market stood at US$182.60 billion as of 2015, and will rise to US$278.96 billion by 2021, exhibiting a CAGR of 7.3% from 2015 through 2021.

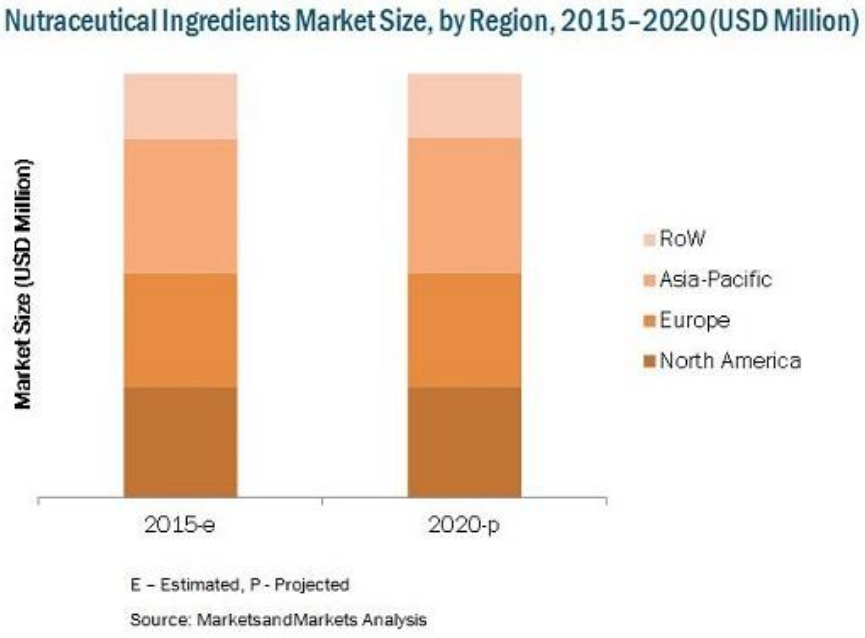
The marketplace of nutraceuticals has witnessed increasing penetration of the major foreign companies in various geographic markets, attracted by the wide potential offered by the Asian countries. Owing to the availability of a vast product range of the fortified food and beverages, the markets are largely fragmented in different nations. In addition to the prime global players, a

large number of the domestic players also operate in the market; of which majority are food processing and pharmaceutical companies.

As previously mentioned, the nutraceutical industry is very complex, and certainty has obstacles that must be met head on. Generally, nutraceutical products, whether they be dietary supplements or functional foods, are costly in comparison to everyday food and drugs. The challenge is in justifying their purchase, not just as a complement to one's diet, but as an essential element to maintaining long-term health and wellness. In addition, individual country and region regulation bodies affect product development and growth greatly. From the FDA in the United States, the EFSA in Europe, the FOSHU in Japan to the FSSA in India, regulation is necessary for consumer protection and confidence. Companies must work hand in hand with the policies of these regulation institutions, to form both short-term and long-term plans.

3.1. NUTRACEUTICAL INGREDIENTS MARKET SEGMENTATION

The nutraceutical ingredients market is segmented on the basis of types into prebiotics, probiotics, proteins & amino acids, vitamins, minerals, Omega-3 fatty acids, phytochemicals & plant extracts, fibers & specialty carbohydrates, carotenoids, and others. Phytochemicals & plant extracts is the fastest-growing segment in the market. On the basis of applications, the nutraceutical ingredients market is segmented into functional food, functional food beverages, dietary supplements, animal nutrition, and personal care. Dietary supplements form the major application of nutraceutical ingredients. On the basis of health benefit, the market is segmented into gut health, bone health, heart health, immunity, nutrition, and weight management. The market has also been segmented on the basis of regions into North America, Europe, Asia-Pacific, Latin America, and Rest of the World (RoW). Key countries of these regions have also been studied.



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NUTRACEUTICALS by type	NUTRACEUTICALS by APPLICATION	NUTRACEUTICALS on the basis of health benefits
Prebiotics	Functional food	Gut health
Probiotics	Functional beverages	Bone health
Protein & Amino acids	Dietary supplements	Cardiovascular health
Omega-3 fatty acids	Animal nutrition	Immunity
Vitamins	Personal care	Nutrition
Minerals		Weight management
Carotenoids		Others
Fibers &specialty carbohydrates		
Phytochemical &plant extracts		

On the basis of region, the market was sub-segmented as follows:

North America

Europe

Asia-Pacific

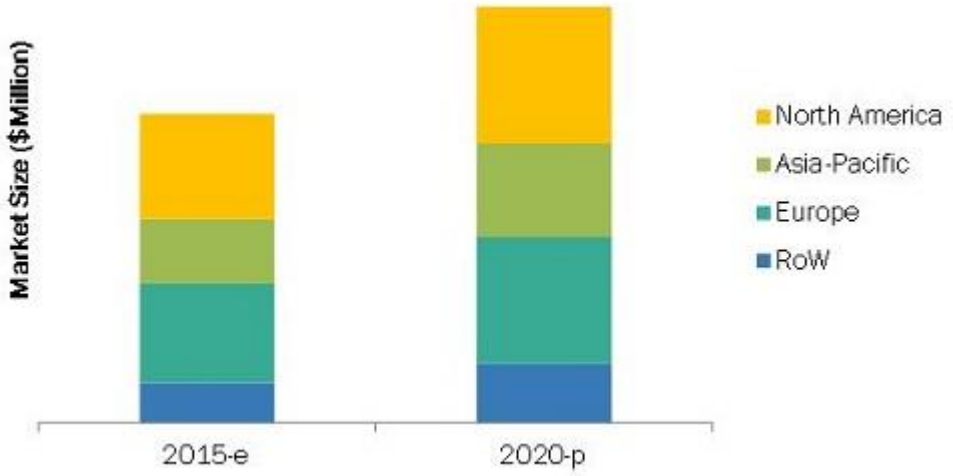
RoW

3.1.1. FUNCTIONAL FOOD

Functional food ingredients are generally considered as those ingredients that are intended to be consumed as part of the normal diet and that contain biologically active components, which offer the potential of enhanced health or reduced risk of diseases. Some of the functional foods include foods that contain specific minerals, vitamins, fatty acids or dietary fiber, foods with added biologically active substances such as phytochemicals or other antioxidants, and probiotics that have live beneficial cultures.

The functional food ingredients market is segmented on the basis of application into functional food & beverages. The market is segmented on the basis of types such as proteins & acidulates, vitamins, minerals, prebiotics, probiotics, hydrocolloids, essential oil, omega 3 & 6 fatty acid, and flavonoids & carotenoids.

The market for functional food ingredients is projected to reach about $2.5 Billion by 2020, with the increasing use of functional food ingredients in different applications and rising opportunities in countries such as India, China, Italy, and Brazil. In 2014, the North American region was the largest market for functional food ingredients. The market in the Asia-Pacific region is projected to grow at the highest rate during the forecast period.



Source: Market and Market Analysis

The functional food ingredients market is segmented on the basis of application into functional food & beverages. The market is segmented on the basis of types such as proteins & acidulates, vitamins, minerals, prebiotics, probiotics, hydrocolloids, essential oil, omega 3 & 6 fatty acid, and flavonoids & carotenoids. On the basis of health benefit, the market is segmented into gut health, bone health, heart health, immunity, and nutrition. The market has also been segmented on the basis of regions into North America, Europe, Asia-Pacific, Latin America, and Rest of the World (RoW). Key countries of these regions are also studied.

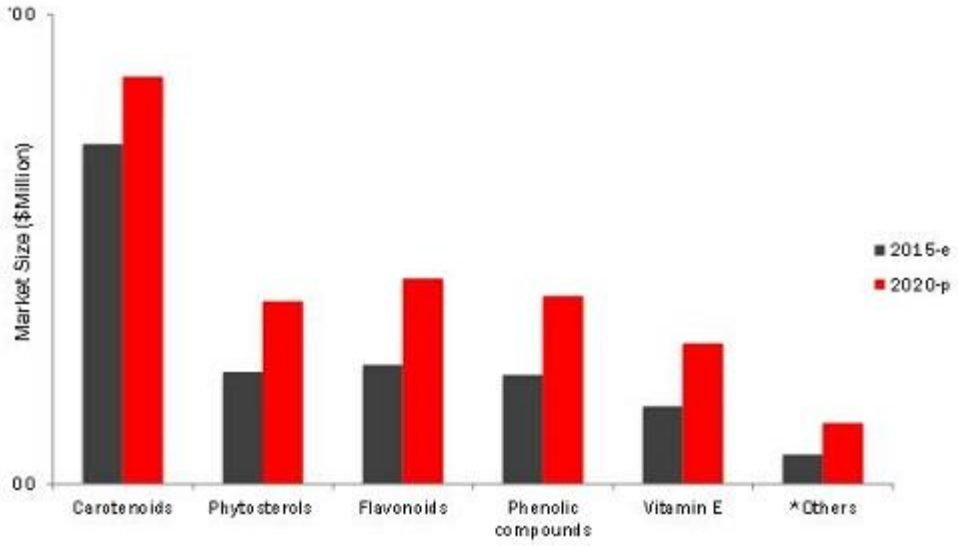
In 2014, the market was dominated by North America, followed by Europe. The Asia-Pacific market is projected to grow at the highest CAGR with rapid growth in the functional food & beverage industries in developing countries such as India and China. The growing health awareness and the rising cases of various chronic diseases such as blood pressure, diabetes, and rickets in this region are also driving the market.

3.1.2. PHYTONUTRYENTS

Phytonutrients are naturally found in all items of plant origin, fruits, vegetables, grains, legumes, nuts, and teas. They are used widely as ingredients in the food, feed products, pharmaceuticals.

Phytonutrients are non-nutrient compounds in plants which are utilized as antioxidants, detoxify carcinogens, mimic hormones, enhance immune system, and suppress development of diseases, thus rendering a host of health benefits. They are formally classified as non-nutrients and unlike vitamins, phytonutrients are not considered important due to the fact that no known nutritional scarcities occur without intake. Although phytonutrients are not considered as essential, they alter hormonal balance (such as estrogen breakdown); convert beta-carotene into vitamin A; enhance immune system function; act as antioxidants; repair DNA damage caused by smoking or other toxic exposure; enhance cell-to-cell communication; and eradicate cancer cells.

The phytonutrients market is projected to grow significantly for the next five years in almost all parts of the world, especially in European and North American countries. Significant increase in health issues, changing lifestyles of consumers, cardiovascular diseases, and other health issues such as cancer, type2 diabetes are the major driving factors of the phytonutrients market, globally. On the other hand, the aging population and increased awareness about health and wellness are also contributing to the market growth.



Source:Market and Market Analysis

3.1.3. PROBIOTICS AND PREBIOTICS

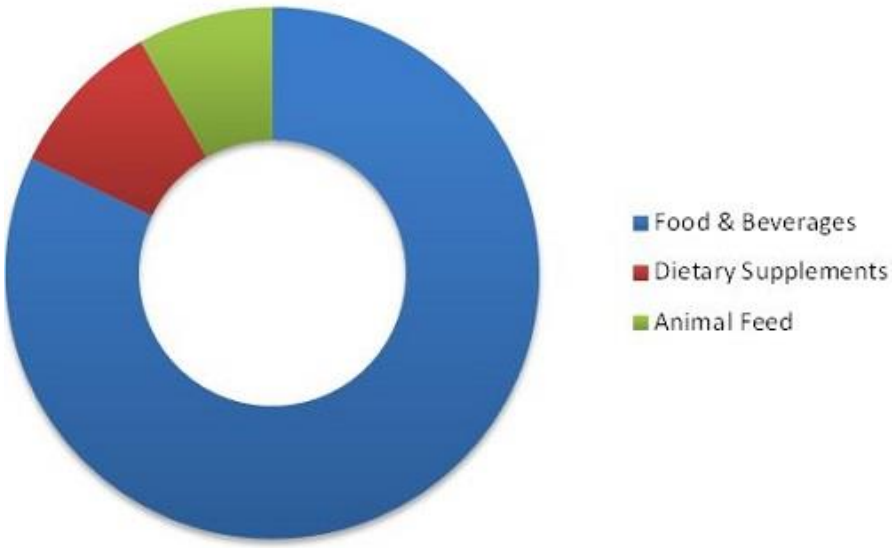
Prebiotic ingredients are fibers that are found in natural sources such as vegetables, grains, and roots. These fibers act as a natural feed for the beneficial bacteria already present in the human gut. These bacteria derive energy from these fibers to flourish and multiply which help preserve the overall health of human beings. The beneficial bacteria in the prebiotic-rich gut help fight

against the unh unhealthy bacteria thus reducing health problems and ensure higher immunity to diseases.

By region, the prebiotic ingredients market has been segmented into North America, Europe, Asia-Pacific, and the Rest of the World (RoW). The market has been further segmented on basis of source such as vegetables, grains, and roots.

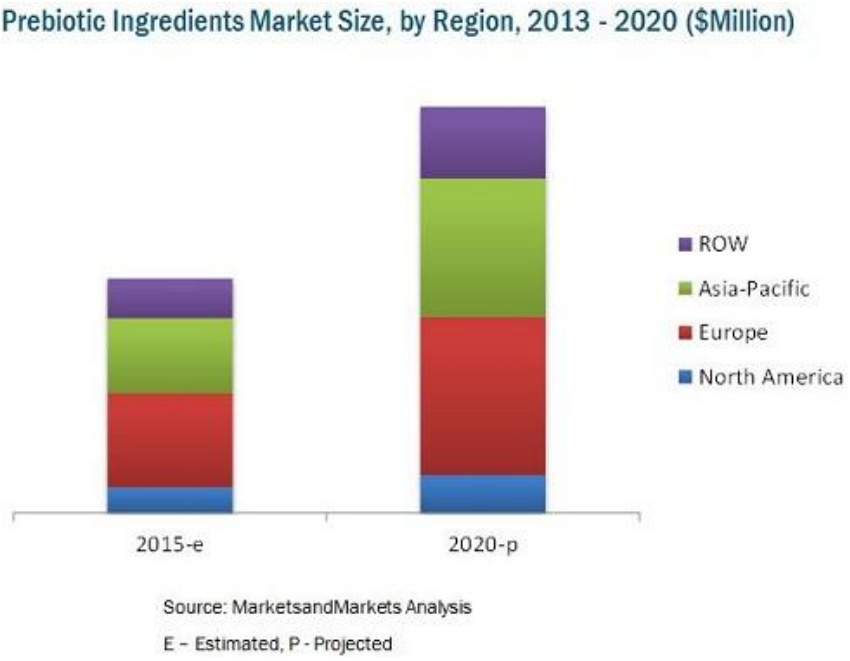
Phytonutrients Market is projected to reach $4.63 Billion and CAGR of 7.2% between 2015 and 2020. The market was dominated by Europe, which accounted for around 37.65% of the total share, in 2014. Regulatory approvals from the EU, increasing incidences of cardiovascular diseases, increasing health issues, changing lifestyle of people, and increasing aging population are the major driving factors for the growth of phytonutrients market in Europe. In 2014, Germany was the largest phytonutrients market in Europe. The phytonutrients market is projected to exhibit a growth potential (7.2%) in the next five years.

The global phytonutrients market, in terms of value, is projected to reach $4.63 Billion in 2020, at a CAGR of 7.2% from 2015 to 2020. The market is projected to grow significantly in the next five years in almost all parts of the world, especially in European and North American countries. The high rate of adoption of phytonutrients by manufacturers drives the European market.



Source: Markets and Markets Analysis

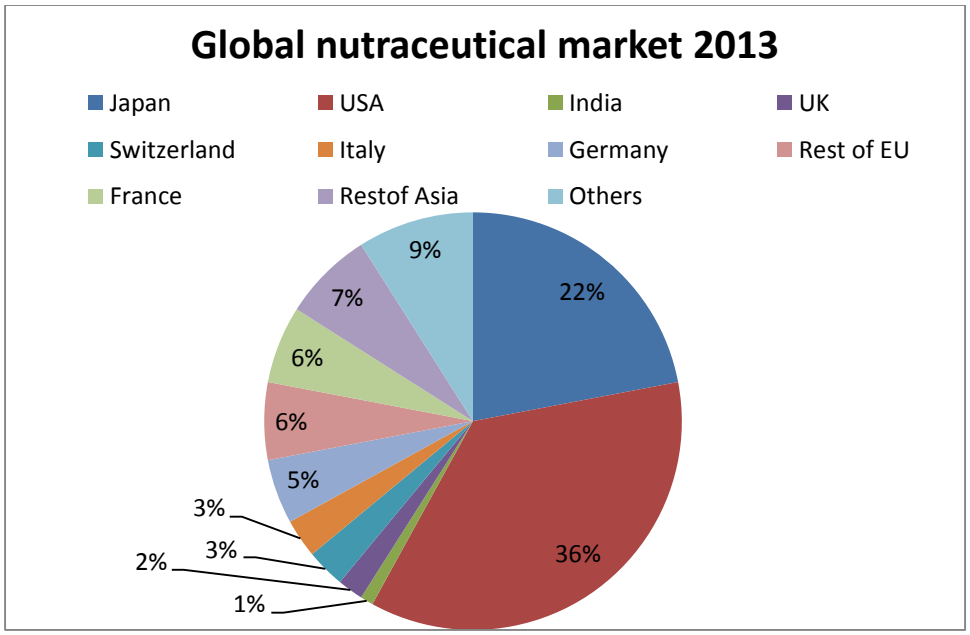
The market for prebiotic ingredients is projected to reach $5,545.74 Million by 2020 at a CAGR of 11.6%, with increasing use of prebiotic ingredients in different food & beverage applications and rising opportunities in emerging markets such as India, China, and Brazil. In 2014, the food & beverages segment was the largest market for prebiotic ingredients. The market for dietary supplements is projected to grow at the highest growth rate during the review period.



Source Market and Market Analysis

The prebiotic ingredients market is fragmented and competitive, with a large number of players operating at regional and local levels. The key players in the market adopted new product launches, new technology launches, and expansions as their preferred strategies. The key players such as Cargill, Inc. (U.S.), E. I. du Pont de Nemours and Company (U.S.), Friesland Campina (The Netherlands), Ingredion Incorporated (U.S.), and Royal Cosun (The Netherlands).

The global economic downturn has had some negative impact on the sales of premium anti-ageing products. The slower rate of growth in emerging economies has also given some cause for concern. Fluctuations in global currencies can have a major impact on pricing policies. There has also been some evidence, particularly in the US, of consumers shifting to lower priced products sold during the downturn; they are also opting to purchase in discount stores rather than pharmacies, beauty salons or department store concession stands.
That said, the 'urban middle class' and 'baby boomers' in the US and Western Europe are still perceived as having high rates of disposable income for premium products which are still viewed as relatively affordable. They continue to be the target market for premium cosmeceutical products. Finding ways to introduce new products to appeal to these client groups and encourage product loyalty is a key driver for manufacturers and retailers alike. Some of these issues are explored in the following paragraphs. Overall, the trajectory of the economic outlook is likely to be the single biggest influencer of sales and growth of cosmeceuticals over the next 2-3 years.



Source: KANDA

3. 2. DEMAND FOR NEW INGREDIENTS & PRODUCT INNOVATION

New ingredients are continually being introduced; for example, the inclusion of anti-oxidants has boosted the sales of anti-ageing products. There is a growing call for natural ingredients in anti-ageing products including botanicals, natural proteins and vitamins. The 'baby boomer' markets in the US and Western Europe are particularly discerning and increasingly looking for products for nutraceutical ingredients which can bring health and physical benefits.

NUTRACEUTICALS by type	NUTRACEUTICALS by APPLICATION	NUTRACEUTICALS on the basis of health benefits
Prebiotics	Functional food	Gut health
Probiotics	Functional beverages	Bone health
Protein & Amino acids	Dietary supplements	Cardiovascular health
Omega-3 fatty acids	Animal nutrition	Immunity
Vitamins		Nutrition
Minerals		Weight management
Carotenoids		Others
Fibers &specialty carbohydrates		
Phytochemical &plant extracts		

Products containing enzymes, co-enzymes and natural proteins are particularly popular with these groups. Innovation to provide a more personalised and sophisticated approach to health

benefits, through for example choosing ingredients based on personal genetics to combat chronical disease, is being explored by some manufacturers.
The use of natural oils in nutraceutical products is already popular and is a factor in the growing interest in products aimed at halting the ageing effects.
The nutraceutical ingredients market is fueled by the growing health awareness among consumers and the increasing incidences of chronic conditions such as blood pressure, diabetes, gut disease, and rickets. Globally, the rise in aging populations and growing health concerns has led to the large-scale adoption of nutraceutical ingredients for various applications. The market for nutraceutical ingredients is projected to reach about USD 38.7 Billion, at a CAGR of about 7.2% from 2015 to 2020.

The nutraceutical ingredients market is segmented on the basis of types into prebiotics, probiotics, proteins & amino acids, vitamins, minerals, Omega-3 fatty acids, phytochemicals & plant extracts, fibers & specialty carbohydrates, carotenoids, and others. The market is segmented on the basis of applications into functional food, functional food beverages, dietary supplements, animal nutrition, and personal care. On the basis of health benefits, the market is segmented into gut health, bone health, heart health, immunity, nutrition, and weight management. The market is also segmented on the basis of regions into North America, Europe, Asia-Pacific, Latin America, and Rest of the World (RoW); and has been further segmented on the basis of their key countries. This report includes market sizes in terms of value (USD million) and volume (tons).

3.2.1. Europe stands on a springboard of innovation

Europe over the past 20 years has lagged behind the US in nutraceutical market share, but is strongly positioned for growth based on product innovation. The region's main drawback has been its lack of product regulation resulting in low consumer education and confidence. This changed in 2006 with the implementation of European Health Claims Regulation by the European Commission (EC). European nutraceutical companies now have a clear path to receiving accreditation for health claims and winning consumer acceptance. For large pharma and food companies, the huge costs and time associated with studies needed for health claim approval do not pose a problem. Smaller companies, however, are faced with an obstacle as they, in many cases, simply do not have the resources to go through testing.

Nevertheless, product innovation in other areas (other than research and development supporting health claims) like taste, texture, the "natural" claim, and creative packaging (gels and powders for example) offer excellent product differentiation and consumer appeal. New product promotion techniques through public relation efforts and medical practitioner recommendations also offer opportunities to connect with consumers in a trustworthy environment.

3.3. NUTRACEUTICALS*:* SECTOR BREAKDOWN

The nutraceutical sector is present in agriculture, manufacturing and services and can be broadly summarised as follows: food and plants are grown and sent to be processed and manufactured into products; they are packaged and sold to agents and wholesalers before they can be bought in

stores and online. This represents 99% of the nutraceutical industry expenditure with 1% employed in research and development compared to 34% in the long established and highly regulated pharmaceutical industry.

4. ECONOMIC DRIVERS AND FUTURE TRENDS

This chapter describes the key future drivers and constraints facing the nutraceutical sector. There are a number of factors influencing the continued growth of the nutraceutical sector globally, which is expected to grow at a rate of 7.7% between 2012-2016.

Nutraceutical industry Drivers:

- While naturalness has been a key driver of growth for many areas of the industry in recent years, the calls for even more natural solutions for nutrition and health continues. "*Advancements in product offering" and higher consumer awareness was fueling the growth "in a wide range of products such as medicines and food & beverages".*
- an increasing interest in partnerships between companies that result in co-branding and co-marketing between ingredient suppliers and manufacturers of finished products,
- 'innovative' and continue with new product development, research and development in the nutraceutical industry will become another key driver of the nutraceutical industry
- *The growing health awareness and rising cases of various chronic diseases such as blood pressure, diabetes, and rickets in this region are also driving the market,"* M&M said, noting similar health concerns were driving markets elsewhere too and Increasing Co-prescription: In 16 % of prescription a multivitamin is prescribed
- Ageing population: Elderly population is estimated to increases at 143 Milion by 2021 from current 100 Milion. Once with the increasing of elderly population will increase of incidence of lifestyle disorders such as: diabetes, cancer and cardiovascular disease. *"Japan is the fastest-growing country market in the Asia-Pacific region. This is due to the rapidly aging population here."*
- Focus on preventive healthcare: Consumers starting to realizing the importance of nutraceuticals in dealing with health issues
- Rapid retail growth: supermarket, drug store, e-market, pharmacy etc
- Rising personal disposable income

SUMMARY OF DRIVERS AND CONSTRAINTS

	Drivers	Constraints
NUTRACEUTICALS	Ageing population and desire to stay healthier Multiple distribution channels (stores and online sales) Rise in digital market efforts to promote products and educate population on health benefits Opportunity to expand scientific research Innovation on nutraceutical market Rapid expansion of 'own label' products	Growth of some sub-sectors, declining or remaining flat Continued doubts over claimed health benefits of some nutraceuticals Adaptation or compliance with country regulation on health benefit claim (potential impact on SMEs) Declining trend in advertising spend

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4.1. POPULAR SALES CHANNELS AND CONSUMER ATTITUDES

Sales of functional foods and drinks tend to use the same retail channels as traditional food products following the same sales pattern. 75.9% of breakfast cereals, 76.7% of yoghurts and 74.1% of butters and spreads were sold via the top four grocery multiples (Tesco, Sainsbury's Asda and Morrison's). There are spread across various outlets including smaller grocery chains, discount, co-operative and convenience stores and independents. For the VMS market, estimates show that pharmacies have the largest retail market share (39%). Multiple grocery stores hold a steady 31% with Tesco leading this field. Health food shops, dominated by the Holland & Barrett chain, are witnessing a slight decline in share (24%). The final 6% is made up of mail order and online sales.

For functional foods market research suggests 35.2% of the population regularly consumed probiotic yoghurts with 37.7% regularly eating cholesterol-lowering spreads. 21.4% drank probiotic yoghurt drinks with 17.6% eating fortified bread products. Less popular products included soya milk/soya yoghurts (5.7%). Some interesting findings were uncovered relating to interest in functional foods, belief in their health benefits and comparisons with consumers' regular diets. 43.8% expressed an interest in their potential health benefits, but 54.4% did not necessarily believe the health claims made by product manufacturers. However, these interest levels do not translate into action - almost 81% of respondents believe they get all their nutritional requirements from their regular diet without the need for functional foods. Almost 40% of respondents claimed to take a VMS product of some description at least once a week. A larger proportion (45.3%) admitted they rarely or never used such products, again because they believed their normal diet sufficient.

SUMMARY

Nutraceuticals are products with active ingredients claiming medical benefits. They are a significant and fast growing part of pharmaceuticals in the US and Europe with the Asian-Pacific markets predicted to have the greatest growth potential. Nutraceuticals are food or food products that can provide health/medical benefits, including the prevention and treatment of disease. Two principle product types include functional foods and vitamins, minerals and supplements (VMS).

Innovation in ingredients and product development is a key driver across Europe. Germany, the Netherlands and Sweden have emerged as key EU innovation centers with the UK and Spain acknowledged as key test markets for new products.

5. REAL VERSUS PERCEIVED BENEFITS OF FUNCTIONAL FOODS AND VMS PRODUCTS

Doubts have been raised over the benefits of using functional variants of food and drinks. For example, questions over the reduction of cholesterol that can be achieved through eating Flora pro-activ margarine led to Unilever modifying its claims on the product label. They are now more specific as to how often it should be consumed, in what quantity and over what timeframe to maximise the impact on cholesterol levels and, in turn, reduce the risk of heart disease. It also makes clear the characteristics of those who will benefit most. Active plant sterol ingredients contained in Benecol and Flora pro-active are reputed to be an important element of the cholesterol reduction process. These ingredients are also available in milks, yoghurts and yoghurt drinks. However, some concerns have been raised that there is much still to learn about the long-term effects of consuming these products and, in particular, the potential reaction between prescribed medication and sterols.

Consumption of probiotic yoghurts and yoghurt drinks are considered beneficial to addressing health problems such as digestive disorders, irritable bowel syndrome, bowel cancer or stomach allergies. Balancing the bacteria in the gut is claimed to be crucial to protecting against such illnesses. Again, there is no clear scientific evidence to support this. A more clear cut benefit is the relationship between eating fiber fortified products (e.g. cereals) to aid digestion and combatting osteoporosis through eating cereals and breads fortified with calcium.

Overcoming any questionable links between the consumption of functional foods and the related health benefits is an important driver for the future of the industry, particularly in light of a recent slow-down in market growth.

Various studies have been conducted in recent years to attempt to quantify the benefits of taking VMS products with varying degrees of conclusiveness. Some studies find there is little or no benefit in using such products as a means of combating/reducing the likelihood of certain health problems occurring; results would suggest it is more or at least equally effective to receive the necessary vitamin intake via a regular, balanced diet.

Again, producers of vitamins, minerals and supplements are careful to stress the importance of taking VMS products alongside regular food as part of a balanced and healthy diet in order to be in any way effective. Some research has revealed the positive effects of taking vitamins A, C and E to combat free radicals which have been linked to the incidence of certain cancers, heart disease and Alzheimer's disease.

The Health Supplements Information Service (HSIS) has also highlighted that there are some groups who may benefit from regular intake of such products, including the elderly, pregnant women, young children, vegetarians/vegans, those suffering from certain medical conditions and those who have difficulty obtaining the right level of nutrition from their regular diet. Vitamins A and D and folic acid are recommended for these groups. Other important studies/guidelines include:

- Harvard School of Public Health – consuming omega-3 as part of a balanced diet lowers risk of death from heart disease;

- Guidelines from National Institute for Health & Clinical Excellence (NICE) published in 2007 recommended use of omega-3 fish oils to reduce risk of secondary heart attack;
- Food Standards Agency (FSA) recommended the mandatory fortification of cereals and bread flours with folic acid to the Department of Health to prevent the incidence of specific neural defects in babies.

6. DIGITAL & MOBILE MARKETING: ENABLING PERSONALISED CUSTOMER SERVICE

Retailers and beauty salons are providing a more personalised customer experience for consumers which help to boost sales. Overall, the industry is improving its approach to commercialisation and marketing (including digital marketing, e-commerce). Digital and mobile marketing in particular is proving effective in driving consumers to the beauty counter. Text marketing campaigns can reach new potential customers. In general, digital marketing offers a much faster turnaround time (and therefore more cost effective approach) for marketing campaigns when compared with advertising in glossy magazines.

Manufacturers and retailers recognise that face-to-face consultation is still important for health benefitsc products sales; consumers will use digital means to research options in the first instance, but will ultimately want to purchase products at the counter. In-store, new products launches have also helped to bring customers in store. This approach is believed to have helped buck the recessionary trend in the Europe with new products experiencing growth in the prices ranges.

7. MERGERS & ACQUISITIONS

As mentioned earlier, there has been a growing trend towards mergers and acquisition in the nutraceutical sector overall, including those specialising in food and beverage products. Acquiring smaller companies in emerging economies has been the tactic of large, global manufacturers in particular as a means of gaining competitive advantage in the country. This approach also enables manufacturers to acquire companies with niche specialisms, for instance in ethical markets or premium products aimed at specific ethnic groups. Setting up joint ventures with local nutraceutical manufacturers is also becoming more commonplace for large, global players as a means of accessing new markets.

8. THE DISCERNING CONSUMER: PRODUCT SAFETY, ENVIRONMENTAL AWARENESS, TESTING AND REGULATION

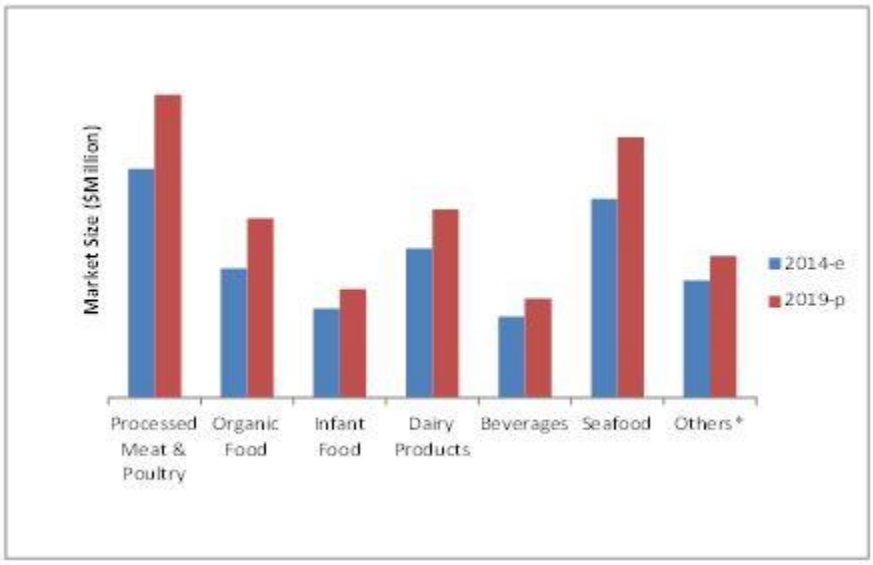
As customers become more discerning, this drives up the expectation of not just product effectiveness, but also the testing and manufacturing process. Customers increasingly expect the highest standards in terms of environmental and ethical responsibility such as in packaging, employing a local workforce in emerging markets and testing methods (i.e. non-animal testing).
The aforementioned call for more natural ingredients adds to the expectations placed on product manufacturers. This is a challenge for manufacturers as utilising natural products is more costly

than relying on synthetic ingredients. The testing process for natural inputs is complex and requires extensive analysis of toxicology levels and the identification of safety dose, allergens etc. Testing and research in general is a costly process and has a significant bearing on product pricing strategies. Producers endeavor to find ways of keeping prices within reasonable limits, striking the right balance between testing, use of natural ingredients, effectiveness and the end product cost. Large pharmaceutical companies can use their size and position in the global marketplace to manufacture product lines that appeal to the mass market at more affordable prices.

The role of regulation is also paramount with customers demanding that producers substantiate any claims of product capability and results. Consumers may choose to switch to alternative – and possibly cheaper products if they do not come up to scratch in all aspects of the testing, manufacturing and sales process.

The growth of food certification in the global market largely depends on the performance of the major players. The growth of end-user application segments such as processed meat & poultry, fresh food, organic food, and infant food is contributing significantly to the growth of the food certification market. The food and beverage industry is subject to increased growth due to stringent hygiene standards mandatory for quality food.

Globally, the demand for food certification is on the rise, with developed markets such as Europe and North America accounting for leading positions the market. With the increasing incidences of food product recalls and contaminations, the consumer's preference towards certified and tested food products is gaining popularity. Europe holds the major share of the market.



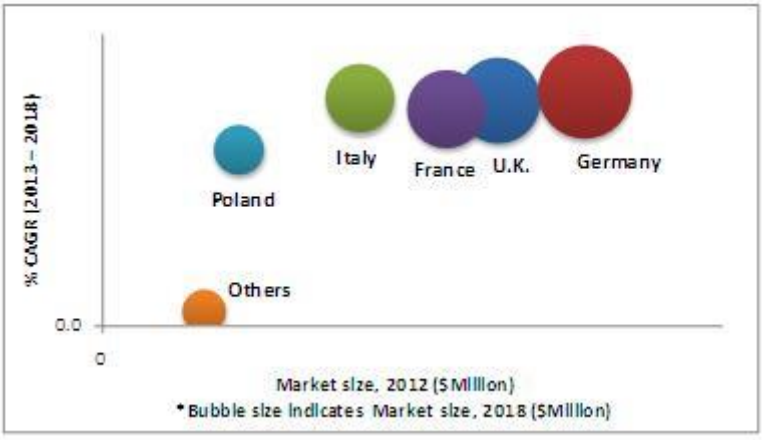
Source Market and Market Analysis

The figure above depicts the share of food applications in the global market. This market was the largest in Europe, as of 2013.

The global food certification market is dominated by Europe. This market is driven by the regulations & standards in various food application segments. However, the increasing governmental regulations and the growing awareness about improving food quality are boosting this market, globally. Emerging economies in the Asia-Pacific region are growing due to advancement in certification processes and increasing demand for food & beverage products.

Demand in different regions was considered while estimating the market share of different regions in the food certification market. The primary sources include industry experts from core and related industries and preferred suppliers, dealers, manufacturers, technology developers, alliances, standards and certification organizations from companies, and organizations related to all segments of this industry's value chain. In the secondary research process, sources such as annual reports, press releases and investor presentations of companies, white papers, certified publications, articles from recognized authors, gold standard and silver standard websites, food safety organizations, regulatory bodies, trade directories, government websites, and databases have been used to identify and collect information for this study.

9. FOOD SAFETY TESTING: MARKET REVENUE, BY COUNTRIES, 2012 - 2018 ($MILLION)



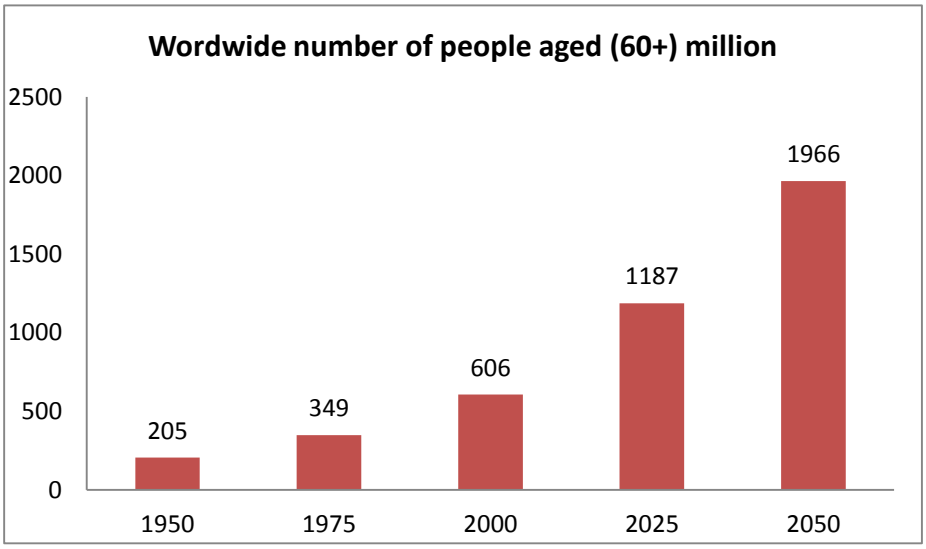
Source: MarketsandMarkets Analysis

The food safety testing market is projected to grow reach to $4,068.8 million by 2018. In 2012, Germany was the largest market for food safety testing and it is projected to be the fastest growing market in Europe. In 2012, U.K. was second largest market followed by the France. In 2012, contaminant testing in fruit and vegetable was the largest segment in European market.

The European food safety testing market is driven by the stringent food safety regulations imposed by European Food Safety Authority (EFSA) to prevent increasing outbreaks of foodborne illnesses and poisoning. The EFSA specifies that food manufacturers in Europe are responsible for safety of food that further helps to drive the market. The report briefly describes the European food safety regulations based on the contaminants present in food products.

10. AGEING POPULATION AND IMPACT ON SALES

Consumer interest in nutraceutical products is shown to rise with age, particularly amongst women. The proportion of the population aged 45 and over is expected to rise to 47.1% by 2031. People are being proactive in finding ways to lengthen their lives whilst remaining healthy. Nutraceutical products are often marketed towards the prevention of age related health issues and are appealing to older people looking at different ways (including eating healthily and exercising) to stay fitter and healthier for longer.



11. MULTIPLE DISTRIBUTION CHANNELS

Nutraceutical products are readily available in the Europe via many different retail channels. Supermarket chains, pharmacies and specialist health food stores stock all the major brands. Availability within supermarkets in particular makes access extremely easy for consumers who can shop for these products as part of their regular grocery shopping. Online sales channels are becoming increasingly popular. Large manufacturers and distributors are investing heavily in digital marketing campaigns as a means of engaging with the consumer, educating them about different products and their potential benefits (and differentiating them from competitor brands) and providing sales online.

12. REGULATION

Nutraceutical products are subject to regulation regarding any health claims attributed to the product and, in turn, how that product is labeled. Manufacturers cannot make medicinal claims e.g. that a specific product can prevent, treat or cure an illness or condition. Wording on functional foods needs to be more generic, along the lines of claiming that the product *can* assist in maintaining a healthy life – as part of the pursuit of a healthy lifestyle and/or through following a calorie controlled diet. Manufacturers must be clear on product labeling whether particular ingredients are unsuitable for any specific groups e.g. young children, pregnant women, older people, people with existing medical conditions.

In 2006, the European Commission published a new regulation (Regulation 1924/2006 – Nutrition and Health Claims) which allowed some health claims to be made legitimately and for this to be stated on product labels. Other claims, however, would need to undergo further scientific assessment to protect consumers from false or misleading claims. To qualify for the 'permitted list' of recognised health claims, an assessment must be made by the European Food Safety Authority (EFSA).

Similarly, European regulations on Fortified Foods were introduced in 2007, again with permitted lists of vitamins and minerals which are allowable in fortified foods. The latter set of regulations has been controversial within the manufacturer community. An economic impact assessment commissioned by the European Health Claims Alliance (EHCA) published in 2010 revealed concerns around the way in which the EFSA carried out assessments. The report highlighted the high proportion of negative outcomes in relation to health claims around 'other substances' i.e. non-vitamin and mineral containing food supplements. Manufacturers believe many of the EFSA decisions are unjustified as they often refer to products or substances which have been sold legally for many years and have not been challenged under any existing national laws relating to misleading advertising, for example.

The report found that, although the sector had not yet experienced any significant impact via the new legislation, there had been an increase in the levels of business uncertainty. Some companies had incurred significant costs to adjust to the legislation, while others had halted plans for R&D or new product development.

The food supplement sector also expressed concern about the impact of the regulation on the overall size of the EU market, the additional costs incurred for changes in packaging/labeling and a decrease in employment generation and net profits. Bringing products to market were expected to incur much higher costs than previously which could prove prohibitive to new entrants and seriously hamper SME creation/growth. Most companies felt that consumers would lose out through less competition and product choice and higher prices.

Products sourced from outside the EU and sold via the internet or mail order would not be subject to the same health claim regulations in the origin country, but would still be widely available to EU consumers, effectively disadvantaging EU suppliers.

13.TECHNOLOGY

Functional food and drink is acknowledged as one of the most technological areas of the food industry. The development of cholesterol lowering plant sterols and stanols for use in various foodstuffs requires lengthy research and testing. Likewise, a considerable amount of research and testing has led to the development of probiotic bacteria for use in yoghurt/yoghurt drinks to

improve digestion. Other key areas of technological development include the manufacture of special soya protein for bread and the inclusion of omega-3 fatty acids in various products to lower the risk of heart disease.

There has been an increase in the addition of VMS products being added to food and drinks at the manufacturing stage. This is especially prevalent in functional foods such as breakfast cereals and bars, bread, health drinks, spreads and milk. These additions are also subject to the new regulations on fortified foods which came into force in 2007.

13. 1. Innovation and R&D keep up with product advancement

Just as important to the growth of the nutraceutical industry as the product itself is the product delivery method. Packaging and protection for functional food and beverages as well as dietary supplements is crucial to assuring the product's successful delivery to the consumer. Take probiotics (micro-organisms with claimed health benefits) for instance, where microencapsulation is the most significant emerging and efficient technology, specifically assuring product preservation against adverse environmental conditions like air and light. Different options like compression coating and gums are developing in the market. Capsules with only essential ingredients offer the best absorption and are more "natural." There is much to consider in moving forward in the nutraceutical industry, and connecting that next dot will largely depend on what product and product complements will create the most opportunity within a given region.

14. CONCLUSIONS

Nutraceuticals which have active ingredients that claim to have medical benefits are a significant and fast growing part of the pharmaceutical industry in the US and Europe with the Asian-Pacific markets predicted to have the greatest growth potential. Nutraceuticals are food or food products that can provide health and medical benefits, including the prevention and treatment of disease. There are two principle product types including functional foods and vitamins, minerals and supplements (VMS). Innovation in ingredients and product development is a key driver across Europe. Germany, the Netherlands and Sweden have emerged as key EU innovation centers in Europe with the UK and Spain acknowledged as key test markets for new products.

Nutraceuticals operates in agriculture by growing food and plants; in manufacturing by processing the materials and producing final products; and in services by distributing and selling food and VMS goods but also providing the R&D to develop new products and expand the market. Classification of the nutraceutical sector indicates that it operates in both manufacturing and services in a similar way to nutraceuticals.

Looking at the global growth trends there is clear export growth potential for both nutraceutical sector which should ensure further growth for European companies. If the sectors become more established it will provide room for niche markets and product focused businesses to meet the growing demand.

It is clear from the statistics that although growth is predicted the Europe is facing strong competition with its global share predicted to deteriorate marginally in nutraceuticals.

The analysis drivers and constraints analysis for nutraceuticals certainly showed an industry which is changing rapidly with new products, markets and technologies being driven by new

target groups, an ageing population and a desire to stay healthy and look young. With economic constraints affecting sales the nutraceutical sector is experiencing several trends with the emergence of multiple distribution channels. The biggest issue facing the sector is the very real challenge to demonstrating positive links between consumption of functional foods/VMS products and health benefits and responding the legislative requirements. This is likely to result in the expansion of scientific research.

15. LEADING NUTRACEUTICAL COMPANIES

The following are short profiles of a selection of large and medium sized companies that operate in the nutraceuticals sector as suppliers, manufacturers and retailers of functional food and VMS products. The largest companies will often only have a small proportion of their business operating in the nutraceutical sector.

Associated British Foods is a British multinational food processing and retailing group. In 2012 its turnover was £12.3bn, pre-tax profits of £970m and 102,000 employees. It produces food and food ingredients including emulsifiers, enzymes and lactose, vegetable oils and bread.

Alpro is a Belgian company that markets organic and non-organic, non-GM soy based food and drink. It employs 750 people in Belgium, France, the Netherlands and the UK.

BASF: BASF is a German company and the largest chemical business in the world with a 2012 turnover of €79bn, pre-tax profits of €9bn and 113,000 employees, half of which are based in Germany. The company operates in most chemical based industries including plastics and engineering coatings, as well as natural gas explorations but it is also involved in biotechnology including GMOs and GM potatoes, pesticides, plant science products and other agricultural solutions.

Holland and Barrett is a health food chain with 700 stores in six countries selling a variety of whole foods, some for dietary needs such as lactose and gluten intolerants but it also sells its own brand vitamins and mineral supplements manufactured by the company itself. Holland and Barrett is a subsidiary of **NBTY,** a US based vitamins and nutritional supplement manufacturer with a turnover of $66bn (2013).

Kellogg Company is a USA food processing and manufacturing multinational which produces cereals and convenience food such as snack bars, biscuits and crackers and vegetarian foods. In 2012 it had a turnover of $14.2bn, pre-tax profits of $1.6bn and 31,000 employees. Kellogg's largest factory is in Trafford Park, UK.

Nestlé is a Swiss multinational and the largest food and beverage company in the world. In 2012 the turnover was CHF92bn (£62bn), pre-tax profits were CH14.4bn (£9.8bn) and Nestlé employed 339,000 people in 86 countries. The company sells baby and pet food but it is best known for its confectionary, coffees and dairy products. Its major acquisitions include Crosse & Blackwell, Findus, Libby's, Rowntree Mackintosh and Gerber. It also has a large stake in L'Oréal.

Noble Foods is the leading supplier of fresh eggs in the UK. In 2012 turnover was £594m and pre-tax profits were £14.8m. The company owns the Happy Egg Company worth £75m, Big & Fresh, and Goldenlay Omega 3.

Vitabiotics is the largest vitamin company in the UK specialising in vitamin and mineral based formulations. In 2012 the company had a turnover of £75.5m, pre-tax profits of £23m.

Market Leaders Operating in Nutraceuticals Sector

Agnitrin Dairy	Health Perception (UK)	So Good International
Alpro (UK)	Holland & Barrett Retail	Solgar Vitamin & Herb
Associated British Foods	Kellogg	Superdrug Stores PLC
BASF	Klosterfrau Healthcare	Tesco Stores
Bayer PLC	McNeil Nutritionals	Tropicana UK
BHM Health Group	Masterfoods	Unilever PLC
Boehringer Ingelheim	McVitie's	United Biscuits

	Cadbury	Müller Dairy (UK)	Vitabiotics	
	Chefaro UK	Nestlé UK	W Jordan	
	Coca-Cola Enterprises	Noble Foods	Warburtons	
	Dairy Crest Group PLC	Onken Dairy (UK)	Wassen International	
	Danone	Potters	Weetabix	
	Efamol	Quaker Oats	Wyeth Consumer Healthcare	
	Equazen UK	Rachel's Dairy	Yakult UK	
	Ernest Jackson & Co	Seven Seas		

II. JAPANESE NUTRACEUTICAL MARKET AND INDUSTRY

1. INTRODUCTION

Japan represent third biggest economy of the world and in 2015 saw an improvement of the national economic situation over four consecutive quarters, in all regions of Japan, a trend that was confirmed in 2014 (+6% GDP growth). Moreover, Japan has the fourth highest spend worldwide on research and development (R&D) at 3.475% of GDP. 20% of the top global R&D spenders are based in Japan. Is well known, Japan is the birthplace of the nutraceutical industry, with a tradition of enhancing the health benefits of food products going back to the late 1980s.

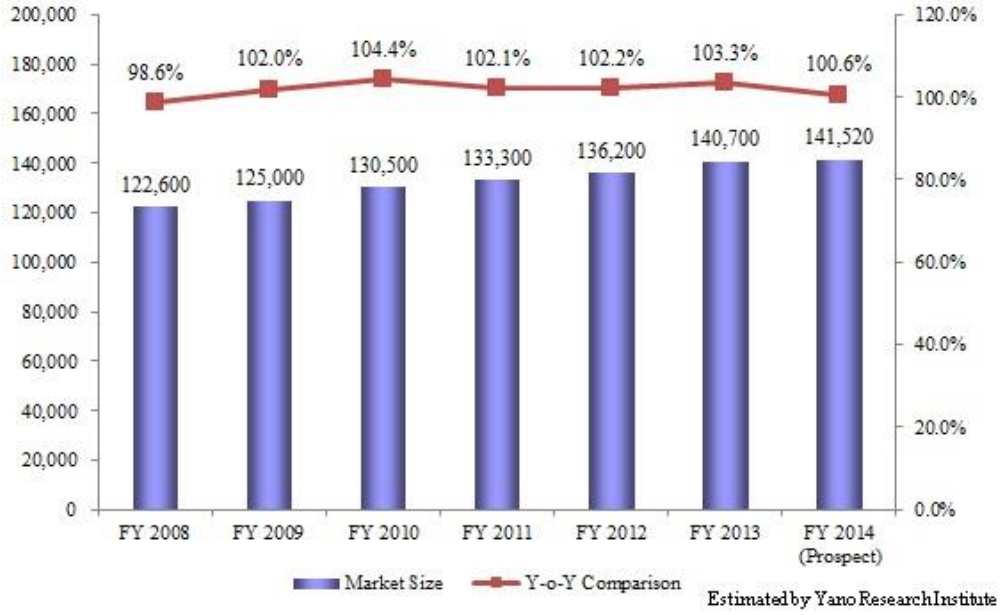
Japan has a growth, mature and sophisticated market whose consumers are among the most health-conscious and educated in Asia. They are interested in high quality, tasty, safe, innovative and natural products. Japan is enjoying the highest life expectancy in the world, as well as the highest healthy life expectancy between Japanese consumers - men as well as women - are naturally attracted by products that can provide relief, support and enhancement of their health. Attention to healthy lifestyle and wellness is making demand for nutraceuticals bigger than ever. In 2014, the Japan nutraceuticals market was worth accounting for 141.52 billion yen in the FY2014, 100.6% of the size in the previous fiscal year, more than twice that of the whole of Western Europe (source: Yano Research Institute 2015).

In Japan, population consumption of foods and beverages is affected by a high degree of health consciousness, product safety, research for new organic products, and innovation, growing health issues related to the adoption of a unbalanced Western diet, long office hours and an aging society where individuals wish to remain in good shape and beautiful as long as possible. An increasing number of single person households (about 30%) as well as families with two incomes lead to more demand for convenient yet healthy products. Faced with a large elderly population and dotted of a strong domestic phytotherapy (KAMPO medicine) tradition and expertise in bio-products, Japan was the first country to regulate and recognize functional food. It is named Food for Specific Health Use (FOSHU) and it was founded in the early 1980s. Japan is the most advanced market with a flexible regulatory environment. Today it is worth some $21 billion for nutraceuticals food supplements combined. In Japan, 55 percent of the population is using dietary supplements, according to a consumer survey conducted in 2013 by Intage Inc. This

figure is also expected to grow under the new claim system that will provide consumers with more information.

Value sales of vitamins and dietary supplements in Japan are expected to rise at a 1% CAGR at constant 2015 prices over the forecast period to stand at ¥1.2 trillion in 2020. Dietary supplements and supplement nutrition drinks will see positive constant value CAGRs in line with increasing demand from the aging population. Tonics and bottled nutritive drinks is expected to see a slight decline over the forecast period, with a declining younger population and competition from new entries of energy drinks from another industry. Vitamins is expected to sustain robust growth at an approximately 2% CAGR, but the speed of that growth is subjective depending on how well FFC products develop.

Forecast and Transition of Size of Health Foods Commissioned Manufacturing Market



In agriculture sector while self-sufficient in rice production, overall food self-sufficiency of Japan is very low as it imports about 60% of its food on a caloric basis, making Japan an attractive market for foreign food manufacturers and exporters. This trend will continue to increase as disinterest from the younger generations towards farming negatively affects the number of farmers.

Japan is today an attractive target market for European food exporters who can find receptive consumers interested in high quality products that are healthy, safe, can sustain and improve a long life expectancy, but also traceable and reliable, at the opposite of recent tainted food scandals from several neighboring Asian countries. Currently the third largest individual consumer of nutraceuticals (behind the U.S.)

This trend provides opportunities for European nutraceuticals food and beverage exporters. The current success and expected growth of this industry are closely related to the key "silver market" reality of Japanese society.
Another key factor supporting the on-going success and growth of this industry market are the promotion efforts shown by the government in favor of disease prevention, notably through approved functional food, in order to diminish the medical costs related to an aging population as well as diet and lifestyle changes. Therefore, even though the Japanese population is decreasing, its aging members will support the demand for more health and functional foods.
The following programs are three examples of government action that are unique to Japan in that regard:

- Shokuiku (Food and Nutrition Education): Basic Law of Food Education 2005**:** This comprehensive program of the Ministry of Health, Labour and Welfare (MHLW) teaches school-age children about food, how to choose food that will improve health and the general promotion of a healthy life through a healthy diet and exercise.

- "So-called Metabo Law": 2008: Based upon the Act on Assurance of Medical Care for the Elderly, it was implemented in an effort to curb the increase in metabolic system disorders and obesity and requires those between the ages of 40 to 74 years to have their waist measurements taken as part of an annual physical exam. Those over set limits are provided education and support in terms of losing weight, while local governments and companies can be penalized financially.

- Healthy Japan 21: 2000-2010 and 2012-2022: This is a joint program of government and private sector that promotes an active approach to creating healthy lives through healthy food choices, regular exercise and lifestyle change. Healthy Japan 21 was re-launched in 2012 with a stronger focus on helping individuals and communities.

Market Drivers

The following market drivers influence the entire Japanese nutraceutical industry and are also valid to understand the general context of the health and functional food and beverages sector. They affect the trends in ingredients, products and health claims and need to be factored in when assessing an export strategy.

- A declining consumer sentiment due to the consumption tax hike in April 2014 (from 5 to 8%).
- An aging society with fewer children, plus declining birth rate.
- An increase in single-person and elderly households, and many more occasions to eat alone, with a related personalization and individualization of food and food marketing.
- A increasing need for shopping convenience in step with a higher percentage of working women lead to an growing emphasis on convenience, ready-to-eat, and value-priced foods.
- A permanent preference for food safety and security in response to concern about food (both at the domestic level – nuclear radiation anxiety – and international level – e.g. tainted food scandals from China and Vietnam).

- Declining prices due to the evolution of mass-retail stores and private label.
- An development in new products, ever-shorter product life cycles.
- A deflationary economic environment over the past decade, making manufacturers to seek out lower cost food inputs and international processing options in order to remain competitive.
- The advancing diversification of the Japanese diet.

REGULATORY ENVIRONMENT IN JAPAN

As in the case with any country, exporters to Japan are confronted to non-tariff barriers in the form of legal and administrative preocupation regarding product ingredients, labeling or specific certification that can be challenging.
Technical exigency as well as border procedures generate costs for exporters. Since these costs are separate of the export volume, the result is the existence of important thresholds to the Japanese market.
Notably, the limited number of permitted food additives in Japan increases costs and prevents exporters from utilizing scale effects. High conformity costs are incurred because Japanese authorities do not accept evaluations made by international bodies. Food safety is a high priority in Japan and the combination of Japanese standards and technical requirements results in an extra cost estimated at 25%.
If the product has been imported into Japan it can only be legally offered for sale if it complies with labeling, packaging and other requirements. For example, regulations involve all imported food to be date-coded according to Japanese way (year/month/day). Containers and packaging are subject to the provisions of the Containers and Packaging Recycling Law and the Law for Promotion of Effective Utilization of Resources with specific labeling.
In addition to standard rules that apply to all imported food products, specific regulations related to health and functional foods and beverages must be taken into account. Since they have an impact on the different sub-sectors of this market, it is important to address them as a first step.
The following sections aim at providing an overview of these regulations but cannot exclude a step-by-step preparation done in close collaboration with an importer.

3.1. CUSTOMS CLEARANCE AND REGULATION

Imported food and beverage products are regulated primarily by the Food Sanitation Law and the Customs Act. Other regulations such as the Plant Protection Act and the Act on Domestic Animal Infectious Diseases Control apply to plants, which might undergo to plant quarantine depending on their type of processing or conservation method.

Food ingredient usage is regulated by a system of designated food additives, standards for food additive usage and specification of nutraceutical ingredients, with Japan differing from overseas standards in many instances. Because problems have been rise due to inconsistency between Japanese and overseas standards, many functional food manufacturers import ingredients through trading houses that are accustomed with both domestic and overseas laws and regulations. According to Japanese law, the importer will bear the responsibility for a product liability, which is almost on par with a manufacturer's. Therefore, importers are very strict about

the kind of information that must be submitted in order to pass customs clearance (quarantine check) and to be allowed to sell to population.

3.2. IMPORT PROCESS OVERVIEW

Exporters must be ready to provide a detailed list of ingredients, including food additives and preservatives, as well as certificates of analysis that prove that this list is correct and that no forbidden material is found in the imported product.
If a product is imported for sale (or tasted at a public exhibition), the Japanese importer must file a "Notification Form for Importation of Food, etc." to the quarantine station for imported food products at the port of entry. It is first necessary to go through this quarantine control. Without the "Notification Form", it is impossible to move forward to the actual customs check (see Bibliography for a link to the Notification Form).

DOCUMENTS TO PROVIDE FOR IMPORT CLEARANCE AND QUARANTINE CONTROL:
1. Notification form for importation of foods
2. Invoice and packing list
3. Bill of Lading or Airway Bill
4. Description of products (catalogue)
5. List of all raw materials (ingredients list, including food additives)
6. Processing chart (production flow charts)
7. Technical sheet (conservation method, container's materials, etc.)
8. Results of the customs analysis (when the product has already been imported into Japan)
9. Declaration of import
10. Phytosanitary certificate (Only when required – see with customs

clearance agent)
11. Certificate of analysis (Only when required – see with customs clearance agent)
12. Certificate of origin (Only when required – see with customs clearance agent)

3.2.1. Sanitary Analysis

Exporters should note that depending on the product, they must always obtain certificates of analysis in the exporting country to determine chemical contents, in line with the Food Sanitation Law. In the case of first import with purpose of sales, a partial or complete analysis may be ordered in addition, at time of customs clearance (see below). In practice, depending on the identity of the importer, such additional analysis will always be ordered.
Depending on the product, specific inspections are required to check whether some ingredients are used or if certain limits are respected.
It should be noted that Japan recognizes certificates of analysis granted by specific analysis centers located in the exporting country.

3.3. REGULATIONS REGARDING HEALTH CLAIMS

In Japan, "health and functional food with health claims" encompasses all foods products that can be divided into three groups:

- Foods with Nutrient Function Claims (FNFC)
- Foods for Specified Health Uses (FOSHU)
  and Food with Functional Claims (FFC) from 2015
- Foods for Special Dietary Use (FOSDU)

The manufacturing and sales are standardized by various regulations that are reviewed in the following section. All other food and beverage products such as nutraceutical products that possess health benefits, processed food and beverages with a minor content of functional ingredients, supplements of ingredients such as vitamins and minerals that are not included in the FNFC list, are considered as non-regulated health foods.

The products labeled as FOSHU, FOSDU and FNFC food products are regarded as nutraceuticals. On the other hand, the Pharmaceutical Affairs Law prohibits labeling indicating medicine-like or pharmaceutical-like effects on products other than drugs. Therefore, it is of crucial importance to strictly respect the labeling and not advertise dietary supplements or any kind of nutraceutical in a way that could lead to consumer confusion as to an eventual drug-like

effect (such as instructions on dosage and administration or improvement of health or physical conditions).

In April 2015, Japan's Consumer Affairs Agency (CAA), the governmental organization charged with oversight of food labeling and health claims, introduced a third category of health claim. This new category of voluntary labeling is known as Food with Functional Claims (FFC) and allows companies to display a product's specific health benefit (aka "functionality") and an associated area of the human body on retail food packaging. The Health Promotion Act prohibits false or exaggerated advertising of health maintenance / promotion functions. According to the Unjustifiable Premiums and Misleading Representations Act, "misleading representation" is defined as either representation of raw materials or ingredients in a product different to what they actually are, or as the false representation of effect/benefit claims, respectively representation of effect/benefit claims not recognized as objectively founded.
Food products are not permitted to bear claims unless they are classified as foods with FNFC, FOSHU or FOSDU.
Only FOSHU and FOSDU products are allowed to bear claims relating to their clinically proven function, whereas FNFC are not necessarily clinically proven.
At present, only FOSHU and FOSDU require pre-marketing approval because they are based on a product-specific approval system. For all other health food products, the onus is on manufacturers to ensure their products meet the requirements stated in the above-mentioned regulations.

3.3.1. Foods for Specified Health Uses (FOSHU)

The FOSHU policy in Japan was first introduced in 1991. As of July 2015, FOSHU-certified foods amounted to 1173 products (source: Japan Health and Nutrition Food Association). This certification allows producers to state claims such as "this product has a beneficial effect on health". The official definition of FOSHU products is "foods which are expected to have a specified use on health due to the relevant constituents or foods from which allergens have been removed".
Most of FOSHU products are related to improvement of gastrointestinal (GI) conditions. Other type of products have been approved regarding blood cholesterol, triacylglycerol, body fat, blood pressure, bone, teeth and blood glucose.
In case of probiotics, the FOSHU health claim for such products is limited to improvement of GI conditions and includes references to "good bacteria", "recover good micro flora", and "promotes the maintenance of good intestinal environment and regulates gastrointestinal conditions". Statements like "keep the intestines healthy" are also permissible.

Table Categories of Health Claims under FOSHU Policy

HEALTH USES	FOOD CATEGORY (EXAMPLES)	INGREDIENTS (EXAMPLES)	MODEL CLAIM STATEMENTS	NUMBER APPROVED (2014)
GI function	Table sugar	Oligosaccharides, lactose, bifidobacteria, lactic acid, guar gum, polydextrol, indigestible dextrin	Helps maintain good GI condition Helps improve bowel movement	**377**

Blood cholesterol level	Powdered beverage Oil	Soy protein, chitosan, degraded sodium alginate	Helps lower cholesterol level	**146**
Body fat	Oolong tea	Polyphenols	For those concerned about body fat	**123**
Triacyglycerol	Refined oil	Medium-chain fatty acid, DHA, EPA	Helps resist body fat gain	**63**
Blood pressure	Instant powder soup, candy	Sardine peptides, casein posphopeptide, lactotripeptide, geniposidic acid	For those with high blood pressure	**126**
Bone health and mineral absorption	Table sugar Beverage	Oligosaccharides casein posphopeptide soy isoflavone, milk basic protein	Promotes calcium absorption Supports bone health	**63**
Dental health	Chewing gum	Xylitol, calcium phosphate and Fukuronori extract, erythrytol	Helps maintain strong and healthy teeth	**86**
Blood glucose	Beverage Instant Miso soup	Indigestible dextrin, wheat albumin, guava tea polyphenol, L-arabiose	For those concerned about blood glucose level	**174**

Source: M. Uehara, MHLW, CAA, Japan Health and Nutrition Food Association

The Consumer Affairs Agency (CAA) is responsible for the registration approval process of FOSHU products. In order to protect the public from false and misleading label claims, the CAA has made several changes to encourage industry participation in the FOSHU approval system.
In April 2015, Japan's Consumer Affairs Agency (CAA), the governmental organization charged with oversight of food labeling and health claims, introduced a third category of health claim labeling for food and expanded the reach of another category. Food with Functional Claims (FFC) and allows companies to display a product's specific health benefit (aka "functionality") and an associated area of the human body on retail food packaging.[1] This new FFC registration process is more affordable and faster than the registration process for Food for Specialized Health Uses (FOSHU).
Qualified and Standardized FOSHU were introduced with reduced quantity and quality requirements of scientific evidence for lower level claims.

FOSHU products are therefore divided into four subcategories that have varying levels of efficacy requirements based on the types of claims in each category.

FOSHU Sub-Categories and Requirements

CATEGORY	REQUIREMENTS
	• Requires a detailed review of the scientific evidence for efficacy, safety, and quality of each finished product (use of nutritionally

FOSHU	appropriate ingredients such as non-excessive use of salt and guarantee of compatibility with product specifications by the time of consumption). • Established quality control methods (specifications of products and ingredients, processes, methods of analysis).
Qualified FOSHU	• Relevant for FOSHU with ingredients showing certain health effects but for which scientific evidence is not sufficient to be granted full FOSHU approval. • Requires a detailed review of the scientific evidence for each product. • The health claims are qualified, i.e. suggestive but not conclusive. • The products should be labeled as "Qualified Food for Specified Health Use" to differentiate from the other three categories.
Standardized FOSHU	• Relevant for FOSHU products with established standards and specifications by the CAA. • Does not require a detailed review on efficacy. • Scientific evidence on safety is required.
FOSHU with Disease Risk Reduction Claim	• Highest level of FOSHU certification. • Relevant for FOSHU whose ingredients are clinically and nutritionally established to reduce the risk of certain diseases. • Requires a detailed review of the scientific evidence for each finished product. • Folic acid and calcium are the only permitted ingredients at present.

Source: Nutraceuticals World

The conditions for approval are:

- Improvement of dietary habits and contribution to health maintenance by consuming the product.
- Availability of scientific evidence for claimed health benefit.
- Established clinical and nutritional intake level of the product and/or its active functional components.
- The product and/or its functional components are safe for human consumption without secondary effect.

- The following items regarding functional component are defined: Physical, chemical and biological/medical characterization and its methods; Methods of qualitative and quantitative analytical determination for the components.
- The nutrient constituent of same type of food is not significantly changed.
- The food is intended for daily consumption and not on rare occasions.
- The product or its functional component is not included in the medical drug list.

3.3.2. Food for Special Dietary Uses (FOSDU)

FOSDU products are labeled with certain nutritional claims looked for by specific consumers. This label means that the food is appropriate to maintain health and/or recover from diseases, particularly in infants, young children, pregnant and lactating women and patients.
The CAA assesses and approves applications based on scientific evidence using either a standard approved process where it checks the product with the established standards for approval or an individual approval process in cases of no established standards (source: CAA).

Food for Special Dietary Uses

<table>
<tr><th colspan="2">FOUR CATEGORIES OF FOSDU:</th></tr>
<tr><th colspan="2">I. Medical foods for the ill:</th></tr>
<tr><td>Single foods:
- low-sodium foods
- low-calorie foods
- low-protein foods
- no/low-protein and high-calorie foods
- high-protein foods
- allergen-removed foods
- lactose-free foods</td><td>Packed meals (meals prepared for one serving, consisting of several foods):
- sodium-reduced meals
- meals for diabetes
- meals for liver disease
- meals for adult obesity</td></tr>
<tr><th colspan="2">II. Formulas for pregnant or lactating women</th></tr>
<tr><th colspan="2">III. Infant formulas</th></tr>
<tr><th colspan="2">IV. Foods for the elderly with difficulty in masticating and/or swallowing (dysphagia)</th></tr>
</table>

3.3.3. Foods with Nutritional Function Claims (FNFC)

“Foods with Nutrient Functional Claims” (FNFC) refers to foods labeled with the functions of their nutritional ingredients. They are “foods with function claims”.
The MHLW has established standards and specifications for nutrient function claims. For example, the claim “*Niacin is a nutrient that helps to maintain skin and mucosa healthy*” can be declared on product labels where niacin is present within clearly established limits.
According to the Japan Food Sanitation Act, a FNFC must contain at least one of 17 nutrients (12 vitamins and 5 minerals) that are permitted for use in such products, with established minimum and maximum daily amounts intake to ensure sufficient nutrient and to be safe. These items are considered crucial for human health.
In advance these nutrients are pre-authorized by the MHLW, all products that meet these conditions can be freely manufactured and distributed as FNFC products based on the

manufacturer's own judgment. As a result of this lack of registration, there are no specific statistics available regarding the number of FNFC products already in the market.
In addition, eight nutrients are not permitted for use as FNFC, including vitamin K and phosphorus, as deficiency in these nutrients does not exist in Japan.

3.4. REGULATIONS FOR ORGANIC FUNCTIONAL FOOD

The Agricultural Standard Law regulates the production and distribution of nutraceuticals. Japanese Agricultural Standard (JAS) Organic certification and JAS Organic label are required for any functional food products to be sold as organic. However, this requirement applies only to what is known as "specified products" in the law.
The JAS law defines organic functional food products (plants), such as compounds or whole plants such as: grains, soybeans, fresh vegetables and fruits, and agricultural processed food products of plant origin (e.g. grape juice, wine) as "specified products" and requires them to be JAS organic certified and affixed with a JAS organic seal in order to be sold as organic in Japan. Therefore, only those products are officially defined as organic. Organic food products made in Europe and that have received the BIO label benefit from mutual agreement of organic certifications between Japan and UE. On the other hand, imports of non-specified products but certified as BIO products, can be labelled as organic with the BIO organic logo and sold in Japan.

We highly recommend that exporters coordinate with respective importers to determine exactly how a particular product will be treated. Three options exist to export organic products in Japan from Europe.

- Option 1: Products must be accompanied by an Export Certificate and the product must be imported by a JAS Organic certified importer. The certified JAS importer can then affix a label to the product and sell it as JAS certified organic. To claim the product to be organic in Japan, it must be labeled as JAS certified organic. The Export Certificate can be issued by the following registered certification bodies in Europe: EFSA.
- Option 2: Since July 2013 a European company, which is certified according to the European organic certification system, can be commissioned by a Japanese JAS-certified importer to directly attach a JAS organic label on their products. In this case, too, an Export Certificate needs to be accompanied and the products need to be imported by a JAS Organic certified importer.
- Option 3: European producers obtain a JAS certification from the EFSA when they can ensure that their products are in accordance with JAS Standards. These producers may then attach the JAS mark on their products and export them as such. They do not need to work with JAS-certified importers in Japan.

More additional information can be found in a Q&A document published by MAFF regarding JAS standards for organic plants and organic nutraceuticals.

3.4. FOSHU AND BOTANICALS

A few 6otanical products have been hitherto approved as FOSHU products. These includes leaves of guava as *polyphenols* for the decisive ingredient claiming good for those concerned about blood glucose level and green tea with *cathechin* as key ingredient claiming it as good for those concerned about body fat. The other botanical species approved for FOSHU is the leaves of Guta-percha tree containing *geniposide* as the key ingredients claiming it as 'good for those concerned about relatively high blood pressure'. The aforementioned FOSHU products are in the form of tea. FOSHU products based on botanicals are listed in the non-DR List and confirmed safety and effectiveness will become more available to consumers for maximizing the FOSHU system. Most of the plants and animal origin ingredients are used as pharmaceuticals in forms of KAMPO drugs under the umbrella of any drug in Japan and prescribed by a specialized physician in KAPO medicine.

3.6. REGULATIONS FOR FOOD PACKAGING

The Japanese regulatory framework for food and nutraceutical packaging components are ruled by government regulations based on the Food Sanitation Law standards that have been established by industry trade associations. A detailed analysis of these highly complex rules should be conducted on a product-by-product basis.
Regarding food-contact materials, the legislation forbidden the sale of equipment or packages containing toxic or harmful substances that could affect human health. Three different types of specifications for containers and packaging materials have been established:

a) General specifications that apply to all containers and packaging;

b) Material-specific standards; and

c) Certain specifications that apply to the end-use application for the packaging such as recycling

Almost all general specifications that apply to all food containers and packaging material primarily address the use of some metals, particularly lead, in various food contact applications. As for artificial colorants intended for use in packaging materials, they must be approved by MHLW, unless it can be shown that they do not migrate to the food composition.
Moreover the governmental standards and specifications in Japan has many voluntary standards that are widely respected in Japan. Most often nutraceutical companies will require their suppliers to have their products sanctioned by the appropriate trade association before purchasing them.
The Japan Hygienic Olefin and Styrene Plastics Association (JHOSPA), the Japan Hygienic PVC Association (JHPA), the Japan Hygienic Association of Vinylidene Chloride (JHAVDC), and the Japan Paper Association (JPA) are among the most important trade associations in Japan in this regard. They maintain "positive lists" of materials and substances that are approved for use.
Therefore, for the Japan Printing Ink Makers Association, it has established a "negative list" that excludes substances classified as carcinogenic, mutagenic, or acutely toxic, as well as some heavy metals, organic substances toxins and reproductive system toxicants in food packaging.
Consequently, it is important to ensure that any substance that will be marketed in Japan for use in food packaging is not included on this negative list, respectively that it follows the positive list of the other associations.

For more technical information about packaging material regulations, please refer to "Specifications and Standards for Foods, Food Additives, etc. Under the Food Sanitation Act – (Abstract) 2010" (http://www.jetro.go.jp/en/reports/regulations/pdf/foodext2010e.pdf).

3.7. PRODUCTS LABELING REQUIREMENTS

3.7.1. Standard Label

Regularly at the time of sale, for all nutraceuticals products sold in Japan, the following information (in Japanese language) must be found on labels using a specific typography and character size set down by law. Exporters should exactly follow all specifications given by their importers in this regard.
Always in the case where the product falls into the "food with health/function claims" category, or can be qualified as organic under Japanese law, additional information must be added on the label (see sections below).

- Name of the product
- Use by date or date of minimum durability (unopened state and according to given preservation method)
- Preservation methods
- Name and address of manufacturer
- Country of origin
- Net weight (grams, milligrams or liters)
- Amount of the nutrients and nutrients contents (including energy value) in the product
- Name of ingredients and food additives and the quantity, listed in descending order of quantity (in percentage or mg)
- Allergen warning
- Instruction for consumption, preparation, and preservation if necessary
- Name and address of importer company (or Japanese manufacturer)
- Appropriate labels None of these points should be overlooked. It should be pointed out that large companies are not immune to labeling issues. In 2013, *Red Bull* had to recall a new 330ml bottle due to use of incorrect Western-style date labeling on packaging.

Under the Food Sanitation Law, labeling of additives that are mainly used as sweeteners, antioxidants, artificial colors, color fixatives, preservatives, thickeners/stabilizers/gelling agent/bodying agents, antifungal agents and anti-mold agents must be done by substance name or category name.
It is acceptable to label additives, which are referred to by widely used names, with such names. Examples are yeast food, gum base, enzyme, emulsifier, pH control agent, bittering agent, acidifiers, glazing agent, flavoring agent, raising agent (baking soda, baking powder), soybean curd.
For more information about additives, please refer to the JETRO document "Specifications and Standards for Foods, Food Additives, etc. Under the Food Sanitation Act (Abstract)" .

When it comes to allergens, the MHLW has identified 25 ingredients that are deemed to cause allergic reactions. One group of 7 items falls into the "mandatory labeling" category, while the other regroups 18 recommended items (but labeling is highly suggested for marketing and communication reasons).
"Labeling for possibility" such as writing "Food may contain..." or "Food sometimes contain..." is forbidden by law in order to avoid inducing consumers in error (source: JETRO).

MANDATORY ALLERGEN LABELING	RECOMMENDATION FOR ALLERGEN LABELING
Shrimp/prawns, crab, wheat, buckwheat, eggs, milk, and peanuts	Abalone, squid, salmon roe, oranges, kiwifruit, beef, walnuts, salmon, mackerel, soybeans, chicken, bananas, "*matsutake*" mushrooms, peaches, yams, apples, and gelatine.

Source: MHLW

Concerning the country of origin, the Law for Standardization and Proper Labeling of Agricultural and Forestry Products stipulates that all imported processed foods must carry the name of their country of origin.
In particular, for 22 categories of processed foods, the name of their own country of origin must be added in brackets or in a specific column. For other categories of products, such specific labeling is not required. The following table provides a non-exhaustive list of processed foods where this labeling in required.

CATEGORY OF PROCESSED FOODS WHERE COUNTRY OF ORIGIN MUST BE INDICATED (NON-EXHAUSTIVE)	EXAMPLES OF PROCESSED FOODS
Dried mushrooms, vegetable, fruits	Dried shiitake
Salted mushrooms, vegetables, fruits	Salted mushrooms
Boiled or steamed mushrooms, vegetables and beans; and sweet bean pastes	Boiled bamboo shoots, raw bean pastes
Mixture of cut vegetables and fruits, mixture of vegetables, fruits and mushrooms	Cut vegetable/fruit mix
Konjac	Konjac bar, konjac ball
Black sugar and derived processed products	Candy, doughnut sticks
Kelp roll (kombu maki)	Salmon kelp roll

Source: MAFF, CAA, JETRO

3.6.2. Nutrition Facts Label

As mentioned above, nutrition information must be shown on the package of every food and drink product.

3.7.2.1. About Dietary Reference Intake in Japan

Dietary reference intake (DRI) in Japan consists of 6 reference values (1 for energy and 5 for nutrients) to prevent deficiencies, adverse effects by excess intake, and lifestyle-related diseases. Its purpose is to present reference values for healthy individuals and groups for intake of energy

and 34 nutrients. If the target populations have dietary education, prescribed diets, diet restrictions, the disease-specific clinical practice guidelines are given priority and used.
DRIs include the Estimated Energy Requirements (EER), Estimated Average Requirement (EAR), RDA, Adequate Intake (AI), Tolerable Upper Intake Level (UL) and Tentative Dietary Goal for Preventing Lifestyle-related Diseases (DG). DG has been set for several macronutrients and minerals that have been shown in epidemiologic studies and is defined as the intake level (or range) that Japanese should currently consume to primarily prevent lifestyle-related diseases. Thus, DG is unique to Japan, while other DRIs are similar to those used in other countries (source: National Institute of Health and Nutrition, 2012).

Refer to Appendix for the list of nutrients for which DRIs have been established in Japan (13 vitamins and 12 minerals, sugars, saturated fats and cholesterols).

3.7.2.2. Nutrients Claim and Declaration

According to the CAA, nutritional components, calorie count, structural and types of components are required to be mentioned on labels and must be expressed in kcal per 100 g, 100 ml, serving, package or other standard size in the following order.

CORE NUTRIENTS
Calories (kcal or kilocalories)
Protein (g or grams)
Total fat (g or grams)
Carbohydrate (or available carbohydrate and dietary fiber) (g or grams)
Sodium

Manufacturers may provide *voluntary* nutrition information for:

- The nutrients for which DRIs have been established. It is important to notice that this list includes but *is not limited to* the list of FNFC nutrients (e.g. it includes phosphorus and selenium)
- The nutrients whose DRIs are not established in the Nutrition Labeling Standards may also be declared as long as they are based on scientific evidence (e.g. collagen, polyphenol, galactooligosaccharides).

- In case of nutrient content claims, required information shall be provided as follow:
- Content claims (e.g. high **, contains **, zero **)
- Comparative claims (e.g. X times **, X % reduced)

Other information for dietary fiber, protein, calcium, iron, vitamin A, vitamin B1, vitamin B2, niacin, vitamin C and vitamin D, health-related claims such as “rich in” or “containing” must meet minimum content level standards required by the Health Promotion Act. Claims that include the terms “less” or “no” in regards to calories, fat, saturated fatty acid, sugar or sodium, must also meet maximum content standards required by the Health Promotion Act. For example, when a “no sodium” or “low or less sodium” claim is made, the sodium content must be lower

than 5 mg and 120 mg per 100 g of food respectively, and when a “no fat” or “low or less fat” claim is made, the fat content must be lower than 0.5 g and 3 g per 100 g of food, respectively.

3.6.3. Recycling of Empty Containers and Wrapping

The issue of empty package recycling is important not only for the relation between exporter and importer but also for the products' retail price. The Containers and Packaging Recycling Law covers empty jars made of glass but also any wrapping packages or bags that become unnecessary when contents have been consumed or removed (cardboard cartons are not included).
Moreover, users and manufacturers as well importers, assume the responsibility of waste. They have been assigned the responsibility of recycling these containers and wrapping in accordance with the volume that they manufacture or sell.
Since it is practically impossible for individual business entities to collect waste containers and wrapping and recycle them on their own, the Japan Containers and Packaging Recycling Association, a government-designated organization, operates recycling business on behalf of them. In turn, these business entities pay "recycling fees" to the JCPRA to fulfill their legal obligation.
The following labels must be applied on packages according to the composition of all of their parts. When relevant, exporters should therefore communicate the components to their importers.

Labeling of Products Package Components

Source: Japan Containers and Packaging Recycling Association (JCPRA)

3.7.4. Specific Labeling for Health Food Products

Furthermore to the above-mentioned regulations that apply to nutraceuticals and functional food products, in addition to the ingredient list, nutrition facts, etc. mentioned above.

3.7.4.1. FOSHU

FOSHU certified products have to mention the following indications on their label:

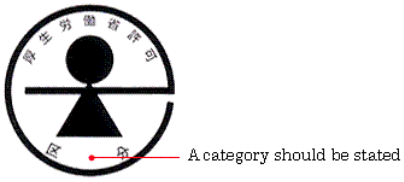
- FOSHU logo
- Health claims according to their FOSHU certification
- Warning statements

3.7.4.2. Qualified FOSHU

Qualified FOSHU certified products have to mention the following indications on their label:

- Qualified FOSHU logo
- Health claims according to their FOSHU certification
- Warning statements

3.7.4.3. FOSDU



FOSDU certified products must bear their label:

- FOSDU label, which must also specify the proper FOSDU category
- Permitted/approved phrase for display
- Name of the approved body and its address

3.7.4.4. Foods with Nutrient Function Claims

There is no logo but FNFC products have to mention the additional following indications on their labels:

- Nutrient function claims for the 17 vitamins and minerals recognized as FNFC
- Warning statements

3.7.4.5. Organic Products

As previously explained, the Japanese organic labeling may be affixed to products manufactured by overseas producers certified or commissioned by JAS-registered certifying bodies, or placed by JAS-certified importers in the case where the product is manufactured in a country whose grading system is recognized as equivalent to JAS (such as Europe).

3.8.2. TAXES

Since April 1st, 2014, Japanese consumption tax on all food and beverage products has increased from 5% to 8%. It is calculated on the following basis:
(CIF price + tariff duties) x 8%
Depending on the product, there are other taxes to consider and should be discussed with an importer.
KL.

2. NUTRACEUTICAL AND FUNCTIONAL FOOD MARKET

3.1. HEALTH CARE AND HEALTH POLICY IN JAPAN

Japan has the highest life expectancy in the world and the good health statistics. A combination of favorable cultural heritage of dietary risk factors and physical activity along with public health programs promoting balanced diet (reduction of salt intake for example), primary care management of key risks (such as high-blood pressure) and favorable risk factors for some cancers and heart diseases, helped Japan dramatically decrease adult mortality in the 1970s and 1980s.

However, since 1995 other industrialized countries have started outpacing Japan and achieving lower rates of adult mortality. High tobacco consumption (40% of male population smokes, against 10% of women), aging population, stressful working conditions, economic stagnation and related increasing social disparities as well as high rates of suicide have been quoted as playing a major part to this negative trend (source: The Lancet, 2011).
According to the latest health survey conducted by the MHLW, in 2007, the main public health issues faced by Japanese were diabetes, metabolic syndrome (visceral fat syndrome), obesity, lack of adequate sleep and stress (source: MHLW - National Health and Nutrition Survey, 2007).

- Occurrence of diabetes have increased in Japan by 61% between 1997 and 2007, going from 13.7 million to 22.1 million individuals.
- Another problem is the metabolic syndrome, in 2007, among subjects aged 40 to 74, 50% of men and 20% of women were strongly suspected of having or likely to develop it.
- Obesity is also on the rise in all age categories, compared to 1987 and 1997, but decreasing in the female population in the 30-69 years group. With 4%, obesity rate remains however well below that in other developed nations.
- Regarding adequate sleep, 40% of the general population over 15 years averaged 6-7 hours of sleep per day. Overall, 75% stated getting “adequate” or “reasonable” rest, but in the specific 15-49 age group their rest was inadequate or that they were “not getting enough rest at all”. As a result, the percentage of individuals using sleeping aid drugs

(including sleeping pills, tranquilizers, alcohol) increased between 2003 and 2007, to reach a total of 13% of the population.

- 70% of both men and women in the 20-49 years group reported experiencing "a lot of stress" or "a little stress".

Rapidly increasing health costs since 2008, the government has made it obligatory for people aged 40-74 years old to undergo annual check-ups and has developed a health education intervention that is focused on the prevention of metabolic syndrome (source: The Lancet, 2011).
Allergies are also an increasing health issues in Japan since the 1970s, whether because of pollens or food-related issues. Almost 9.1% of the population suffer from asthma and about 13% from allergic rhinitis (hay fever) (Pawankar et al., 2008). As long as food allergies are concerned, milk, eggs and soybeans are the three most common allergens in Japan and this is why they, among others, must be clearly labeled as such on packages.

Recent research have pointed out that only 20 to 40% of the Japanese population carry the gene that produces the lactase enzyme during adulthood, enabling them to drink milk (gene prevalence depends on the region in Japan) (Curry, 2013). Within 3 to 4 years of weaning, between 80 and 90% of Japanese lose this ability and become lactose intolerant. Some studies have found that most Japanese can consume 200ml of milk without showing severe symptoms (Swagerty et al., 2002, Lomer et al., 2008).

As regarding gluten intolerance, this is lesser known in Japan. Most of traditional foods in Japan contains gluten (udon noodles, soy sauce and soy-based miso sauce, fried tempura, etc.). Research has showed that a rise in gluten intolerance may lead a growing number of cases of Inflammatory Bowel Disease (Watanabe, 2013).
Preventive care, including nutrition and food education, is promoted by the medical community and the government as an effective way to reduce medical fees. The fact that the functional food market has been outperforming the Over the Counter drugs and quasi-drugs segment since 2005 is significant. Approving the marking of functional foods and their effects is therefore seen as a necessity and manufacturers as well as exporters have to factor these needs when marketing new products and improving the research and development department in nutraceutical companies.

3.2. STRUCTURE AND MARKET SIZE

Because the nutraceutical market covers a broad scope of food and beverage products, raw ingredients and dietary supplements, the approach to this market is fragmented and must be done from various points of view.

The market value of the total health food and dietary supplement market in Japan is estimated at JPY 2'051.46 billion for FY2013, a 3.7% increase compared to the previous year.
The following table provides an overview of the different segments of the market. This table distinguishes between basic and processed foods, beverages, "health food" and "supplements". Distinction between the latter two categories is based on how manufacturers market their products even though this report addresses them together otherwise. For example, some label as "health food" lacto-ferrin tablets targeting weight loss, while others use the expression "supplements" for tablets that have the same purpose but are made of seven kinds of teas.

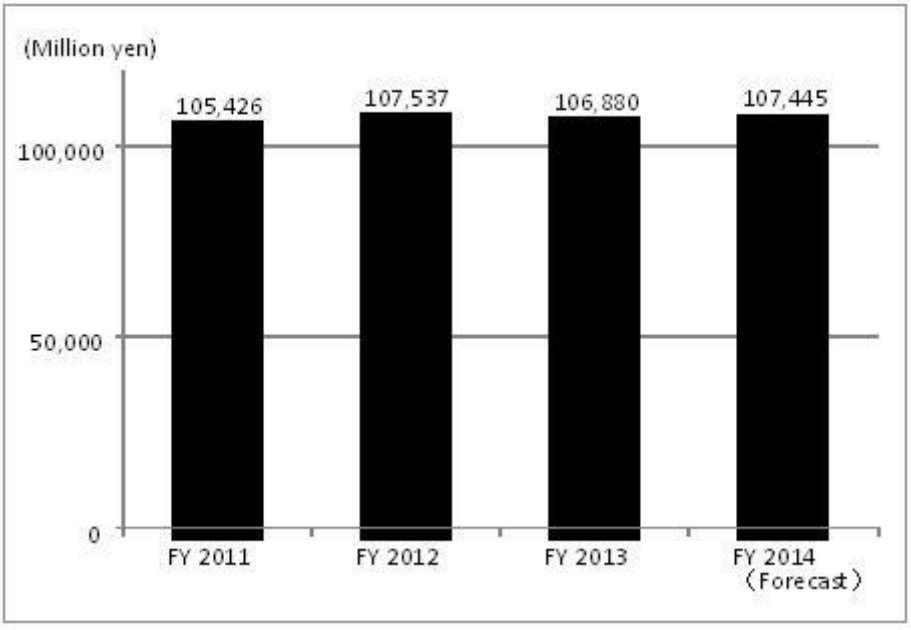
Total Value of the Health Food Market 2013-2015 (JPY, billion)

	2013	2014	2015
Beverages	730.48	781.41	783.43
Health foods	709.12	719.94	720.8
Dietary Supplements	173.38	172.13	170.93
Total	**1'612.98**	**1'673.48**	**1'675.16**

Source: Fuji Keizai H/B Marketing Handbook n°3 (2015)

The FOSHU-certified product market (that regroups products in all above-mentioned categories) had recently decreased and then stagnated because of high legal requirements for obtaining certification. However, it showed a remarkable rebound between 2011 and 2015 due to the successful market introduction of new FOSHU-certified beverages by soft drink market leaders in 2012 and 2013 that affected favorably results for those two years. As of 2013, it was valued at JPY 6.275 billion.

Market Value of FOSHU Certified Products – 2011-2014 (JPY, million)



Source: Japan Health and Nutrition Food Association

As far as organic products are concerned, the Japanese market is still in its nascent stages. This is partly due to limited domestic organic food supplies, undeveloped distribution channels and continuing strict import regulations, hindering the availability of organic products in the Japanese market. Confusion with *gennoyaku* (less chemical fertilizers) and *munohyaku* (no chemical fertilizers) is still persistent among consumers who are not often aware of the restrictive legal definition of 'organic products' (see section 3.4 above).

According to the "Organic Market Research Project" survey conducted by a national organic agricultural NGO in Japan in 2010, the *natural* (less or no chemical) food market in Japan was estimated at around JPY 610 billion, about five times of the *organic* food market (JPY 150 billion). This implies that there is a great growth potential of the organic market, as adequate understanding improves among Japanese consumers (source: USDA - GAIN Report, 2013).
Domestically, production of primary organic products has not increased much since the mid-1990s and Japanese manufacturers are moving towards producing value-added products such as organic noodles, juices and processed foods. The large market share of organic soybeans and traditional foods made of soybeans is noteworthy. With a growing number of affluent consumers who look for high quality, healthy and environment-friendly products, it is expected that demand for organic products, raw materials and processed foods will also gradually increase.

3.3. MAJOR COMPANIES

3.3.1. Top Rankings of Market Operators

In Japan the major actors of the health and functional food industry are all national companies, with some exceptions such as Mondelez Japan Ltd. or Lonza Japan that are subsidiaries of foreign groups. Many of the products are local brands with a few international brands sold under license. Domestic nutraceuticals manufacturers focus on new product introduction, product convenience and product personalization for growth.
With such a fragmented market segment, there is no single nutraceutical market leader to identify, rather various market companies performing in their respective segments. The following tables provide an overview of the top 10 companies with the most FOSHU approvals and a ranking of the 8 best-selling domestic manufacturers of health and dietary supplements using the direct mail distribution channel (the most successful for such products, see below section).

Top 10 Companies with FOSHU Approvals (June 2014) (JPY, million)

	NAME OF APPLICANT	TOTAL FOSHU APPROVALS
1	Toyo Shinyaku Co., Ltd.	242
2	Yakult Honsha Co., Ltd.	55
3	Ajinomoto Co., INC.	39
4	Calpis Co., Ltd.	36
5	Lotte Co., Ltd.	33
6	Mondelēz Japan Ltd.	32
7	Kao Corporation	29
8	Ito En, Ltd.	25
9	Nissin Food Products, Ltd.	22
10	Taisho Pharmaceutical Co., Ltd.	20

Source: Toyo Shinyaku Co. Ltd, based on CAA data

As far as organic products are concerned, the Japanese market is still in its nascent stages. This is partly due to limited domestic organic food supplies, undeveloped distribution channels and continuing strict import regulations, hindering the availability of organic products in the Japanese market. Confusion with *gennoyaku* (less chemical fertilizers) and *munohyaku* (no

chemical fertilizers) is still persistent among consumers who are not often aware of the restrictive legal definition of 'organic products' (see section 3.4 above).

Domestic Manufacturers of Health Ingredients and Dietary Supplements Using Direct Mail Marketing

	COMPANY NAME	BEST-SELLING PRODUCT
1	Suntory Wellness	"*Sesamin EX*": soft capsule, made from sesame oil. Anti-aging beauty.
2	DHC (Daigaku Honyaku Center)	«*Forskohlii* »: soft capsule, blend of extracts of forskholii plant and vitamin B1, B2 and B6. Diet supplement.
3	Egao	Black vinegar
4	Everlife	"*Koujun*": beverage for anti-aging beauty (hyaluronic acid).
5	Yazuya	"*Kouzu*": soft capsule of vinegar. Supplement for health, diet and beauty.
6	Yamada Apiary	Zymolytic royal jelly
7	Wakasa Seikatsu	"*Blueberry Eye*", soft capsule made of blueberry from Lapony, blueberry from Canada, cassis from New Zealand.
8	Kyusai	Hyaluronic acid collagen, in powder.

Source: Fuji Keizai H/B Marketing Handbook n° 3, 2014

According to the "Organic Market Research Project" survey conducted by a national organic agricultural NGO in Japan in 2010, the *natural* (less or no chemical) food market in Japan was estimated at around JPY 610 billion, about five times of the *organic* food market (JPY 150 billion). This implies that there is a great growth potential of the organic market, as adequate understanding improves among Japanese consumers (source: USDA - GAIN Report, 2013).
Domestically, production of primary organic products has not increased much since the mid-1990s and Japanese manufacturers are moving towards producing value-added products such as organic noodles, juices and processed foods. The large market share of organic soybeans and traditional foods made of soybeans is noteworthy. With a growing number of affluent consumers who look for high quality, healthy and environment-friendly products, it is expected that demand for organic products, raw materials and processed foods will also gradually increase.

3.2. MAJOR COMPANIES

3.2.1. Top Rankings of Market Companies

The major players of the health and functional food industry are all Japanese companies, with some exceptions such as, Mondelez Japan Ltd. or Lonza Japan that are subsidiaries of foreign groups. Many of the products are local brands with a few international brands sold under license. Domestic manufacturers focus on new product introduction, product convenience and product personalization for growth.
With such a fragmented market segment, there is no single market leader to identify, rather various market actors performing in their respective segments. The following tables provide an overview of the top 15 food processing companies in Japan (all categories), a ranking of the top 10 companies with the most FOSHU approvals and a ranking of the 8 best-selling domestic manufacturers of health and dietary supplements using the direct mail distribution channels.

Food Processing Companies (2014)

	NAME AND MAIN PRODUCTS	END USERS	PROCUREMENT CHANNEL
1	Kirin Holding Co. Ltd (Beers, Liquors, Wine, Foodstuff)	Retail / HRI*	Importers, Direct
2	Suntory Ltd. (Liquors, Beers, Soft drinks, Wine)	Retail / HRI	Importers, Direct
3	Asahi Breweries Ltd. (Beers, Liquors, Wine & Foodstuff)	Retail / HRI	Importers, Direct
4	Meiji Holdings (Dairy, Beverages, Frozen Foods, Processed Foods, Baby Foods)	Retail / HRI	Importers, Direct
5	Maruha Nichiro Holdings (Marine Products)	Retail	Importers, Direct
6	Nippon Meat Packers. Inc. (Beef, Pork, Chicken, Ham, Sausages, & Deli)	Retail / HRI	Importers, Direct
7	Yamazaki Baking Co., Ltd. (Breads, Confectionery, Jam, Spreads)	Retail / HRI	Importers, Direct
8	Ajinomoto Co., Inc. (Amino Acids, Instant Bullion & Sauces)	Retail / HRI	Importers, Direct
9	Megmilk Snow Brand Co., Ltd (Milk, Yogurt, Pudding, Functional Dairy Products, Fruit & Vegetable Juices)	Retail / HRI	Importers, Direct
10	Sapporo Holdings (Beer, Liquors, Soft Drinks, & Wine)	Retail / HRI	Importers, Direct
11	Nichirei Corporation (Frozen & Retort Processed Foods, Chicken, Pork, Beef, & Fish)	Retail / HRI	Importers, Direct

12	Nisshin Seifun Group Inc. (Flours, Pastas, Pasta Sauces, Rehydratable Noodles, Frozen Foods, & Beverages)	Retail / HRI	Importers, Direct
13	Morinaga Milk Industry Co., Ltd. (Dairy, Baby Foods)	Retail / HRI	Importers, Direct
14	Coca-Cola West Japan Co., Ltd. (Beverages, Functional Beverages, & Functional Foods)	Retail	Direct
15	Nissin Foods Holdings (Cup Noodles, Pasta, Frozen Foods, Snacks)	Retail	Importers, Direct

*HRI:Hotels,Restaurants,Institutions

Source: USDA – GAIN based on Nikkei Keizai Tsushinsha, October 2013

Manufacturers of Health Ingredients and Dietary Supplements Using Direct Mail Marketing (2013)

	COMPANY NAME	**BEST-SELLING PRODUCT**
1	Suntory Wellness	"*Sesamin EX*": soft capsule, made from sesame oil. Anti-aging beauty.
2	DHC (Daigaku Honyaku Center)	«*Forskohlii* »: soft capsule, blend of extracts of forskholii plant and vitamin B1, B2 and B6. Diet supplement.
3	Egao	Black vinegar
4	Everlife	"*Koujun*": beverage for anti-aging beauty (hyaluronic acid).
5	Yazuya	"*Kouzu*": soft capsule of vinegar. Supplement for health, diet and beauty.
6	Yamada Apiary	Zymolytic royal jelly
7	Wakasa Seikatsu	"*Blueberry Eye*", soft capsule made of blueberry from Lapony, blueberry from Canada, cassis from New Zealand.
8	Kyusai	Hyaluronic acid collagen, in powder.

Source: Fuji Keizai H/B Marketing Handbook n° 3, 2014

The fact that the number one company in terms of FOSHU approvals, Toyo Shinyaku Co. Ltd., is neither one of the 16 major food companies of Japan, nor one of the major domestic producers of health ingredients and supplements should be pointed out. This strengthens the fact that while FOSHU certification is indeed important for being able to use health claims on food products, the largest food companies do not rely exclusively on this label for increasing their shares in the "health food" business.
The table FOSHU approvals should not be the only focus point of exporters who have already obtained health claims certification abroad and who are looking for the best partners in Japan: the number one processed food company, KIRIN, is not listed in this chart even though this company is aggressively working in introducing more and more healthy beverages on the market, as explained below.

3.3.2. Selected Domestic Manufacturers

Nutraceuticals healthy and organic categories have remained fragmented in recent years, major manufacturers have continued to be active in the fortified/functional products. Product developments have been very prominent in particular in the fortified beverages sectors.
Top position food and beverage company KIRIN Holding Co. Ltd**.** has launched a "health project" called KIRIN Plus-I with the aim of making food and beverages products with health benefits easily available to customers. The KIRIN Plus-I product line-up includes only one FOSHU product (a cola soft drink), the rest falling in the Foods with Nutrient Functional Claims (FNCN) category, with two groups of products: one that integrates *lactococcus lactis*, the other that integrates amino acids (source:KIRIN Holding Co. Ltd. website, www.kirinholdings.co.jp/english/).
Mainly, large manufacturers set up dedicated companies for researching and marketing health food products. An example is Asahi Food & Healthcare Co. Ltd, a subsidiary of Asahi Group Holdings that notably markets "*BALANCEUP"*, a nutritionally balanced snack bar, as well as "*Ippon Manzoku Bar"* nutrition bars and "*DEAR-NATURA"* brand supplements. In 2012, sales rose 5.3% y-o-y to JPY 49.5 billion (source: Asahi Holding Annual report 2012 – food sector, www.asahigroup-holdings.com/en/).

Suntory Co. Ltd. pushed the FOSHU certification a little stronger than its direct competitor Kirin with several soft drinks receiving this label since 2003. Suntory began marketing in January 2014 a new FOSHU coffee drink sold in cans, called "*Boss Green".* Overall, sales of FOSHU-certified soft drinks of Suntory increased by +58% y-o-y in FY2013 (16.9 million cases sold) (source: Suntory Ltd, 2014 Strategy for Japan, www.suntory.com). Suntory Wellness, a subsidiary, ranks first in the best performing sellers of health foods and supplements in the direct marketing channel.
The most know FOSHU certification holders**,** CALPIS Co. Ltd., became a consolidated subsidiary of the Asahi Group Holding in 2012. Calpis actually launched the first lactobacillus drinks in 1919. The company redesigned in 2012 the container for its mainstay pre-diluted *Calpis* lactic acid beverages for the first time in 17 years. Overall sales increased 6% y-o-y in 2012, reaching JPY 23.5 billion (source: Asahi Holding Annual report 2012 – soft drink sector, www.calpis.net).

Yakult Honsha: leader in the fermented and probiotic milk drinks, Yakult launched in 2013 "*Nyusankin soya"*, a fermented soy drink containing a special strain of bacterium *Lactobacillus casei* named "*Shirota*", offering evidence-based health benefits. Yakult intends to develop in 2014 more activities in that underscore the value of "*Shirota"* strain and the enhanced *Bifidobacterium breve* strain (source: Yakult Annual Report 2013, www.yakult.co.jp/english/).
Yakult Honsha is expected to remain the leading player in yoghurt and sour milk products in Japan, with a 25% value share in 2013. The company's long-established position and wide-ranging portfolio in pro/prebiotic drinking yoghurt are expected to allow the company to maintain its leading position. The company also launched "*Yakult Ace"*, a new brand targeting adults in 2013, in light of the fact that this consumer segment increasingly uses functional drinking yoghurt (source: Euromonitor 2013).

Meiji Holdings: in 2013, sales of high-margin probiotic yogurts, such as "*Meiji Yogurt R-1*" increased. Consequently, Meiji Holdings' dairy business achieved higher revenues and earnings (+4.6% y-o-y, to JPY 617 billion). Favourable sales of enteral formula and other nutritional products did not fully compensate for a decrease in sales of "*Amino Collagen"* potable collagen supplement amid intensified sales competition (source: Meiji Holdings Annual Report 2013, www.meiji.com/english/).

Megmilk Snow Brand Ltd.: in 2013, in the milk beverages category, Megmilk sought to reinforce product competitiveness by renewing the *"Mainichi Honebuto*" (literally "bone-strengthening every day") beverage line-up that facilitates calcium intake. In the yogurt category, the company renewed "*Nature Megumi"* and "*Nature Megumi Shibou Zero"* ("zero fat"), a product that contains *Lactobacillus gasseri SP* and *Bifidobacterium longum* SP, Megmilk's proprietary probiotic lactic acid bacterial strains. It also strengthened the "*Nature Megumi Fruit Yogurt Four-Packs"* product line. Their total sales in the beverage and dessert business increased by 1.6% y-o-y in 2013, at JPY 258 billion (source: Megmilk Financial report Q4 2013, www.meg-snow.com/english/).

DHC: essentially a cosmetics company specialized in skin care products, DHC leading position in the health ingredients and dietary supplement sector. Making use of the success of fermented food products such as *natto* (fermented soybeans), *miso* paste (seasoning product based on fermented soybeans), cheese or yogurt, their current best-selling product is a fermented drink without any food additive, combining about 80 different wild flowers, vegetables, fruits and seaweeds, in addition to Q10 and fibers, for both beauty and health purposes (source: DHC website, www.dhc.co.jp)

Yamada Bee Farm specializes in honey-based products. 60% of its production comes from Japan while 40% is imported. They produce about 1 ton of royal jelly each year, which represents 30% of the domestic market share (source: Yamada Bee Farm website, www.3838.com).

3.4. NUTRACEUTICAL INDUSTRY TRENDS

3.4.1. The Food and Beverage Industry in Japan

Value sales of packaged food in general have remained flat in 2013 and performance across categories is mixed, consumers continuing to favor essential products. However, economic recovery is expected to boost this sector (source: Euromonitor 2014).

Among packaged foods, the growth of the retort pouch food industry should be stressed, with expanding sales estimated at around JPY 76 billion per year. All types of foods and beverages are marketed in this format, including products with health-claim functions. Their success is related to their convenience from various points of view: convenience of use, transportation, method of cooking (boiling water, microwave) and storage (source: JETRO 2013).

The entire food and beverage industry in Japan is affected by the growing demand for healthy and functional foods. Exporters to Japan should factor in this demand and interest even in the case where they do not produce such items. Indeed, this category of products is expected to drive growth in the coming years but also negatively affect products that do not match these conditions (source: Euromonitor 2013).

Sweet and savory snacks, are a first example. They have declined by 1% in value terms in 2013. Consumption has been cut down especially by young women conscious of their diet, and it is expected that this segment will experience a negative constant value of -1% until 2018 (source: Euromonitor 2014).

In 2013, biscuits were confronted to the same 1% downward trend, with consumers opting for healthier snack or energy bars or nuts as snacks. With longer and hotter summers becoming more recurrent, ice creams and chilled desserts become more attractive than biscuits. While consumers are aware of the positive health effects of dark chocolate, chocolate-based products are especially affected by this change of weather (source: Euromonitor 2014).

On the other hand, the healthy trend has favored significantly other items, such as probiotic yogurt and sour milk products that grew by 6% in 2013 and are expected to increase constantly by 2% until 2017 (source: Euromonitor 2013).

4.4.2. Trends in Ingredients

This section covers the current trends in ingredients added or naturally found in food and beverage products to increase their health benefits and/or to increase consumer interest in marketing operations. Overall, the three most popular ingredients currently used in supplements or processed foods are collagen, made available as a drink and sometimes as ramen (Japanese noodles), glucosamine, successful among elderly people for alleviating joint pains, and placenta due to its anti-aging effects.
Contrary to other countries where health supplements are used, even though they perform well, vitamins are actually not the most consumed supplements in Japan.

Despite the high functional quality of omega-3, research shows that Japanese consumers' interest in this ingredient is less strong than for other ingredients. Studies show that thanks to the traditional Japanese diet that favors fish consumption, the level of omega-3 fatty acids in the blood of Japanese population is as twice as that of the Westerners, and their level of arteriosclerosis is lower. This cultural background distinguishes Japan from Western countries, which see a strong demand for omega-3 and where large-scale promotional activities are "necessary" as people eat more fatty meals. It should be noted that as a source for omega-3, krill oil has become increasingly popular as substitute for fish oil and flax seed oil. A leading Norwegian company has registered a patent for its krill oil processing technique in Japan.

Trending Health Ingredients

NAME OF INGREDIENT	INGREDIENT SOURCE AND/OR USE – ADDITIONAL REMARKS
Antioxidant polyphenols	Increasingly used as food additives in drink and food products. In addition to most fruits and vegetables, products such as red wine, chocolate, green tea, coffee, olive oil, pasta, honey, dried fruits and nuts, fruit and vegetable juices as well as different cereals are good natural sources of polyphenols and can be marketed as such.
Astaxanthin	Antioxidant with increasing popularity in Japan. Protects from UV light and lipoperoxidative reactions. Contained in salmon, crabs, prawns, sea bream, etc., and mainly imported from the United States.
Barley/kale grass powder	For producing green juice/smoothie (*'aojiru'* in Japanese).
Cartilage powder	Consists of chondroitin sulphate, heparan sulphate, glucosamine, hyaluronic acid, etc. Various types of products are available using this ingredient. Derived from cartilage of beef, shark, and squid.
Gelatin	Demand for gelatin has increased, as well as its price, because of tight world supply.
Enzyme	Fermented vegetables, fruits, seaweeds, and other various ingredients. This type of product is used in special diets or for 'fasting' drinks (no sugar or artificial additives are accepted in these special drinks). The manufacturing of this type of product requires both unique and traditional techniques and in Japan the major producers are long-established alcohol manufacturers. Retail market is evaluated at around JPY 27 billion.
Hyaluronic acid	Known for retaining moisture. Used for cosmetics and for functional foods and drinks.
Lutein	Antioxidant. Contained in spinach and broccoli. Used

	as an eye-care supplement.
Peucedanum japonicum	Called 'long life grass' in Japanese. Contains vitamins, minerals, fiber, polyphenol and isosamidin, which reduce risks for arterial stiffening.
Resveratrol	A type of polyphenol. Antioxidant contained in red wine and grapes.
Turmeric	Known for improving liver function.
Type II Collagen	Known for alleviating joint pain.

Source: Fuji Keizai H/B Marketing Handbook n° 3, 2014

3.4.3. Trends in Healthy food Claims

Products targeting the middle age and higher are expanding, and future growth can be expected. Beauty, beautiful skin and antioxidant are the keywords for the top selling products.

Trending Healthy food and their function

HEALTH CLAIM	INGREDIENTS
Beauty	Functional ingredients or materials that maintain the locomotive apparatuses or effective ingredients such as collagen, glucosamine, chondroitin sulfate and hyaluronic acid.
Beauty Skin Care	Covering a wider age group of consumers. Collagen, hyaluronic acid, placenta, vitamin C are the main ingredients.
Blood Circulation	Ginger, flaxseed and vitamin E are the main ingredients. Strong demand for ginger, which improves poor circulation.
Anti-fatigue	Evidence-based ingredients or materials that promote enhancement of motor function, anti-fatigue, such as Amino acid, Peptide, Astaxanthin, L-Carnitine, Glucosamine, Collagen, Coenzyme Q-10, CLA (conjugate linoleic acid), DHA, MSM, etc.
Relaxation	Products (powder type, beverages) containing amino acid or glycine which promote sleep. Consumers in their 30s and 40s tend to buy online both products for relaxation and anti-fatigue.
Prevention of Locomotive Syndrome	Locomotive syndrome is a condition related to aging which results from the weakening of joints and muscles. Since locomotive syndrome can strike any elderly person who has a specific physical weakness including wasted muscles, availability of products that capitalize on the growing demands for the prevention of locomotive syndrome is expected to increase.
Intestinal Function	Yoghurt and milk products containing lactic acid bacterium, as well as prune-based products.
Nutritional fortification and revitalization	Led by drinks containing royal jelly, deep-sea shark extract, or soft shell turtle extract. Demand is high in summer.
Prevention of life-style diseases	Middle-aged to senior consumers are the main users. Market potential is higher if the product is registered as FOSHU.
Bones and joints support	Glucosamine, chondroitin and calcium are the key ingredients. Consumers' strong awareness of glucosamine is leading the

	market growth.
Weight loss	Calorie control foods (noodles, cookies, etc.), sugar alternatives, products, and fat burning ingredients.
Nutrition balance	Sales increased after the 2011 earthquake. Block snack and jelly drinks are popular products.
Green charge (products that replace the intake of vegetables)	Green juice (*aojiru*), chlorella and spirulina are the main items. Powdered and frozen products are available. Their natural image appeals to consumers.
Improvement of hepatic functions	Turmeric, ornithine and fresh water clam extract are the main ingredients. Turmeric is well known as a hangover cure.
Eye-care	Blueberry is a well-known ingredient. A wide range of health food and supplements are available.
Multi-balance	Products containing a balanced amount of vitamins and minerals. Main products are supplements and beverages containing amino acid or vitamins. Demand is strong especially among athletes.
Stimulant Effect	The main products are functional chewing gums and beverages, which shake off sleepiness.
Sore Throat Relief	Main products are candy made from herbs, raw drugs or menthol.
Hormone Balance	Main ingredients are isoflavones and pomegranates to achieve a better hormone balance.
Immunopotentiating action	For example, in case of pollen allergy. Propolis and agaricus are the main ingredients used for that purpose.
Anemia prophylaxis	Milk beverages containing iron are the main products in this category. A prune yoghurt drink is popular. Not many varieties are available for supplements.

Source: Fuji Keizai H/B Marketing Handbook n°3 2014

In FY2014, all product formats considered, sales of products using the top 5 health claims reached JPY 328 billion, a +1.87% increase compared to the previous period.

3.4.4. Trends in Nutraceutical Products

3.4.4.1. Vitamins and Dietary Supplements

Among the traditional types of health supplements, i.e. tablets, granular or powder, hard capsules, soft capsules, and mini-drink, manufacturers of granular or powder types are increasing their business opportunities due to low cost and efficient production abilities. In the context of Japan's preparation for the aging of its society, pursuing quality of life regarding food items has been trending during the past years, and is definitely a growing market.

Recently, new types of health supplements such as tasty granular types, stick jelly, and chewable tablets/soft capsules have emerged. Their common point is that they place importance on taste and texture to make them resemble general foods (source: Yano Research 2013).

Japanese manufacturers of health and functional supplements are currently working on specific products that target limited consumers segments. They also develop more and more added value products, such as classic supplements that also have weight-losing or fat-burning proprieties.

Other noteworthy trends can be seen in the growing sales of products for liquid diets, as well as foods that help overcoming dysphagia (swallowing difficulty).

3.4.4.2. Basic and Processed Healthy Foods

Even though the packaged food segment in general is increasing among youth and working consumers, Japan is an interesting market for *high-end* packaged food manufacturers. The market size of some naturally healthy high-end packaged food, such as confectionery, bakery, bread, olive oil, muesli bars, honey, fruit snacks and nuts or breakfast cereals, nuts, among others, where naturally antioxidant-rich ingredients is a product base or a component, have a good potential for growth.

Foods such as olive oil and tomatoes have already met commercial success because of their natural positive effect on health due to their ingredients. The key for marketing is to add value by promoting the healthy sides of the product, such as the polyphenol contents per gram found in a chocolate product.

Demand for so-called superfruits, dry fruits is growing. These fruits are thus named because they possess the highest levels of antioxidants: blueberries, plums, cranberries, cherries and grape extracts. Acai berry, goji berry, acerola cherry and maqui berry are the newest antioxidant ingredients that are becoming popular (Agri-food Canada 2012). Taking these super fruits with green tea or coffee is claimed to be effective to reduce the risks of certain diseases associated with adult lifestyle habits.

Tree nuts, especially almonds and walnuts, are also becoming popular.

Snack foods are an area that is evolving in terms of health. There are still limited snack bar and on-the-go snack options in Japan that specifically target health. While products like bars have begun to pioneer the path, there is still opportunity in introducing health-based snack products such as low-calorie nutritional bars, energy bars, and processed fruits and vegetables snacks. Many health bar and snack options on the market are targeted towards men or athletes and the few low-calorie options that do exist for women are very expensive (source: USDA – Gain 2013). Another category is represented by cereals due to changing in diet among young generation.

Basic and Processed Healthy Foods

PRODUCT	COMMENTS
Organic products in general	Growing health consciousness to avoid allergies and other related food scares in recent years is contributing to the demand for organic products even though consumer education about what exactly “organic” means is still necessary.
Olive oil	In 2012, extra virgin olive oil went through a “secondary boom”, confirmed in 2013. This renewed success can be explained by its beauty and health functions but also because it is becoming an everyday ingredient used at home in daily cooking for a variety of dishes. High-

	quality products, with no particular accent, strength or bitter taste are especially successful. Manufacturers and importers are developing new products, with new flavour and smaller portion packs (source: Foodex 2013).
Dairy products	Dairy products are relatively new to the Japanese diet. Natural cheese is known to possess high levels of calcium. Yogurts are becoming increasingly popular for breakfast or as alternative to dessert, and are a favoured support by manufacturer for marketing functional foods. Manufacturers are expected to introduce more and more innovations in order to expand the consumption occasions of yogurt (source: Euromonitor 2013
Biscuits with health benefits	On the long term, biscuit consumption will decrease. However, biscuits with healthy and functional benefits are successful. Market leader Glico celebrated the 80th anniversary of its sandwich biscuits *"Bisco"* in 2013 by launching a limited edition product, Special *"Bisco",* which contained two times as much lactobacillus as standard *"Bisco"* and fermented butter. It sold out one week after its launch (source: Euromonitor 2014).
Dried fruits and nuts	General consumer awareness of dried fruits and nuts still remains low, because most are traditionally used as ingredients in the production of confectioneries and bread making, and distribution route is limited. Also, dried fruits and almonds/walnuts/hazelnuts, etc. are more expensive than peanuts for example. However, the high nutritional value of dried fruits and nuts, such as dietary fiber and abundant vitamins, is being increasingly recognized, and it is seen as a healthy snack in place of sweets or biscuits. Popularity is expected to grow and demand is expected to expand, as dried fruits and nuts are consumed as supplements and are used as part of dietary supplements by more women and young people.
Soybean and soymilk	Given the high level of functionality (health, beauty) and various ways of cooking of soybeans, production of soymilk continues to expand. High functional ingredients based on soybean powder and soybean protein that aim to solve issues of users are getting a lot of attention as well. For example, the successful *"SoyJoy*" bar is made from 100% soybean flour and contains no wheat. It includes vegetable protein, soy isoflavones, and dietary fiber.
Cereal bars	In the confectionery category, the fastest-growing segment is cereal bars. Varieties of functional cereal bars are being introduced into the Japanese market, claiming to have a positive impact on brain function, stomach

	health and the body's nutritional balance. Functional snack bars that contain dietary fibre, whole grains, vitamin C, amino acids and lower sugar content have become particularly popular among consumers, especially seniors.

Breakfast cereals

Breakfast cereals are an established product that has not yet reached maturity and where there is room for growth, including for exporters. The segment saw a 10% current value increase in 2015. Fibre is the most important ingredient to promote breakfast cereals and their convenience is another key marketing asset. According to analysts, this sector is expected to grow by 3.9% until 2019. Thanks to an efficient marketing focusing on health benefits of fibres and vitamins and the launch of innovative products adding dried fruits or with more fibres, Kellogg's was the market leader of breakfast cereals with 30% in 2013 (sources: Food Navigator Asia 2013, Euromonitor 2015). Calbee plans to raise sales of its granola-based *FuruGura*-branded breakfast cereal, its fastest-growing product, to JPY 60 billion from JPY 9.5 billion in FY2013.

Healthy Foods and Supplements

PRODUCT	PRICE/QTY	IMAGE
Chocolat de Tomato In 2012, relying on the so-called tomato boom, Meiji launched a limited edition of chocolate snacks, mixing freeze dried tomatoes with white chocolate.	N/A	
Almond Chocolate Almond Chocolate is a well-established chocolate-based confectionery. Recently, Lotte Co. Ltd. has added healthy information on its package, stressing the vitamin E contents of its roasted almonds as well as the polyphenol contents of its black chocolate.	JPY 216/98g	
Urban Fruit Superberry Made in the UK by Urban Fruit, this imported dried fruit snack is sold in supermarkets. They are marketed as having high contents of vitamin C and antioxidants.	JPY 360/90g	
Flaxseed Oil FlaO KANA imports from Canada linseed (flaxseed) oil sold as dietary supplement and promoting the health benefits of omega-3 a-		

linoleic acid. Suggestion for serving this product is to mix it with yogurt or soymilk or putting it on salad and is marketed for targeting people who want “to remain fit and beautiful”.	 JPY 1’470/ 230g
Balance up Cream Brown Rice Bran - Blueberry Sold by the Food and Health subsidiary of Asahi Co. Ltd., this cereal cream sandwich is marketed as a FNCF food with fibers, calcium and eight vitamins. It is presented as the perfect healthy snack during office hour, containing 4.6% of blueberries.	 JPY 150/ 2 packs of 36g
Biomin Calpis Co., Ltd. launched in 2013 a new diet supplement called “Biomin”, using its new probiotic strain C-3102. Its marketing is based on the relation between the bacilli used in these complements and well-known, traditional Japanese food such as soya sauce, miso paste and natto.	 JPY 3’213 / 1 pack of 90 capsules
SoyJoy Otsuka Pharmaceutical Co., Ltd. markets the cereal bar “SoyJoy”, currently sold in 12 different flavors including the new flavor "Fruity Tomato". It is a type of FNCF food, made from powdered soybeans instead of flour, and contains fruits. The product comes under an original form and a “+plus” form where iron, calcium or folic acid is added.	(SoyJoy +plus) JPY 1’449 /1 pack of 30g x 12 units
Yakult SHEs From Yakult Honsha, “Yakult SHEs” is a probiotic drink yogurt enriched with iron, vitamins C and D, calcium and collagen. It is marketed as a FNCF product. It is also available in a “hard” form (normal yogurt).	 JPY 78
FruGura Calbee Co., Ltd. markets a series of breakfast cereals and granola, such as “FruGura” (fruits	

granola) that combines various dried fruits stresses the healthy benefits of cereals. It is marketed as a FNCF product with many vitamins, minerals and no cholesterol. In the same line-up, the manufacturer sells another product with dried vegetables instead of dried fruits.	 JPY 380 / 1 pack of 380g
Koroai Snack manufacturer Glico Co., Ltd. has introduced "Koroai", a low-salt, low calories FOSHU-certified snack containing fibers, targeting consumers who are conscious of their blood glucose level.	 JPY 126 / 21 g
Niwatori soboro no funwari tamagotoji Hakujuuji Co., Ltd. markets a series of products sold in retort pouches focusing on the nursing care diet, in particular for elderly people with swallowing difficulties. This example is a meal made of pre-boiled chicken, vegetables and eggs and is sold as a FNCF product with 300mg of added calcium.	 JPY 262/ 100 g
Acai & Mixed Berries Soft Candies MK Consumer Co., Ltd. sells soft candies made with superfruits such as acai berries, raspberries, cranberries and blueberries. The product underscores the high content of polyphenols found in acai berries, marketed as being "4.5 times higher than in cocoa". Total content of polyphenols in one pack is 90mg.	 JPY 88 / 1 pack of 35 g

Source: Companies websites and product information

3.4.4.3. Healthy Beverages

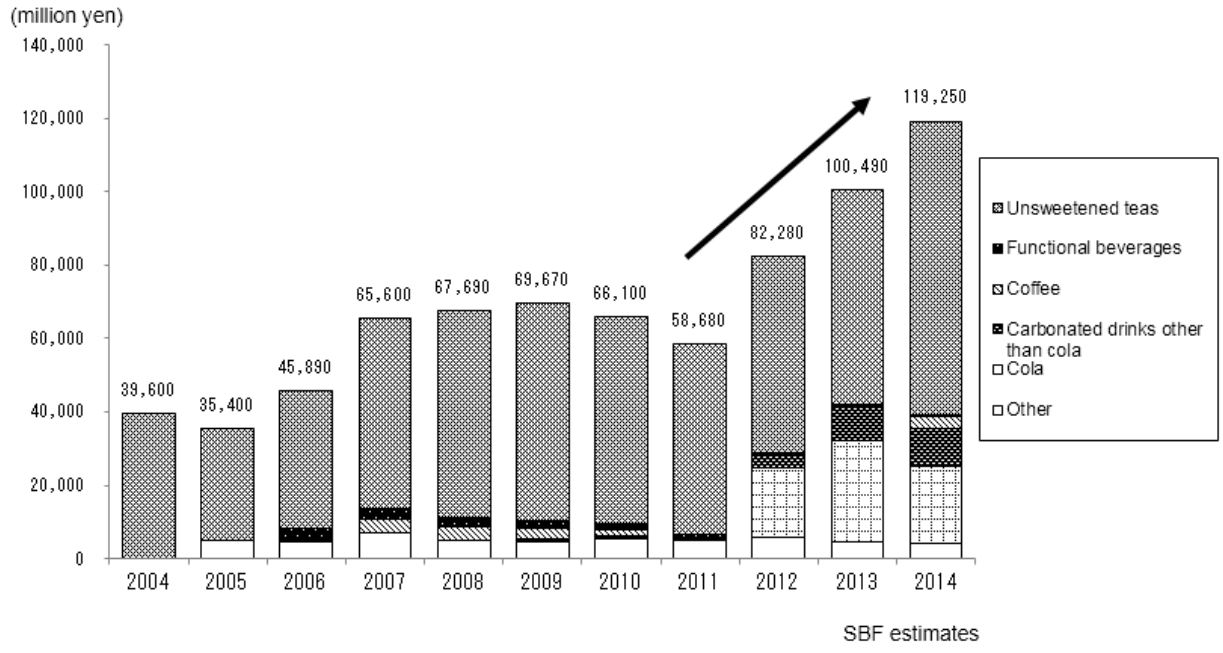
In Japan healthy beverages are becoming one of the driving forces of the health and functional food sector and is beloved by Japanese citizen. Traditional healthy beverages like soymilk perform increasingly well due to their perceived health benefits. Diet conscious consumers have been switching from normal, sugar-based soft drinks to low calorie teas, mineral water, as well as fruit and vegetable juices. This switch explains also the aggressive launch of FOSHU cola

drinks by soft drink makers worried about their market shares. Competition is very high among those market leaders.
The most successful sales since 2012 have been related to FOSHU soft drinks, such as *Mets Cola* (KIRIN) and *Pepsi Special* (Suntory). Buoyed by these performers, the carbonated soft drink market rebounded between 2012 and 2013, from 34.5 million kl to 36 million kl, (source: Japan Soft Drink Association).

With its famous product line-up based on lactic acid, Calpis Co. Ltd. is a strong performer that holds 90% of the lactic drink market. Using lactobacilli, milk and fermentation, its *Calpis Soda* (carbonated drink) and *Calpis Water* (non-carbonated) are sold as functional drinks. However, their "*AMEAL S*" series of drinks made with cultured milk has received the FOSHU certification and its products are marketed as helping combat high blood pressure.

Coffee-based drinks are also seeing increasing success, the domestic coffee market hit a new record in 2013 with consumption reaching 446'392 tons (source: All Japan Coffee Association). In addition to the Westernization trend of Japan in general, this can be explained by the fact that due to extended working hours, workers tend to spend long amounts of time in sedentary jobs. As a result, they are avid coffee drinkers. This explains the success of new drinks combining weight-loss aid with caffeine boost (source: USDA-GAIN report August 2013).
Mineral water is met with increasing interest by Japanese consumers, due to its lack of adverse health effects but also given its added health benefits, depending on the minerals it contains. In 2014, about 119.250 million yen, compared to 58.680 in 2011 (source: Japan Soft Drink Association).

Market for Main FOSHU Beverages (excluding those with intestinal health claims)



Domestic manufacturers offer both small-size and large-size bottles of domestic mineral water at very affordable prices. Larger containers represent the core of domestic mineral water demand.

Foreign exporters face therefore a strong local competition where low price remains the key issue for mainstream consumers. Large food and beverage companies in Japan usually market foreign brands that can rely on strong and established recognition. For other exporters, investing in an effective brand marketing strategy is essential (source: JETRO).
Naturally healthy and fortified/functional fruit and vegetable juices are the most popular health and wellness juices, but organic juices are seeing steady value growth as they are perceived as retaining the nutritional value of fresh fruits and vegetables. Beverages in this category are sold as cocktails, concentrates or shakers. Most of these drinks are sold as healthy or functional products, fortified with vitamins or minerals. They may be associated to claims such as "without calories", "without fat" or "fat-reduced", "natural", "antioxidant rich", "sugarless" or "without preservative".

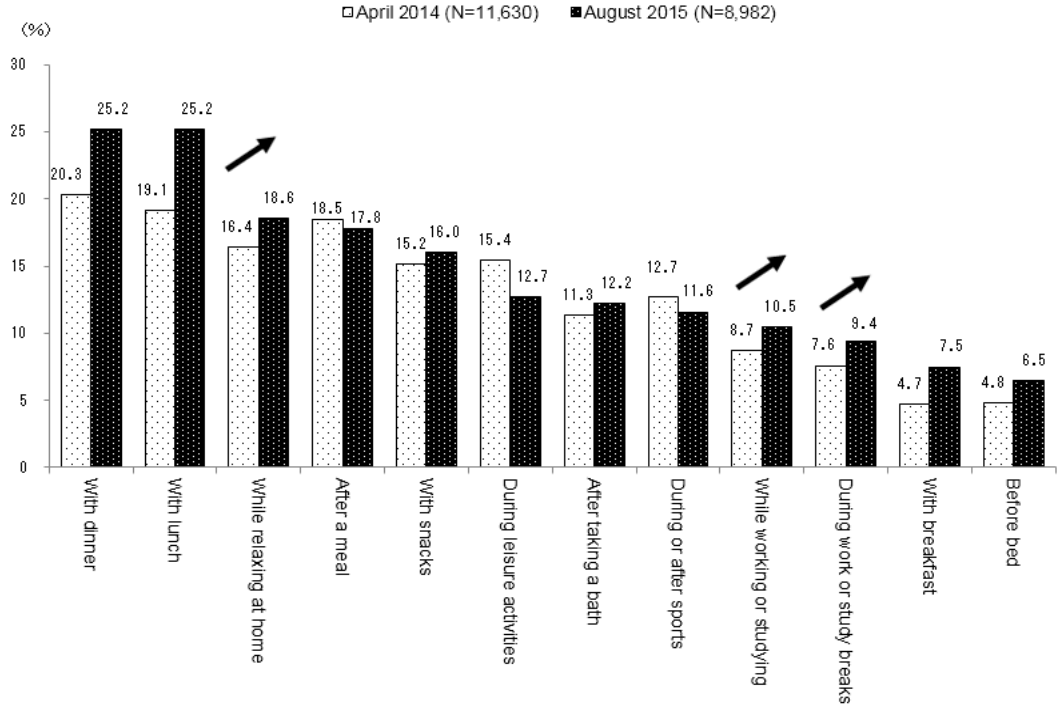
Trending Basic and Processed Health Beverages

PRODUCT	COMMENTS
Cocoa drinks	As a result of the success of cacao polyphenol, hot cocoa has become the main player among hot beverages with stimulant properties sold in winter. Iced cocoa drinks have been developed for sales during the summer period.
Coffee	Coffee is a natural source of polyphenols and is supposed to have a positive effect on Type-2 diabetes and Alzheimer. Accordingly, coffee-based beverages are increasingly marketed as promoting health benefits.
Natural wine	Natural wine is a kind of wine that has been grown with minimal chemical and technological intervention. Usually, they are low sulfite wines and preservative free. Many natural wines are organic but not all of them are. The growing preference for natural wine among Japanese consumers is a result of two phenomena, one involving health and the other taste. The concern among Japanese about healthy lifestyle habits and healthy eating influences the trend of rejecting wines potentially including additives. Also, natural wines tend to have a fresher, fruitier taste, which seems to better suit the Japanese palate and reflects the Japanese shift away from heavy, high alcohol level wines toward more elegant and relaxing flavors (source: USDA-GAIN report 2013).
Red wine	Red wine has gone through several booms over the past decades, notably thanks to its healthy reputation, based on its polyphenol contents. Red wine is said to prevent arterial sclerosis and has anti-aging properties as well.
Tea	Tea is traditionally consumed in Japan. Current consumption is driven by health and well-being trends. Demand for plant-based or fruit-based tea is rising as consumers look for products that offer more health benefits than black tea. Green tea is still favored by consumers who worry about their health because of its antioxidant properties and holds a large market sh

Consequently, the main FOSHU beverage market (excluding beverages with health claims for intestinal regulation) grew to around 125.0 billion yen. In 2016, the market is expected to continue to grow.
Summary of the 2015 consumer trend survey on FOSHU beverages

- Trends indicate that consumers are aware that switching to FOSHU beverages, from what they regularly drink, can easily lead to better health habits.
- In addition, FOSHU beverages appear to be being consumed in a wider range of situation as a regular, everyday beverage.
- In addition to good health and potential benefits, consumers are also placing equal emphasis on great taste and drinkability.
- Based on our understanding, beneficial qualities and great taste are key points for purchase.
- More than 60% of consumers that drank FOSHU beverages over the past year that now it taste better and is a wider selection than before.

Situations Where FOSHU Beverages were Consumed



Source: SUNTORY beverages report 2015

Given the change in consumer attitude almost 49% of Japanese population use healthy beverages for good health and potential health benefits. FOSHU beverages are now consumed as regular, everyday beverages, as there is a wider options and is making for easier choice and is estimate that the consumption of FOSHU beverages will contribute to expansion market.

3.5. KAMPO MEDICINE – JAPANESE HERBAL MEDICINE

Kampo medicine is Japanese traditional herbal medicine prescribed for both inpatients and outpatients by specialized physicians and the cost is covered by Japanese national health insurance as other prescription medicine. Today Kampo medicine is truly integrated into Japanese national healthcare system. However, each medicine is composed of exactly the same ingredients under the Ministry's standardization methodology. In 1976, 82 kampo medicines

were approved by the Ministry of Health, Labour and Welfare. This number has increased to 148 Kampo formulation extracts, 241 crude drugs, and 5 crude drug preparations now.

The research and development on Kampo medicine is conducted high-quality pre-clinical research, basic science research and clarify the usefulness of traditionalJapanese medicine in the heathcare system by both university laboratories and/or private companies as Kracie Group, Tsumura and Kanebo. Historically, Kampo medicine has been showed to be very effective in clinical use with less secondary effect than other chemical compounds used in other drugs.
As long as Kampo medicine is multi-herb medicine with multiple plant components hi-tech equipment is used to test the effect of bioactivity of plant compounds on patients after oral ingestion (clinical study) such as affimetrix gene chip and Real-time technologies.
Most of the Kampo drugs research is done with the goal to treat or improve health condition such as: gut flora balance, post-surgical complication, neurodegenerative disease, managing and preventing the complication of social stress, obesity, hormonal balance and other disease (information obtain during research at Center for Kampo Medicine, Medical School, Keio University).

Kracie Group pharmaceuticals division offers a wide range of Kampo formula medicine as their core products which have been attracting much attention as alternative remedies emphasizing physiological balance in the human body. The R&D at Kracie is oriented to develop of new Kampo drugs that can relieve diseases or symptoms not treatable by western-style medicines which are sold over the counter at drug store. With an ever more safety conscious and aging society, the prospects for Kampo medicine is high as an alternative therapy with the unique approach of restoring health by improving the physical constitution of the human body. Recently Kracie recently developed more than 13 types of Kampo drugs formula (source: Kracie Pharma Ltd.).

3.6. IMPORT TRENDS

Japan total nutraceutical imports on the basis of value in USD represent 47.000.0 $ in the 2015 FY. European trade flow with Japan on nutraceuticals and food together exports value 11.2 $ million in 2014FY with 4.2% growth from previous period (EU Directorate General for Trade Report 2014). Encountering with such an innovative and competitive market, European exporters should not be discouraged by the size and strength of the domestic market players. The general image of Northern European countries among Japanese consumers can help introducing new and innovative nutraceutical products making use of health-related arguments. Products from European countries are seen as eco-friendly, safe, natural and good for one's health. This is especially true for Northern European countries benefits from a good image thanks to its products high safety standards.

Healthy European products have managed to find comfortable niches and could be used as a reference for new SME's European exporters. The bee honey, pollen extract, contained in a drink mix, gives the body energy boost and is reputed to slow down the ageing process. Beauty Pollen has been in business for 36 years. The European export companies generates about JPY 120 million in annual sales. Its CEO credits much of that success on the reliability and image of Sweden (source: Eurobiz 2012).

The France brand Danone with its products *Activia* yogurt, *Nutrini* and *Nutrison* is continuing to develop in Asia and is well known in Japan. Now Danone is striving to build a balanced model for profitable growth, drawing on extremely solid levers, product categories with strong potential, and its portfolio of unique brands, by focusing on the three streams set out in its Danone 2020 transformation program. Danone division in Asia is expanding encompassing fresh dairy products, waters, early life nutrition (baby food) and medical nutrition especially for elderly consumers.
Alimentation: encourage healthier eating and drinking behaviors by meeting people's nutritional needs, but also by integrating cultural, social, emotional and physiological factors that shape local

- eating habits in each region of the world;
- *food and water cycles*: protect and secure its main strategic resources (milk, plastics and water) while generating a genuine competitive advantage;
- *people and organization*: develop strong teams and improve the operational efficiency of its organization.

Treated as a functional drink in Japan, *Red Bull* has stepped into Japan relatively late (2006). This brand enjoys now a high market penetration rate and is found everywhere, including in convenience stores. It took them however some time to reach their position. This was made possible by significant marketing investment but above all thanks to product size adaptation (from 250ml to 200ml) to match what established competitors offer and which is tailored to the wishes of Japanese consumers who prefer diversity over quantity. In addition, *Red Bull* was moved from the "soft drink" to "energetic drink" shelves.

Importer Suzusho handles UK brand "*Weetabix"*. "*Bio-Familia"* and "*Weetabix"* each account for 40% of this company's sales, totaling 80% (suzusho.co.jp). The products are distributed widely to import specialty stores or general volume sellers. Suzusho's product line-up includes 18 items, among them "*Body Balance"* and "*Ace Balance"* (foods with health claims) that are rich in fiber and vitamins, in self-explanatory packages (source: Foodex 2013).

Another example from Europe is UK brand of muesli "*Alara*" imported and distributed by Kitanoya Co., Ltd. (www.kitano-kk.co.jp). To prevent insects and heighten the safety of the product, their top 5 popular items are repacked in Japan. In 2012, both regular and new products were sold in more stores thanks to the high health consciousness of consumers and the natural foods boom (source: Foodex 2013).

Pharmaceutical giant Otsuka Pharmaceutical has been capitalizing on Europe's healthy image. It acquired Nutrition & Santé in 2008 and has since been marketing several of the French company's brands in Japan, including "*Gerblé"*. Their latest product rollout in March 2012 was for "*Gerlinea"*, a chocolate-covered bar for weight control (source: Otsuka Pharmaceutical website, www.otsuka.co.jp/en/).

As for nutraceuticals ingredients such as fruits for polyphenols Bosnia and Herzegovina's food industry Klas Sarajevo realized export of 20 tons of raspberries which will be placed on the -market of Japan (http://www.sarajevotimes.com/business-success-tons-raspberries-exported-

japan). There is more opportunity for south-eastern European countries to export other wild berries and herbs to Japan due their geography and clean environment conditions.

Many European Small and Medium Enterprises (SME) import successfully to Japan. This page intends to illustrate how feasible and profitable this trade can be, by way of several case studies.

Citromil, a Spanish citrus products producer highly experienced in exports to Europe. The company followed training programmes to better adapt to the Japanese market.

Debailleul, a Belgian pastry- and chocolate-maker with high presence in Japan, despite having all the production based in Belgium.

Lincasa, this Lithuanian company manufactures linen and wood home textiles of high quality.

Prezi, small Hungarian software company that is actually changing the world's conception of the visual support for presentations.

Schleich, a German toy manufacturer that first entered the Japanese market in 2007 and in 2011 decided to open a Japanese branch of the company.

The following sections review the current import trends for processed foods and beverages, health and functional supplements and organic products

4.5.1. Import Trends for Basic and Processed Food

The following table lists the top demand regarding imported basic and processed food and beverage products in general, based on the survey of exhibitors and attendants of Foodex Japan 2014 in Tokyo, the largest food and beverages exhibition in Asia. Below, further details regarding the recent performance of some healthy food products are provided.

Figure 22: Foreign Food Product Ranking at Tokyo Foodex 2013

	TOP FOREIGN FOOD PRODUCTS
1	Wine
2	Olive oil
3	Frozen vegetables
4	(Tie) Dried fruits & sparkling wine
6	Snacks
7	(Tie) Fruit, vegetable juice & canned, bottled vegetables
9	Frozen fruits
10	Chocolates
11	Boiled, pickled vegetables
12	(Tie) Cookies and biscuits & sauces
14	Nuts and seeds
15	Other vegetable products & fruit

Source: Foodex Japan Report 2014

Wine is a popular imported product due to the notably healthy reputation of red wine polyphenols. In 2014, total imports of wine reached 243'999kl, an 11.9% increase compared to 2012. Red wine amounted to 54%. Regarding 2 liter bottles of still wine in particular, France (31.5% of the market), Chile (20.2%), Italy (18.5%) and Spain (12.9%) were the top 4 exporters during the same period, Chile notably outpacing Italy for the first time (source: Japanese customs).
Olive oil is imported for nutrition and cosmetics purpose. In 2013, total imports reached 47'781 tons, a 1.7% decrease compared to 2012. Italy (35% of the market), Spain (34.7%), Turkey (6.2%) and Greece (1.2%) were the 4 top exporters (source: Japanese customs).
Total volume of frozen vegetables imports reached 920'477 tons in 2013 (+14.3% y-o-y) with China exporting 43.9% of it (403'763 tons, +46% y-o-y). The USA, Thailand and Taiwan followed behind.
Total imports of **chocolate-based products** reached 163'706 tons in 2013, a 4% decreased compared to 2012. In the more specific filled chocolate and chocolate confectionery categories (23'637 tons in total), the USA were the top exporter with a 20% market share, followed by France (16.8%), Italy (13.6%) and Belgium (11.9%).

4.5.2. Import Trends in the Health Ingredients and Dietary Supplements Sector

In the more specific health ingredients sector (including homogenized composite food preparation, Asian ginseng extract and vitamin supplements), China is the major exporting country with almost 50% of the market share, followed by Germany (10.5%), all ingredients considered.
As far as vitamins are concerned, Europe is one of the biggest exporter to Japan in 2015 trough its leading company such as BASF. Based on the sales results of Japanese subsidiaries and sales agents in Japan, the total share of the US and European companies in the health foods and dietary supplements is evaluated at 10 % (source: JETRO).

4.5.4. Import Trends from Europe

As seen above, Europe is one of Japan's main providers of vitamins. As far as basic and processed food and beverage products are concerned, Europe's market share is low but as previously explained, in terms of volume, overall imports of food and beverages products from Europe have seen a significant increase over the recent years, even though value itself has been stable.
The following table lists the top 20 food and beverage products imported in 2014 from Europe, with value and volume variations compared to 2013.

Evolution of Top 20 Food and Beverage Products Imported in Japan from Europe 2013-2014 (value and volume)

2014 PRODUCT RANKING	VOLUME (TONS)	VALUE (MIO JPY)	VOLUME VARIATION (2014) %
Non-alcoholic beverage	31'602	5'321.3	37.3%

with added sugar			
Non-alcoholic beverage without added sugar	4’773.8	807.7	29.1%
Non-filled chocolate	575.5	973.7	0.7%
Natural cheese	467.1	644.4	-15.3%
Roasted coffee, non-decaffeinated	450.2	871.8	29.5%
Preparation of wheat flour with added sugar	367	162.5	53%
Other tomato product without added sugar	222.9	212.6	21.1%
Other extract or concentrate without added sugar	124.7	309.6	277.8%
Breakfast cereals	120.6	672.2	-7.6%
White chocolate	115.5	152.9	11.4%
Biscuits, cookies and crackers with added sugar	115.4	268.0	52.8%
Filled chocolate	114.8	256.6	-0.3%
Candies	95.9	96.5	-8.6%
Seasoning (other)	86.3	139.8	0.6%
Mineral concentrated whey	83.3	257.9	-2.6%
Other kinds of food preparation not mentioned elsewhere	74.4	248.6	15.7%
Instant coffee	72.8	317.6	-0.4%
Jams with added sugar	71.5	43.3	-46.6%

Source: Japanese customs

As far as healthy food and beverage products are concerned, non-alcoholic beverages without added sugar, roasted coffee with caffeine, tomato-based products and breakfast cereals have seen a marked growth in their performance.

While this trend in favor of European products is positive news for exporters, the fact that some of the top ranking of products in 2014 was made mostly of sugar-based products demonstrates that additional efforts should be made to introduce product variations without sugar. The most performing category (non-alcoholic beverages with added sugar) should be set aside since a large share is made of exports from the *Red Bull* Austrian company.

Jams are a good case in point: jams with added sugar have fallen from 8th to 20th in one year, a -46.5 % drop in volume, -29.6% in value. Switching to sugarless jams and/or selecting superfruits as main ingredients might be a good option for jams exporters who have a long-term strategy in Japan since spreads in general are gaining market shares thanks to the adoption of more Western-style breakfast meals.

The fact that demand for biscuits from Europe has increased is encouraging but exporters should be aware of the general trends in favor of healthy and functional food variations and be mindful of middle- to long-term risks of introducing products that have normal amounts of sugar or fat, or that include no ingredients with known positive health effects (black chocolate, dried fruits, nuts, etc.).

Likewise, demand for Belgian chocolate is growing amid a fierce domestic and international competition. In addition to being attentive to special tastes, size, quality and design of packaging, chocolate makers should pay a special attention to proposing functional and/or organic chocolate products to gain added value and attract health-conscious customers. In addition to the health factor, Japanese consumers traditionally favor products that are less sweet than those sold in Western countries.

4. DISTRIBUTION

4.1. DISTRIBUTION OF FUNCTIONAL FOOD AND BEVERAGE PRODUCTS

The Japanese retail food sector is highly fragmented, as illustrated by the fact that some 18’000 to 20’000 companies (importers, manufacturers, wholesalers, and retailers) handle health and functional foods and beverages. Unlike Europe, the food sector is characterized by a relatively high percentage of specialty/semi-specialty stores. Such small retailers, however, are losing ground to larger general merchandise stores, supermarkets, and convenience stores.
According to the METI, retail giants that are supermarkets and convenience stores have registered a +2.3%, respectively +5.5% increase of sales in the food and beverage segment between 2014 and 2015 (source: METI,).

As a whole, the food distribution and retail sector is currently subject to significant changes due to pressure on prices related to consumers' expectations and the general deflationist mood, as well as the hike in consumption tax.

Among store-based retailers, drugstores have been the fastest growing channel since 2000. However, it is non-store retailing that continues to grow faster than any other and which is set to become the largest channel of all, overtaking large supermarket stores within the next few years. This signals a profound shift, with major retailers developing solid online alternatives to their physical stores, forced by the market entrance of new online companies that have soaked up market shares.

Over 2010 and 2014 FY period, the Japanese retailing industry saw many large acquisition cases. The number of mergers and acquisitions increased since 2010, with many major cases in 2014, with examples including Aeon Group’s acquisition of mass merchandiser Daiei and Seven & I Holdings acquisition of homeshopping operator Nissen. The consolidation trend is particularly accelerated in channels with slow or negative growth in the long term, such as supermarkets and department stores. As the future outlook for these channels seems negative or unclear due to the decreasing and ageing population, as well as unstable economic situations, retailers are attempting to enlarge the size of corporations for more solid management resources (source Euromonitor 2015).

As far as grocery shopping is concerned, e-commerce sales are expected to hit JPY 21 trillion in 2018, driven by mobile technology and broadband access penetration, but also by a broader shift in consumer behavior that tends to favor more individualistic choices among the younger generation thanks to its anonymity (sources: McKinsey&Company 2012, Japan Consuming, January 2014).

All the major food retailers, as well as a lot of the regional players, offer online ordering and direct to door delivery. According to Fuji Kezai, online food sales were at JPY 78 billion in FY2012. Ito Yokado has the largest market share (43%), followed by Aeon (23%) and Seiyu (17%). All the major food retailers say they are committed to increasing online sales.

4.1.1. Distribution of the Functional food and Beverages

Among the various sales channels, non-store sales (mail order, door-to-door sales, online and TV shopping) are the most important for health food and beverages products sold in all kinds of formats, with a market share of 38.9% in 2012, a +76.8% increase compared to 2014 (22%).
The Japan Direct Marketing Association reported in 2012 that 42.6% of their members distributed health and functional foods, the largest product category handled by their member companies.

Distribution Channel and Market Size for Functional food and Beverages (JPY, billion)

CHANNEL	**2012**	**2013 (FORECAST)**	**2014 (FORECAST)**
Correspondence sales*	472.54	491.49	502.60
Door-to-door sales	296.30	294.44	294.85
Drug stores	231.80	234.89	234.59
Retail stores	434.06	453.11	454.33
Convenience stores	255.28	275.71	277.78
Others**	288.63	301.82	298.63
Total	**1'978.61**	**2'051.46**	**2'062.80**

*Correspondence sales : online, regular mail and catalog shopping ** Others : include sports and fitness clubs, spa and beauty salons

The success of the non-store based channels in general is notably explained by the fact that the needs for functional products and dietary supplements vary on the individual situation. They also benefit from many repeat customers since most suppliers provide special discounts for long term repeat purchases.

Yakult Honsha Co. Ltd., manufacturer of functional dairy products, is a case in point of how door-to-door sales strategies are implemented. "Yakult Ladies" are a network of door-to-door representatives that make up a unique home delivery system where customers are met face-to-face to explain how lactobacilli work. This network is considered as a driving force behind the increase in sales volumes of the company since 2007 and explains why "gastrointestinal function" is the best-selling health claim in this channel.

While mail order is the largest sales channel, newcomers have brought fiercer competition in recent years. In particular, drug stores have consistently increased their sales over the past years and are expected to continue so (+ 1.33% for 2013) thanks to new strategies, such as the "one-stop-shopping" concept, where consumers can conveniently buy various beauty- and health-related products at one shop (source: Yano Research 2013).

Sales outlets such as mass retailers and convenience stores have smaller spaces available. Therefore, their selection of products focuses mainly on best sellers. Convenience stores in particular concentrate their efforts on fast movers and remove quickly the slow movers from the shelves. As a result, manufacturers do not put much effort on this channel. It should be pointed out, however, that convenience stores perform better than other kinds of store-based channels in this segment.

4.1.2. Distribution of Organic Products

There is no specialized distribution for large-scale organic products such as supermarket chain in Japan. From a marketing perspective, the lack of a large, national chain specializing in organics continues to hamper a rapid growth of the customer base beyond a rather narrow pool of affluent, health and environmentally conscious consumers.

As far as most organic food sales have traditionally been from specialist retailers such as macrobiotic, health and organic food shops. The number of natural and organic food shops in Japan has mushroomed since the early 1990s, especially in the Tokyo metropolitan area. Like other specialized shops they offer a mix of healthy, natural and certified organic products.
Supermarkets are showing greater interest in organic foods, with large retail chains offering organic products since 2000. At least a small display is now common in most major supermarkets. Major retailers are frequently dispatching managers and staff members to the United States and the European Union to gather information about traceability and organic products.

Specialized distributors in functional food and beverages have also become more focused on internet retailing as they have come to realize that low margins of organic products does not produce enough for organic store-based retailers to afford their running costs (source: Euromonitor 2013).

The two giant on-line organic food suppliers, Oisix (www.oisix.co.jp) and Radish-Boya (www.radishbo-ya.co.jp), are expanding their business rapidly. Since 2009, Oisix has more than doubled its net sales, going from JPY 6.1 billion to 14.6 billion in 2013. In 2012, it had 600'000 subscribers (source: Oisix website).

4.2. IMPORTED FUNCTIONAL FOOD AND BEVERAGE SECTOR IN JAPAN

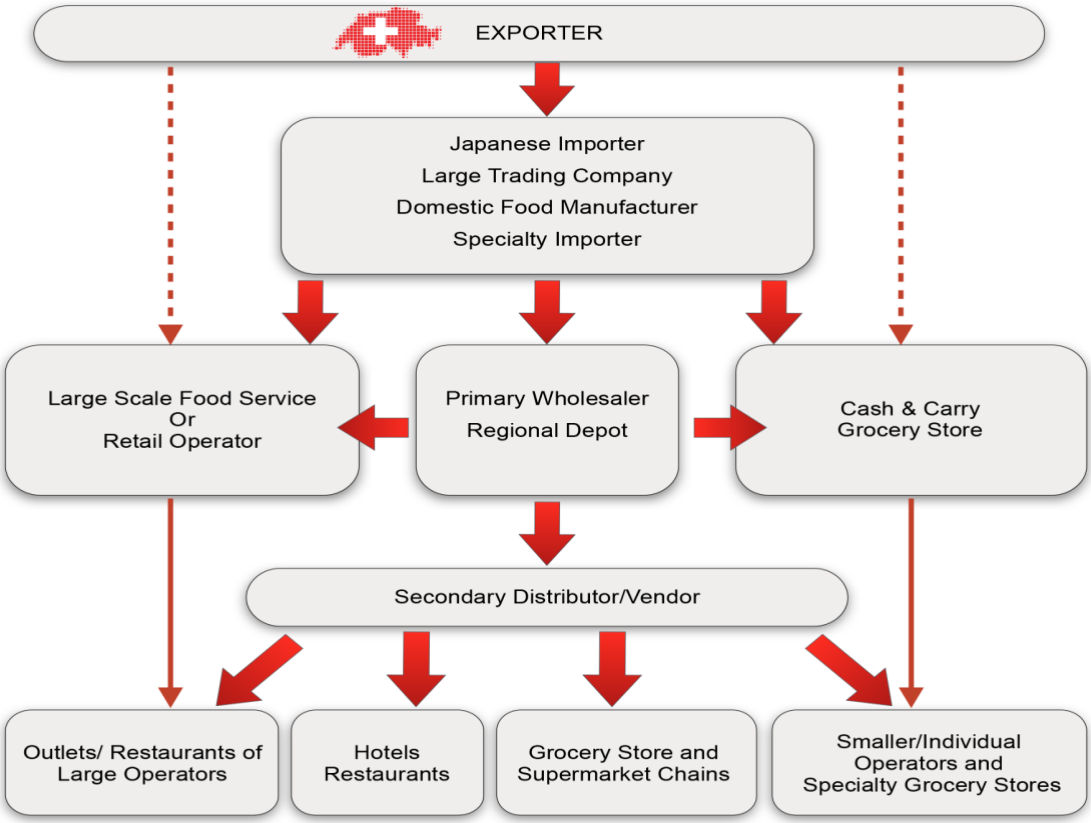
Because of the fragmented nature of the health and functional food segment, this overview covers the main distribution channels of the imported food sector, with a specific focus on the health and functional supplements segment. A case-by-case approach is required for single products as the actual process may vary.

The Japanese distribution structure is a locked system where incumbents are often in a dominant position. This situation also results in more difficulties for exporters wishing to access the Japanese market. Most of the traditional distribution channels for imported processed foods and beverages in Japan are relatively complex with personal, historical and financial relations playing their part in the decision making process. Each product has its own specialized wholesaler.

Processed food enters Japan through large trading companies and other importing companies. Before reaching final consumers, products often go through two levels of wholesalers and one retailer. Such layers of intermediaries generate additional margins and costs. However for the domestic products, distribution channels are becoming more simplified as importers increasingly bypass larger trading companies in order to be more competitive. During the last period, direct sales from importers to end consumers, on mail catalogues or through the Internet, have increased.

Until the end of 2012, importer-distributors benefited from a strong yen. Even though this has changed, a more critical benign trend has seen strong consumer demand for premium international brands. Many distributors say they are expanding and continue to attract new brands (source: Japan Consuming, March 2013).
The following chart is an overview of the standard distribution process for basic and processed imported food.

General Distribution Chart of Imported Functional Food Products



Source: JETRO; infographics: IT&IP SA

4.2.1. Retailing of Imported Packaged Food and Beverages

As far as imported food products are mostly purchased at department stores, specialty food stores, supermarkets and online. However, specialty shops have also their own online shops and/or a store on an online retailer platform.
Moreover, gift retail has also potential for growth for exporters of high quality products. Most of the Japanese retailers hold special sales events every six months to cater to customers wishing to send gifts (seasonal gifts tradition) to business contacts, clients, teachers, respected elders, family members etc.: a large gift giving event takes place at the end of each year (*seibo*) and a smaller one in July (*chu gen*). The majority of these gifts consist of food items, many of which are high-end and imported. Such as tradition custom, entering such a market might be especially advantageous for exporters stressing the health benefits of their packaged functional food products especially for elderly, since seasonal gifts are typically produced in limited quantities and sold at premium prices.
Within in this retailing sector, the following channels represent the most opportunities for exporters in general. Department stores and specialty shops could be among the most fitting distribution channels for finalized European-made products since their price bracket is usually higher than other packaged imported foods and beverages.
For European exporters choosing the right channel can be a challenge. European companies need first to evaluate the retail price in Japan of their products and understand which channels handle products in those price brackets. Then, they should also evaluate the average customer base of those channels and the kind of expectations that these consumers have in terms of quality, brand reputation, value, size, packaging, etc., to see if their products match or are completely off the mark and imply a lot of product adaptation. The customer expectations must also be taken into account, regarding for example minimum and average volume supply.

RETAILER	DESCRIPTION
Large-scale supermarkets	They still rely primarily on importers and wholesalers. They are generally receptive to foreign products, although they often demand product modification to suit market tastes and preferences. Inventory risks, long lead times, and communication problems still make a majority of these buyers hesitant to import themselves but as the market becomes more competitive, some have started purchasing directly from foreign manufacturers.
Conventional supermarkets	They face higher purchasing costs than their large-scale competitors. They depend more on wholesalers and usually procure from regional, local and national companies that buy imported food products from trading houses and importers that are generally interested in handling high-volume rather than niche-oriented products. They face higher purchasing costs than large-scale supermarkets. To gain economies of scale, regional supermarkets are forming alliances with non-competing retailers. Through joint

	merchandising companies, they are able to engage in direct import. These retailers carry imported products particularly as a mean to differentiate themselves from other competing stores in their region.
Department stores	They work either through wholesalers or "tenant merchants". They offer excellent opportunities for imported high-end food products and are an under-exploited channel for exporters. Most department stores have extensive basement concessions in favor of tenant merchants. There are also outlets operated by department stores themselves, offering exporters opportunities to launch pilot stores or to conduct marketing trials. Department stores provide a showcase of imported, novelty, and high-end products.
Specialty shops	Located in large metropolitan areas specialty shops offer opportunities for exporters. They are usually served by secondary or tertiary wholesalers, which, in turn, are supplied by the country's major wholesalers. Some of the largest chains of specialty shops, however, have established their own trading companies.
Online shops	Amazon Japan and Rakuten make it possible for anyone to sell food products online, including foreign brands. However, it is required to have an office with an address registered in Japan for payment purposes and legal responsibility, but also to be able to handle after-sales issues in Japanese. Therefore, exporters may not launch and operate without a local point of reference.
HRI channels	In general, hotels, restaurants and catering chains that provide international cuisine to their clients are a good distribution channel for imported products, including exclusive or high-end ones. However, the "healthy" aspect of specific foods and beverages is not necessarily used as a marketing tool, expect for some specialized organic cafes or restaurants that are still in limited number. HRI channels work through importers.

For European exporters the direct access to these retailers depends on whether a potential target imports directly its foreign products or not. Otherwise, going through an importer or trading house is necessary, and it will be those intermediaries that will make the necessary work to propose the products to the best channels. Even when a specific channel directly imports and is considered as the most proper, a tailored approach is necessary. For example, the functional food and beverage floors of department stores, where high quality imported foods can be found, are usually managed by sub-contractors, and not the department stores themselves. Even within a chain (e.g. Mitsukoshi Isetan Holding, http://www.imhds.co.jp/english/), those floors are managed by different contractors in each city, sometimes even several of them. Therefore, being distributed in Mitsukoshi Isetan in Osaka will not necessarily mean to be distributed in Mitsukoshi Isetan in Tokyo, nor in Fukuoka. Also supermarket subsidiary Isetan Mitsukoshi Food Service is expected to turn an operating profit in fiscal 2015 its subsidiary will continue reviewing costs in its struggling home delivery business.

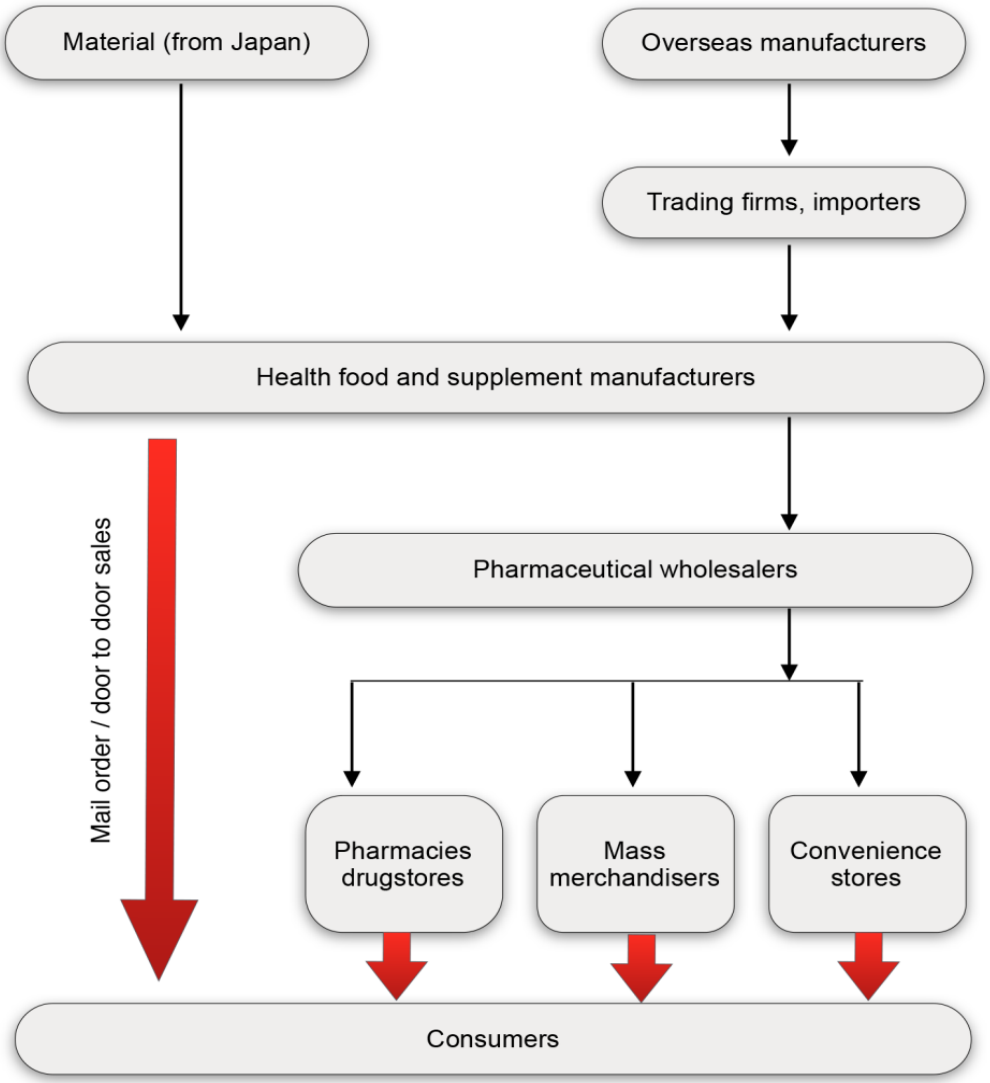
4.2.2. Distribution of Imported Functional Ingredients and Dietary Supplements

Imported nutraceuticals ingredients and distribution channels of health ingredients and dietary supplements are illustrated below. There are two options for ingredients and supplements produced abroad:

a) The entire production process, including packaging, is done overseas;
b) Packaging only is done in Japan

Almost of imported products are first handled by trading companies or importers who then sell them to Japanese manufacturers. Moreover, these manufacturers either sell directly to end consumers through mail order or door-to-door sales, or they provide wholesalers specialized in pharmaceutical products with the finalized products. Those wholesalers then supply pharmacies/drugstores, mass merchandisers or convenience stores.

Import and Distribution of Health Food Ingredients



Source: JETRO; infographics: IT&IP SA

Functional food manufacturers company rely a lot on overseas raw materials as functional food ingredients. According to Japanese companies conducted for this report, manufacturers have no obstacles to usage of imported ingredients as long as quality and continuity is assured, as well as traceability, stability of supply and accuracy of efficacy claims.
For suppliers company, most Japanese trading companies specialized in bulk ingredients tend to favor quality at a low price which is set according to their customer bases and distribution channels. Many trading houses appear to engage in sales activities encompassing an envisioned end product and possible promotion strategies.

Nutraceuticals manufacturer require a stable supply of quality ingredients so they often secure two or three trusted supply sources for key ingredients as backup. In many cases, small quantities of a large variety of functional food ingredients are required. Therefore, functional food manufacturers often seek low-volume transactions for bulk nutraceutical ingredients and request flexibility on this point from suppliers. When importing ingredients, cargo (especially powders) is sometimes opened for inspection/examination on entry. Therefore, low-volume bulk is often preferred to minimize losses. Low-volume is also often requested to prevent spoiling (e.g. packaging, moisture, oxidation, degradation). Those data are essential in order to vouch for the quality of bulks. In addition to data provided by bulk suppliers, large manufacturers often carry out their own tests using their own research centers or third parties. The majority of functional food manufacturers verify the ingredient's functionality data. Providing complete and accurate evidence is therefore essential when trying to sell new ingredients to manufacturers.

Moreover, country of origin is used to promote functional foods when ingredients are found only in certain locations or are from a location with a good image among consumers (e.g. 'Contains Scandinavian blueberry (bilberry)'). Most of functional food manufacturers have little interest in the country of origin if there are no obvious marketing advantages or disadvantages. According to interviews conducted for this report, European countries are known among manufacturers for its plant-based functional ingredients extracts.

However, effect/benefit claims of end products are subject to tight regulations. For suppliers and trading houses, publicity of ingredient evidence data and research findings is therefore one of only a few methods for communicating ingredient functions to consumers.

Most of nutraceutical ingredients manufactured with advanced technology and research and development of nutraceutical ingredients with foreign food-tech companies are of interest to Japanese manufacturers, as is the technology itself

5. PRICING

European and other exporters should take into account that on average, in Japan, retail price of imported food products is between two and three times higher than that of their ex-works price.

Regarding nutraceutical and functional food products, prices differ greatly depending on the distribution channel and the health properties of a product. For example, demonstration channels such as door-to-door sales are fit for products where explanations are necessary. Consumers agree to pay more for them (average price range for door-to-door sales: JPY 5'000 to JPY 10'000).

Most of well-known nutraceutical ingredients and functional products that are consumed on a daily basis, bought by the consumers themselves without any assistance, price is more nutraceuticals affordable or even cheap (average price range for products bought in convenience stores: JPY 200 to 300). If the nutraceuticals products has a clear established effect on consumers health the price can be high, the Japanese consumers will willing to pay for premium products with health benefits.

As for, health claims found on FOSHU-certified products affect positively the purchase of functional foods and consumers' marginal willingness to pay for health claims is high given their confidence in them and the regulations that support them. Research shows that for functional foods backed by certification, price does not affect consumers' choice. In such a case, consumers tend to believe that price corresponds with quality.

6. CONSUMER TRENDS

6.1. Consumers profile regarding functional food and beverages in Japan

Generally speaking the Japanese consumers show specific traits regarding their daily lifestyle that are relevant for understanding the success of the nutraceutical and functional food products as well as the attractiveness of this market for exporters.
First of all, Japanese people give attention to hygiene in all aspects of their daily life. This attitude might be in part attributable to a complex interaction of tradition, education and environment climate where hot and humid summers spoil food more quickly. Second, they are health conscious and undergo regular health check-ups and use to eat healthy. Third, Japanese food has a balanced nutritional benefit, and the diet of the Japanese population has improved in tandem with economic development over the five past decades.
As far as functional foods and beverages are concerned, consumers can be furthermore defined as follows:

- Highly concerned hygiene and about food safety and traceability - commonly used terms are "anzen" and "anshin" that respectively mean 'safety' and 'peace of mind'.
- Giving great importance on quality and being some of the most demanding consumers; producers that fail to recognize this will not succeed.
- Influenced by peers and will therefore be influenced by fads or crisis situations, including in the food and beverage industry; however, individualistic consumer behavior is gaining ground, fuelled by online shopping solutions, especially in the younger generations.
- Important aspect is appreciating taste and all of its subtleties and will pay for it but are also always on the look for bargain and discount offers ("hunting for value").
- Being well educated and knowledgeable about functional food and its variation.
- Another aspect is that Japanese are enjoying novelty (changing or improving the quality and variety of the functional food).
- Japanese being brand-conscious since it conveys both social appurtenance and insurance quality; a brand with a quality image will sell.
- Caring a great deal about seasonal foods and freshness; promotion of these characteristics can significantly build product sales and value.
- Traditionally in Japan "Eating with their eyes" and often viewing food as art. A food product's aesthetic appearance-on the shelf, in the package, and on the table-is important in building consumer acceptance.
- Single consumers having small homes with minimal storage space, thus preferring small-sized packages.

In terms of food safety, particularly radiation levels and foodborne illness, has been a heightened concern resulting from the 2011 disasters Japanese consumers will be inclined to buy foreign functional food. Whilst the risk in many cases may be considered low, any health threat has a tendency to be covered somewhat sensationally in the national press and television. This tends to have a deep and long-lasting effect on consumption. Moreover, producers, retailers, manufacturers and food service actors are responding in various ways to provide extra assurances of product safety. For European exporters, it means that traceability and clear statement of origin are important factors.

The quality-conscious Japanese consumer is easily bored and expects product innovation and new improved product offerings especially in the food and beverage sector due to commoditization. Product presentation is therefore absolutely fundamental.

The tech-savvy Japanese are integrating smartphone use into their daily lives, as seen with the growing success of online shopping, but also during store-based purchases. Having an effective online presence is becoming an essential marketing strategy in Japan and this is also true for exporters who are recommended to set up a website or web pages in Japanese as part of their communication.

6.2. Japanese consumers key segmentation

Most of exporters need to take into account that changes in the Japanese society in general over the past 20 years have created a very segmented market, where each segment has its own demographics such as aging, value drivers and spending patterns. The nutraceutical and functional food and beverage sector does not escape from this reality and exporters should understand the values of their targeted customers and cross-reference them with the consumption trends that are exposed below.

Consumer Segmentation in Japan Based on their Lifestyle:

- Elderly and Healthy (age 65+) represent 25%, retired, with children or grandchildren and pension based income
- Wealthy and active customers (age 44-52) represent 7.5%, working and active and vants to keep healthy life, luxury and progressive
- Single and Young with low income (age 20-34) represent 6.5%, working, single with low income
- Baby boomers (61-63) represent 5,5%, recently retired, with low income, independent, enjoying their life
- High income population (no age classification) represent 1.2%, luxurious, sophisticated
- Single woman around 40, career woman, single, have hobbies, active

Japanese female consumers and young male with high income are key drivers of the functional food market in general but also in the nutraceutical and functional food and beverage sector. In On the other hand, Japanese households women are still overwhelmingly in charge of grocery shopping and preparation of meals and manage the family budget. They are also more inclined to take care of their health and are concerned about age-related health issues. Understanding the expectations and needs of female consumers should be a priority for exporters of healthy and functional foods and beverages. Women in all age groups have a keen interest in food, health and healthcare and almost all of them for beauty.

6.3. Household expediture

Regarding household expenditures, a significant proportion of income has always been spent on food. In 2015, the average disposable income of worker households of two or more people was JPY 434’330, down 1.3% from the previous year and consumption expenditure per month in

2016 average of JPY 312'331 (down 2,6% in the first semester compared to 2015) according with Statistics Bureau Japan 2016. Food takes the largest share of monthly expenditures, with 25.7%, or JPY 74'655 (source: METI statistics, March 2015).

6.4. Trends and evolution of consumption in the nutraceutical sector

The lifestyle of Japanese people has changed since the earthquake of March 2011, especially towards the idea of "looking after your own health conditions". While people are trying to save up and stop spending on unnecessary things, investment towards health seems to be expanding along with the aged population.
The earthquake and nuclear disaster at Fukushima had a profound impact on the interest of consumers regarding functional and healthy food products. After the catastrophe, many people had unbalanced meals, mainly eating carbohydrates such as rice balls and bread. Functional foods and dietary supplements gained attention. There were many types of functional foods and dietary supplements that helped prevent transmitted diseases and decrease of physical strength.

A web survey set up in March 2011 by Selun Corp. and taken by 4'800 consumers showed that the rate of penetration and awareness of healthy foods and supplements is high in Japan, since only 19.3% of respondents had never tried health foods or supplements, 36.5% were currently using this kind of products and 41.4% had consumed some in the past. A total of 62.8% of respondents expressed a high or normal level of interest in those products while 37.3% expressed a low or lack of interest (source: Selun Corp.). Japan's is the third biggest health and wellness market in the world after the US and China and valued at $68 billion – healthy ageing is one of its biggest sub-segments and set to a growth in importance as the country population ages.

Consumption of Health Foods or Supplements

Used in the past 41.40%
Still Using 36.50%
Not or never using 19.30%

Source: Selun Corp.

Consumer Interest in Health Food or Supplements

Very interested 13.90%
Interested a little bit 48.90%
Not so much interested 28.70%
Not at all interested 8.60%

Source: Selun Corp.

'Secrets' of Japanese longevity were a healthy diet, regular exercise, extended work years and government policies supporting a healthy lifestyle. It is clear that Japanese consumers continue to favor nutraceutical products and ingredients that promise improved health condition. Sixty percent of the Japanese population consumes health foods every day, and rough 30% of the over 50-year old population consumes them every day according to a survey of the Japanese government in 2012. The growing health concern among Japanese consumers pushed up sales of health and wellness products in 2013 (source: Euromonitor International 2013). This has proved

all the more important to manufacturers as consumers are willing to pay a premium for such products, which has meant that although household budgets are being squeezed consumers have on the whole been happy to spend on products which have the allure of improved health condition (source: Euromonitor 2015).

6.4.1. Factors for Selecting Healthy Food and Beverages

Japanese consumers became more health conscious over the review period and rely on the following factors for choosing particular health foods:

- Efficacy of the healthy food data
- Positive experience in the past
- Type of health benefit
- Brand and content of the key functional ingredient
- Country of origin of the product
- Naturalness: Naturally derived ingredients, not containing artificial ingredients, and simple or minimum production process
- Brand name
- Price
- Product safety

Sources: Yano Research Institute 2014;

If the Japanese consumers are not familiar with the functions of a food product due to lack of information, such product fails to become popular. Information and communication is therefore a key to market success. As long as with stricter regulations and monitoring on indication and expression of health foods by the government, health foods without FOSHU certification but with well-known effects and efficacies are in good demand.
Research regarding consumption of functional dairy products have shown that antioxidants and fibers are the most demanded functional ingredients. Despite minimal increases in income and the tax rise implemented in 2014, many Japanese consumers do not mind paying more in order to gain health benefits from food and improve their health. For example, yoghurt continued to grow, registering 6% current value growth in 2014. This growth was mainly driven by greater awareness of the health benefits of yoghurt. When ordinary words such as "fibers" or "antioxidant" from polyphenols are used on the label, consumers have a stronger tendency to perceive the healthiness of product and try it than when scientific or nutraceutical names are used (source: Agri-food Canada 2012).
Regarding organic products, while 97% of consumers are aware of the word "organic", however, only 5% of them understand its meaning correctly. Consumer understanding of "JAS organic" is still low. Confusion between products with less or no chemicals remains.
Regarding imported products, in general, Japanese consumers often prefer domestic farm products since they are of the opinion that they excel in safety and quality because most of other suppliers are from China or other countries from Asia-Pacific area. When it comes to choosing between products coming from different countries, the good reputation and image of a country in terms of quality, safety and taste will play a significant role to influence consumer choice.

6.4.2. Information Source

Woman in Japan are sensitive to food trends highlighted on television programs advertising. For example, TV programing has had a triggering impact on consumption through reviewing of health benefits of tomatoes and yogurts in 2012. According to the 2011 online survey, television (commercials 58.9%, programs 30.0%), the internet (47.9%) and newspapers (articles 37.9%, advertisement 34.7%) are the top information sources of Japanese consumers regarding health foods or supplements.

Information Sources

- TV comercials 58,9%
- Internet 47,90%
- Newspaper advertising 37.9%
- Friends 16.8%
- Newsletters via email 12.1%
- Retailers 11.40%
- Advertising mail 11.2%
- Health magazines 8.60%
- Weekly magazines 8.6%
- Books about health foods 5.7%

Source: Selun Corp. website

Regarding foreign nutraceutical products, increased awareness of foreign cuisine through media, study, and travel is resulting in greater demand for foreign restaurants and ingredients in the marketplace. In addition to the popularity of western food, food trends have recently become more complex. Various ethnic foods are also becoming popular and are often combined with Japanese cuisine creating "fusion" foods. In addition, to “fusion” foods restaurants, there are also more authentic ethnic food restaurants that cater to the broadening Japanese palate. Hence, to satisfy demand for non-traditional foods, restaurants are seeking a wider variety of international food ingredients.

6.4.3.1. Upcoming Trends to Watch

A willingness to pay a premium for health benefits is higher in developing markets than elsewhere. More than nine-in-10 respondents in Japan (93%) say they’re willing to pay more for foods with health attributes to some degree. The nutraceutical market trends are the following:

- Mental Health: Products that boost or maintain the mental health of aging consumers represent a key market segment, which has yet to be fully addressed. Cognitive performance of aging consumers is still under-exploited and this presents interesting opportunities for exporters. Fortified products specifically developed for mental health are in demand. They typically include ingredients such as omega-3 fatty acids or glutamic acid. Breads, snacks and cereals are good vectors of growth for including such ingredients and attracting the attention of aging consumers (source: Leatherhead 2012).

- Food with health benefits: Food products that offer health benefits, such as lowering cholesterol, or containing a high level of antioxidants have a marketing advantage in Japan. Functional foods such as energy drinks, bars, and snacks containing dried fruit and nuts, offering to provide nutritional health benefits.
- "Zero" products: Cutting calories or cholesterol by drinking or eating zero calories products is an increasing trend, notably among office workers. Zero sugar sweets, zero calorie coffee, zero calorie beers (with zero alcohol) are becoming popular among men and women alike.
- Anti-fatigue: Among ingredients for addressing anti-fatigue, consumers are increasingly aware of evidence-based ingredients or materials that promote enhancement of motor function, anti-fatigue, such as Amino acid, Peptide, Astaxanthin, L-carnitine, Glucosamine, Collagen, Conezyme Q-10, CLA (conjugate linoleic acid), DHA, MSM, etc.
- Aging society: Japan's population is aging faster than any other country in the world. According to Japan's National Institute of Population and Social Security Research, by 2020, 29.2 percent of the population will be over 65 years of age. One consequence of the aging demographics of the Japanese society is the popularity of materials that prevent accidental ingestion and aspiration, as well as favor smooth chewing and swallowing. Glucose that helps adequate dietary intake through small portions, proteins that supplement nutrition, functional raw materials for dental care, mouth odor solutions, intestinal disorder solutions, are all examples of successful products due to the aging of Japanese consumer base. Locomotive syndrome is another condition related to aging which results from the weakening of joints and muscles. Since locomotive syndrome can strike any elderly person who has a specific physical weakness including wasted muscles, interest for products that address this condition is expected to increase.
- Anti-aging products: this category of products has always been popular in the Japanese market. Until recently, however, they remained mainly within the areas of cosmetics and pharmaceuticals. Along similar lines as functional foods in general, "beauty and anti-aging" is becoming a new marketing tactic within a growing aging population. According to an online 2010 survey, out of 4755 respondents, 62.1% knew this concept and 54.3% relied on a well-balanced diet for staying young, while 31.5% took supplements (source: Selun Corp. website).

While one approach is to educate the public on the natural anti-aging effects of some processed fruits and vegetables as well as juices, other companies have started to add anti-aging ingredients to candies, beverages, and snack foods. In addition to collagen, placenta, black vinegar or pomegranate are some examples of widely used ingredients. The addition of these beautifying and anti-aging ingredients to food is becoming very popular among women of all ages and is expected to grow (source: Agri-food Canada 2012, Yano Research 2013).

6.4.3.2. A Cross-Cutting Trend: Product Convenience

With everyone leading a busy lifestyle keeping them at work, or spending more time enjoying themselves rather than doing grocery shopping and cooking, the need for more convenient yet healthy products easy to prepare or even ready to eat has increased, supporting demand for Western-style products such as olive oil, pasta, yogurt, soup and breakfast cereals.
Convalescence products for the elderly have gained popularity for the same reasons. Convenience store chains have seized the growing demand for convenience by offering an increasing variety of ready meals at affordable prices. Online ordering and free delivery services

for the elderly have become more common (sources: Euromonitor 2014 and 2015, Fuji Keizai 2015). The impact of convenience on healthy food and beverage products can be found in the following examples.

- Breakfast replacement products, such as cereal bars, which can be consumed with no preparation and have healthy ingredients as well as nutrition supplements, are getting the interest of meal-skippers. Granola bars that include whole grain and dry fruits have become increasingly popular among consumers, especially among younger, health-conscious women. Other popular ingredients included in successful cereal bar products are omega-3 fish oils, flaxseed, brown sugar and maple syrup. "*Soy Joy"* cereal bars, which offer a meal alternative of soy beans and fruit, are marketed as a good source of fiber, vitamins and additional minerals (source: Japan Market Report).
- Another category of products, so-called "Veggie Smoothies", has become a popular method for consuming vegetables. Through the introduction of recipes, vegetable-based smoothies are becoming more popular among Japanese consumers, especially women, in particular due to their convenience.
- Another trend is showing large potential in the area of processed foods. There is also high demand coming from office workers for foods that are single-serve and easy to prepare, and more women are joining their male counterparts in a quest for such meals. Hoping to bust the more masculine image of traditional instant noodles, "*Hanauta*" cup noodles target women with healthier and more elegant flavors such as Chamomile Salt, and Rosehip Tantanmen, packaged in a floral print streamlined cup. Another manufacturer, Myojo Foods, is launching a similar line of instant cup noodles they hope will appeal to women on the go. Ready meals demonstrated the strongest current value growth of 4% in 2014. Furthermore, there is also growth in the number of single females and males who do not get married.
- By changing the packaging and flavor of cup noodles, Toyo Suisan shows that it is not just the product, but also the associated image that is important to Japanese consumers. The goal is that Japanese women will less be inclined to be embarrassed or feel guilty to eat noodles with cute packaging and healthy ingredients (source : USDA-GAIN Report November 2014).

CONCLUSIONS AND RECOMMENDATIONS

Challenges and Opportunities for European Exporters

OPPORTUNITIES	CHALLENGES
Excellent reputation/image of Europe in terms of safety, quality and naturalness	Increasing food safety concerns and demands for food production information and traceability among consumers
Advanced and safe European food processing	Long distance between the two countries
Advanced European food-tech research	Japanese preoccupation with quality
Recognition of European organic label	High cost of marketing
Free Trade Agreement between European Union and Japan	Complex regulations regarding labeling, health claims, etc. and different package design
Science-based European food safety	Low level of awareness for European-made food

procedures	products
Japanese food processing industry seeking new ingredients	Consumers' preference for domestic products
Changes in the Japanese distribution system	Long-term commitment expected from Japanese partners
Common approach on some key business points (punctuality, thoroughness…)	High ex-works costs and difficulty to provide large quantities of several food products

As well as Japanese processors, wholesalers, restaurant chains, supermarkets and convenience stores are all interested in safe, price-competitive and value-added products from overseas there is opportunity for Europe products export. European producers are expected to deliver a safe, GMO-free, nutritious, sustainably sourced product, which has strong marketing support.

Small packet sizes continue to become more popular, due to growth in the number of single-person households who can only consume a small amount of impulse and indulgence food each time. There has been growth in the number of both seniors and young adults living by themselves. There is a growing demand for high quality and uniquely packaged food products in Japan's major cities. Patrons of upscale Japanese supermarkets are not limited to a specific age group or gender. These consumers are savvy and are prepared to pay higher prices for those products that help promote a certain lifestyle and image. The willingness-to-pay-more scale in JAPAN more closely resembles the global average spending buckets: The highest percentage of respondents are moderately willing to pay a premium (41%), followed by those that are very willing (30%) and slightly willing (22%) (source: Nielsen N.V. survey report).

The "Made in EU" argument, combined with a healthy and/or functional claim due to their ingredients, can make European premium products attractive as long as reliability, traceability, costs, flexibility, ability to adapt and a high level of reactiveness in communication are respected, among other factors.

Food intolerance and allergies can also be seen as an opportunity. Japanese consumers suffering from such ailments will welcome allergen-free products. Supplements that relieve from allergic symptoms are also seeing an increased interest. After all nutraceuticals are seen as a good way to improve one's allergies, natural foods and beverages that contain nutraceutical ingredients that relieve allergy symptoms such as atopic dermatitis or itchy eyes will also be well perceived (e.g. polyphenols, Chinese blackberry tea, yoghurt, lactic acid bacteria, etc.).

Current perception among functional food exporters is that most Japanese consumers suffer from lactose intolerance and do not consume dairy products. Although dairy products are relatively new to the Japanese diet compared to Western countries, consumer interest is keen and demand is growing for probiotic yogurts for example. However, lactose intolerance is a reality in Japan, as explained above. For example, beverage giant CALPIS makes it clear that its feature products, that contain lactic acid, can also be consumed by those who suffer from lactose intolerance.

Taking into account the current import trends, it appears that there is room for growth through product adaption. European exporters would have higher opportunities for entering the market or expanding their current market share by offering different variations of their products that better

meet this demand, such as candies or biscuits with less or no sugar, soft drinks with less or no calories, with less or no caffeine.
Facing a fierce competition by both domestic and foreign manufacturers, European exporters would also increase their chances by introducing added-value products with additional natural ingredients that have naturally healthy properties and are well known for it, such as blueberries for example.
For European companies to tap into this dynamic market, they should be aware of several key factors affecting food purchase trends. These factors are: a rapidly aging population, diversification of eating habits, emphasis on high quality, increasing demand for convenience, and food safety concerns. Exporters interested in the Japanese market should make note that three of the biggest annual food related trade shows in Japan and all of Asia are: Foodex Japan, Supermarket Trade Show.

7. OPPORTUNITIES FOR EUROPEAN EXPORTERS

7.1. Recognition of the European organic certification and the image of its products in Japan

Europe benefits in Japan from a reputation as a safe supplier of food and beverages that provide quality and tasty products. This is already a strong competitive advantage compared to other foreign exporters since Japanese consumers may perceive product attractiveness on the basis of its ingredients' country of origin.
There may also be additional opportunities for European products that focus on health-related positioning, such as naturalness (organic or no additives and preservatives and GMO-free) and purity (simple and clear ingredient lists with limited chemicals added).
The fact that both countries have recently agreed on a mutual recognition of their organic certification is therefore an advantage for European exporters in Japan if organic ingredients recognized as such in Europe are used in a food or beverage products.

7.2. Nutraceuticals certification across adequate marketing

For the exporters with health-claims related nutraceutical products, investing in FOSHU certification has a cost but can also have high added value.
Most of the Japanese consumers pay attention to health claims mentioned on labels and show willingness to pay more for products that show such labels. Coupled with the fact that Japanese life expectancy is the highest in the world, there is a strong demand for "healthy foods." The FOSHU certification process however is costly and time-consuming for any company that aims at marketing labeled functional foods, even for domestic companies. It is therefore important to determine whether acquiring this certification is worth the cost and time.
This approval system is voluntary and quite a few Japanese companies have opted to market functional foods without these labels, even when they could have obtained the FOSHU certification. A marketing campaign using carefully selected words hinting to the beneficial effects of the products can successfully compensate the lack of labeling thanks to the high level of knowledge and awareness of consumers regarding health and food.

While Japanese consumers know the positive effects of well-known foods and ingredients (for example soy, blueberries, polyphenols), they know little about the exact composition of products with a combination of various vitamins or more refined elements that do not have a common, non-technical designation. They might not know about the health impact of lesser-known ingredients (for example the polyphenol contents of a new exotic fruit). On the other hand, food products that offer health benefits, such as lowering cholesterol, or containing a high level of antioxidants have a marketing advantage in Japan.

Understanding the positive effects of such products, respectively of their raw ingredients, will depend on information provided to the consumers so that they may establish this link. These products will come with higher prices, likely for lower volume, but will most likely not offset the overall decline in value that is expected to occur in the Japanese food market. Research suggests marketers and producers must position products in a clearly recognizable manner as functional food (within the limits allowed by regulations), for example on the package or on flyers distributed at sale points. Traditional approaches used for conventional food (e.g. brand management, sales channels, product size) are not as relevant in this case.

For European exporters, both alternatives represent an investment and require working with a local partner, either for preparing the application file and documentation for the certification authorities or for setting up a successful communication and marketing campaign tailor-made for Japanese consumers, in Japanese.

7.3. Packaging of nutraceuticals and its importance for Japanese consumers

Japan is a sophisticated and mature market and this fuels a need for added value in terms of product packaging. Packaging is everything in Japan, as it is an integral part of their culture and is not only applicable for food and beverage but for all goods. Consumers are design-aware and highly value aspirational/individualistic packaging.
Average packaging will not be accepted in Japan – it must be of a very high level with attractive designs and significant information in Japanese. Exporters should bear in mind that if a product is sold at a relatively expensive price, compared to similar products, it is seen as being of higher value. Therefore, the quality of the packaging must also reflect this.
Manufacturers primarily targeted seniors for premium products, as there are a growing number of seniors in the Japanese population and manufacturers are aware that many of them prefer quality over quantity, and they do not mind paying more for better products. Aesthetics matter but so do size and easiness to carry, open and use. Older consumers insist on flawless packaging and pay close attention to details such as color and labeling as well as re-sealable packages.
As the government continues to support the 3Rs of "Reduce, Reuse, Recycle" concept, and as eco-friendly packaging has become a key part of the purchasing decision of consumers, manufacturers develop environment-friendly packaging that makes less use of petroleum-based materials. Companies are developing lightweight packaging, smaller closures and thinner flexible labels, but they are also using recycled materials and bio-plastic.
Innovative packaging is therefore an important strategy to compete in the market. For examples, retail giant Aeon uses liquid cartons for styling agent refills for its private label products. This type of packaging is usually used for dairy or beverage packaging, but is more eco-friendly and cost-effective (source: Euromonitor 2014).

These trends toward more ecological packaging still conflict an established practice to wrap individually food items within larger packages, such as biscuits or chocolates. This is done notably for practical reasons related to the high level of humidity during summer time to protect food items when the package is open, for carrying only a few items at lunchtime or for presentation purposes during teatime for example.
For this reason, consumers might appreciate imported products that include individually wrapped items. Confronted to these contradictory demands (eco-friendly vs. practicality), exporters may decide to opt for innovative packaging that meets them both.

7.4. New products development and R&D collaboration between Europe and Japan

The Japanese health and functional food market is exceptionally developed and in some cases products and innovation are around five years ahead of what is already on the market in Europe in some segments of nutraceuticals industry.
It is also an increasingly competitive sector given the extremely short product cycle in Japan: manufacturers are always looking for new ingredients and products that can provide them with a new competitive advantage.
The growth potential in the Japanese market is an opportunity for European exporters to gain market shares in terms of the provision of ingredients needed for the development of functional food and nutraceuticals in Japan. Because the European market is well known on improving innovation and new products developments with R&D spend increasing from 0.24% of industrial revenue in 2004 to 1 % in 2014. Innovation in natural source of ingredients and product development is a key driver across Europe.
Horizon 2020 projects under the EU umbrella can establish R&D collaboration between EU universities, companies (SME's) and the Japanese counterpart from industry and universities as well on the various types of research in a joint collaboration projects.
Europe large companies, SMEs and start-ups active in the healthy food and beverage sector (final products or ingredients), supplements, pharmaceutical and biotech/food-tech industries can find promising opportunities in this sector. These opportunities will grow along with the increasing convergence that can be already observed between the pharma, biotech and food industries in Europe.
Most of the new technologies that can improve the efficacy or the absorption of ingredients are also of interest. Japan is a frontrunner in this field as well. New product development through R&D cooperation could constitute an excellent way for European companies to set foot in this market, to grow but also, indirectly, in other international markets that are targeted by manufacturers.

8. EXPORT CHECKLIST

The goal of the following Export Checklist is to provide a solid research of the major steps and milestones to consider for exporting to Japan. It may look challenging for exporters to go through all of these steps by themselves.

Before considering exporting

- Assess whether your company has the financial and non-financial (staff, time, etc.) resources to actively support your exported product(s).
- Determine whether your company has the ability to tailor your product's packaging and ingredients to meet Japanese import regulations, food safety standards, and cultural preferences.
- Review Japanese food regulations to determine if your product(s) comply with or need to be altered to fit local laws regarding additives, residue levels, and processing procedures.

Perform a market research

- Determine whether there is demand for your product and what your target market will be. Understand whether you should sell a final product under your own brand or as a private label product or supply ingredients to a Japanese manufacturer and what would be the best distribution channel.
- Determine whether your product is price competitive against Japanese and other producers, keeping in mind transportation costs as well as modification costs.
- In this mature and discerning market, new products coming in must be adept at demonstrating a unique selling point. Assess the comparative advantage of your products. Japanese customers need to be convinced of the merit of using your products. Some examples are price savings, higher quality, higher value-added, or more convenient packaging. This combined with a clear market entry strategy will enhance the chances of success.

Create an export action plan tailor-made for Japan

- Once you have collected the general market, products, and regulatory information, begin the process of creating an export action plan. This plan will be instrumental in helping distributors and buyers see your vision. Many portions will change after personal interaction with the market.
- Understand how the Japanese distribution system works and begin the process of figuring out where you are to enter.
- A respected quality award from a renowned food event can assist to persuade discerning consumers to try a new product. Be sure to include it in your marketing documentation.
- Environmental issues are important in Japan in terms of production, product and packaging. Make sure this is highlighted on your packaging, marketing material, website, etc.
- Your website will need to include an international/export section with the most important 'selling information' in Japanese and linked in with key Japanese search engines, your importer etc. Clear pictures of your products and the packaging are vital and if you prefer not to go into detail to this extent on your website due to copyright concerns then you will need an email version to send to short-listed / qualified prospects.
- You will need to create a professional product and company brochure, if possible in Japanese, but at least in English. Your Japanese partner and/or customers (potential buyers, importers/distributors) need to know in detail with whom they do business. The

more details you give, the better (company history, key milestones, management, achievement, etc.). Such a brochure becomes your ambassador and a credible marketing tool that reflects the image of your company and product. The Japanese value texts and data over pictures. An export price list must also be ready.

Find a buyer

- As a next step, either visit Japan to explore opportunities firsthand or find a representative to do so. Face-to-face interaction is very important in business because Japan is unique in the respect that personal relationships/building trust is very important. Additionally, keep in mind that it takes time to form these relationships.
- Begin looking for potential buyers (importers) and distributors, for example by taking part in trade shows like Foodex or more specialized ones dedicated to health and functional food, or organic products if relevant.
- Meet with Japanese importers who distribute the types of products that you wish to export and have the appropriate channels for your product to learn more about the competitive environment.
- Provide a preliminary analysis of your target segment to your potential importer, including data such as competitiveness.
- Visit potential customers to determine if there is interest in your product and to determine how they normally source/distribute products. This is a good way to discover how products are normally reformulated and how packaging is tailored to the marketplace. Remember that most packaging or labeling will have to be changed for the Japanese market.
- For price controlling reason, quote price in CIF (cost, insurance and freight), unless the importer requests FOB (free on board). The exporter should quote CIF as it shows the Japanese importer the cost of getting the product to Japan. Ask an international freight forwarder for help. The forwarder can figure out the CIF price usually at no charge. Factory price (ex-works) should be given only as a last resort because it does not reflect transportation costs, which can be significant depending on the type of product and its specific handling requirements.
- Price competitively and be clear with importers about the conditions under which price adjustments may occur.
- Importers seek detailed information regarding the product's inputs and to gain an understanding of production capability/capacity. This is especially true for products with traceability and organic components. It is essential to prepare detailed information about company owners, management and top-level staff to demonstrate continuity of management and quality control practices.
- Be patient regarding requests for information on ingredient, production process and quality assurance. Ensure that you exercise stringent quality control on your product, especially in terms of product safety.
- Ensure that all the information is correct and respond with diligence and in a timely manner.
- Ensure that you can supply consistent quantities within agreed timeframes.
- Demonstrate a willingness to support promotional activities to market your product. Work closely with your distributors on key marketing communication.

Documentation and shipping

- After revising your export action plan and finding a distributor, begin the process of setting up a payment structure and meeting import documentation requirements.

- When ready to ship, begin the process of finding a freight forwarder that often will handle many of the logistics of shipping for a fee.

Cultural aspects to remember when doing business in Japan:
Be aware of the real differences in terms of business cultures between Japan and Western countries. Japanese business people, no matter how Western they may appear, do not always approach business relations in the same way as European business people. Some differences are simply due to the language barrier; others are due to differences in deeply held traditions and practices. Here are some suggestions to help overcome this cultural gap:

- Use clear-cut, simple words and expressions when writing in English.
- Be prepared for misunderstandings; use tact and patience.
- Make appointments as far in advance as practical.
- Be prepared for misunderstandings; use tact and patience.
- Use e-mail and fax, rather than telephone, whenever possible.
- Be braced for negotiations, which require a number of meetings and probably several trips to reach an agreement.
- Japan is a very service oriented culture and requires quick response to both product complaints and requests for information.
- Japanese, like European people, are very punctual. Be always on time for meeting.
- Communicate your cell phone number prior to a meeting (make sure before departure that your cell phone functions in Japan. If not, Japanese models can be rented at specific locations in international Japanese airports).
- An approach is to establish a presence in Japan with local representation. This more costly option can assure customers and partners there that European businesses have committed to the market and they will be treated with added respect and trust. This is only recommended to those with long-term aspirations once they have reached the conclusion that they absolutely need stronger representation in Japan.
- Be aware of major Japanese holiday and business break periods, e.g., the New Year holiday (approximately from December 28 to January 6); Golden Week, a combination of national holidays (April 29 - May 5); Obon, an ancestor respect period lasting for a week in mid-August during which many companies close and business people take vacations.
- Cultural differences can have a serious impact on business. Seek professional assistance and advice to understand the differences and avoid mistakes. European Global Enterprise can help bridge such a gap.

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