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"NEW BUSINESS OPPORTUNITIES FOR FRESENIUS KABI IN THE ORAL NUTRITION SUPPLEMENTS MARKET IN ASIA-PACIFIC"

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Abstract

This master thesis aims to explore new business opportunities in the Asian-Pacific oral nutrition supplements market for Fresenius Kabi, a key global player in the health industry. For this purpose, a literature review has been performed which gives an overview of the oral nutrition supplements market, global trends and main players in the market as well as a SWOT analysis of Fresenius Kabi. In addition, qualitative and quantitative research (stakeholder interviews and a survey) have been conducted. Based on the findings business opportunities for Fresenius Kabi are outlined, discussed and evaluated.

Keywords: *oral nutrition supplements, enteral nutrition, Fresenius Kabi, trends, Asia-Pacific, business opportunities, lifestyle supplements, wellness*

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List of Abbreviations

CAGR	Compound Annual Growth Rate
CEO	Chief Executive Officer
E-X	Electronic X
GDP	Gross Domestic Product
IV	Intravenous
KPI	Key Performance Indicators
M&A	Mergers & Acquisitions
MNI	Medical Nutrition Industry
ONS	Oral Nutrition Supplements
OTC	Over-the-counter
PESTLE	Political, Economic, Social, Technological, Legal, Environmental
R&D	Research & Development
SWOT	Strengths, Weaknesses, Opportunities, Threats

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1. Introduction

1.1 Introducing the topic

Malnutrition is one of the biggest health problems in the 21st century, affecting 2.4 billion adults (~30% of the global population) worldwide (World Health Organization, 2021). Within this, 1.9 billion adults are overweight and 462 million suffer from undernourishment with 88% of countries globally experiencing high levels of two or more types of malnutrition (Development Initiatives Poverty Research, 2018). This health challenge is especially acute in the developing and emerging countries of Asia-Pacific which are still struggling immensely with malnutrition and are lagging with regards to health care (Remes, et al., 2020).

Even though oral nutrition supplements (ONS) are crucial to combat malnutrition, increasing awareness about health and nutrition has shaped the behavior of consumers worldwide over the past decade with emerging research about the impact that our nutritional choices have on our bodies and the environment. Nutrition is progressively viewed as a crucial pillar of mental and physical health, COVID-19 heightening this sensitivity and driving the goal of pursuing health even further. In particular, the use of wellness related ONS has proven to be efficient and effective in supporting lifestyle goals in order to stay healthy throughout one's life, making ONS an important part of the daily routine for health-conscious consumers.

Against this background, global health care company Fresenius Kabi has made it its ambition to be the developer of the oral nutrition supplements market focusing on malnutrition in Asia-Pacific, leveraging the expertise from their European operations and adapting it to local contexts. This sits firmly within the company's mission of "caring for life" which has shaped its business for decades and continues to be a guiding light for its divisions as said by Fresenius Kabi CEO, Michael Sen (Fresenius Kabi, 2022).

1.2 Research gap and research question

Extensive research has been conducted over the last decades about Asia-Pacific as a growth market in health industry. Various multi-funded analyses have examined health and nutrition trends in-depth, spreading awareness about the topic and initiating conversations about how adequate nutrition can aid in improving social and economic conditions in developing and emerging countries.

Fresenius SE continues to be the global market leader in its division Fresenius Medical Care (Fresenius Medical Care, 2022) and Fresenius Helios (Fresenius, 2022). Its smaller division Fresenius Kabi offers a portfolio of different services within which clinical nutrition constitutes 30% (Fresenius, 2021). According to their Vision 2026, one part of the framework to ensure sustainable growth is the introduction of new clinical nutrition products. The majority of the clinical nutrition segment consists of parenteral nutrition and enteral nutrition, with ONS only making up a smaller part of the latter. As almost 30% of the world's population suffers from at least one micronutrient deficiency, ONS have become critical products to combat non-communicable diseases among others (Financial Innovations Lab Report, 2016); (NCD Alliance, 2017). Moreover, lifestyle ONS supplements have gained rising popularity over the past years, a segment which Fresenius Kabi does not currently serve with its ONS product portfolio but is considering to enter. Furthermore, ONS sales in emerging markets including Asia-Pacific have risen up to 33% of Fresenius Kabi's revenues in 2021 (Fresenius, 2021). Nevertheless, Fresenius Kabi does not serve all geographies in Asia-Pacific. Even though Fresenius Kabi has made an impact in Asia-Pacific with its ONS focusing on patients suffering from malnutrition, there is a significant research gap regarding the depth (including lifestyle ONS) and breadth of ONS products in its portfolio. The question to be answered here is: ***Which new opportunities are opening up for Fresenius Kabi in Asia-Pacific?***

1.3 Research procedure

This thesis is divided into four main chapters:

- First of all, a literature review will be given, including an overview of the ONS market and its trends, Fresenius Kabi and other main players in the market as well as a SWOT analysis of Fresenius Kabi to point out their strategic positioning.
- In the next chapter, the methodology of qualitative and quantitative research methods used, the data collection and the method of analysis are explained.
- Subsequently, the findings resulting from qualitative (sample of 6 in-depth interviews) and quantitative (survey based on 233 participants) data will be presented.
- Next, the findings of both research methods will be discussed, limitations of this thesis outlined and a future outlook for Fresenius Kabi given.

Finally, an overarching summary will be provided in the conclusion.

2. Literature review

2.1 Market overview and trends in the ONS market

According to Medical Nutrition Industry (2012), ONS provide a range of macronutrients (proteins, fats and carbohydrates) and micronutrients (vitamins and minerals) in the form of oral solutions. These solutions can be differentiated by format (liquid, semi-liquid, semi-solid, solid) and types (low/high calorie, high protein, low/high volume) depending on the specific patient needs (Hill, 2017); (Malnutrition Pathway, 2021). ONS come in a variety of flavors and are most often consumed in supplementation to normal foods instead of as the only form of nutrition (Taylor, 2020). Furthermore, ONS can support adequate nutritional care for preventative measures, to manage a variety of diseases and aid the healing process after surgeries, hence supporting patients at every step of their health journey (He, et al., 2022). ONS can be consumed by every age group and can aid significantly in guaranteeing sufficient nutrient intake (Wobith & Weimann, 2021). A number of health and clinical benefits are connected to ONS including reduced health care costs due to less clinical complications and hospital readmissions (Medical Nutrition International Industry, 2012). Additionally, ONS can be differentiated from medical drugs as they are not used with the objective of curing an illness but rather as a supplement to the healing process (USADA, 2022). Therefore, regulation and reimbursement differ from medicinal products but ONS can still require prescriptions. The process of approving an ONS and the level of reimbursement permitted are highly country-specific. Overall, the largest revenue share of global ONS can be accounted to North America (~30% in 2020) which is forecasted to remain the largest geography whereas Asia-Pacific (~20% in 2020) is estimated to experience the fastest growth (Industry ARC, 2020).

Furthermore, wellness and more conscious lifestyle choices have shaped the last decade with nutrition being one pillar as a variable of one's physical and mental health, influencing well-being either positively or negatively (Callaghan, Lösch, Pione, & Teichner, 2021).

Certain global megatrends can be observed that have impacted the ONS market immensely and forced global players to adapt their product portfolio to the shift in consumer preferences (PwC, 2020). The **first trend** is an increasing desire to consume foods with minimal, natural ingredients to decrease toxins in the body and ingest a diverse range of micro- and macronutrients (Callaghan, He, Hudson, & Rickert, 2021). It is viewed as a form of self-care and preventative measure to consume organic, minimally processed foods to ensure optimal functioning and avoid common risk factors for diseases. Furthermore, the added benefits of consuming more micronutrients like vitamins and minerals are numerous, including an improved immune system, increased bone density and gut health. This trend has gained particular popularity as more research has emerged about the dangers of ultra-processed foods and trans fats (NCD Alliance, 2021). In line with that, more consumers are not only health conscious but have been more educated about environmental conservation and animal cruelty. Therefore, a strong call for more plant-based, vegan alternatives has resulted in the **second trend** (Hertzler, Lieblein-Boff, Weiler, & Allgeier, 2020). Different varieties of plant-based protein based on soy, pea and rice protein have gained traction and are incorporated into powders, shakes and other popular ONS formats. The **third trend**, aligned with an increased health consciousness, refers to a movement towards high protein products to facilitate lean muscle building, promote satiety and bone density, lower blood pressure and aid in better weight management overall (Moon & Koh, 2020). Hence, protein is seen as a key macronutrient to stay on top of one's health and fitness goals. As the rates of obesity have skyrocketed, with more than 300 billion people globally being obese (Mozsik & Figler, 2019), the **fourth trend** calls for ONS products that are characterized by a lower carbohydrate and overall calorie content to avoid blood sugar spikes and prevent or manage existing diabetes.

These four megatrends have also blurred the boundaries of the ONS industry because rising numbers of consumers want to achieve optimal health and their fitness goals more effortlessly with the help of ONS.

2.2 Fresenius Kabi and main players in the ONS market

Clinical nutrition consists of parenteral nutrition which is administered intravenously and enteral nutrition which is consumed via a sip or tube feed (BAPEN, 2018). Hence, enteral nutrition includes ONS. The ONS market is shaped by a number of main players, besides Fresenius Kabi, namely Abbott, Nutricia and Nestlé Health Science.

Fresenius Kabi specializes in lifesaving medicines and technologies (Fresenius, 2021). It offers a wide array of products in its portfolio, namely IV drugs, clinical nutrition, infusion therapy, biosimilars, medical devices and transfusion technology. For the sake of this thesis, the focus will remain on clinical nutrition targeting patients with malnutrition. Fresenius Kabi's ONS product portfolio consists of multiple varieties of shakes and juices with differing flavors, protein concentrations, calorie contents and fiber levels. Additionally, powders, puddings and thickeners are offered to aid patients with difficulties swallowing. The products can be ingested by all age groups and are suitable for a variety of diseases including acute and chronic illnesses (MarketLine, 2022). Distribution channels include hospitals, doctor's offices, pharmacies and drugstores. Fresenius Kabi is market leader in the parenteral nutrition segment but faces strong competition in the enteral nutrition market, a market more differentiated in terms of product breadth and depth. It is the leading provider for enteral nutrition in Europe, Latin America and China but has not prevailed against competition in other parts of Asia-Pacific and North America (Fresenius, 2021). Nevertheless, it has made strong advancements in emerging markets, resulting in growth of sales from 2020 to 2021 of 12%. According to Fresenius SE's Report from 2021, Fresenius Kabi has made it its aim to serve yet untapped regions with their existing product portfolio and offer new product lines.

Abbott is a global pharmaceutical company with a strong concentration on ONS owning multiple brands in the ONS market (Abbott, 2022). They cover lifestyle and wellness products as well as in-patient treatment supplements. Their ONS products are sold through hospitals, doctor's offices, pharmacies, drugstores, convenience stores and e-commerce. In 2020, the nutritional segment accounted for ~22% of the company's revenue, stressing a strong upward trend in the ONS segment (MarketLine, 2022). Additionally, Abbott has recently acquired Walk Vascular in 2021 to supplement its vast ONS offering with more technological devices (Zephyr, 2021). Furthermore, Abbott offers a variety of online resources to educate both consumers and medical personnel on nutrition (Abbott Nutrition Health Institute, 2022). Abbott is operating in over 160 countries globally and has a strong focus on North America and Asia-Pacific.

Nutricia, a brand of Danone, is a global health care company specializing in enteral nutrition which is especially known for its successful infant brands. Nutricia has been very active in expanding its offer of plant-based and high protein products following global trends (Danone, 2021). It distributes its products mainly through hospitals, doctor’s offices and pharmacies as its products are not advertised as lifestyle supplements (Nutricia, 2022). In 2020, Nutricia acquired Real Food Blends, following the trend of offering more products with natural ingredients (Just Food, 2020). Besides its product portfolio, Nutricia Education offers global education platforms accessible for health care professionals, organizes congresses and informs consumers about the benefits of ONS (Nutricia Learning Center, 2022). Nutricia is present in over 100 countries worldwide and is predominantly active in Europe with smaller attention to Asia-Pacific in the ONS segment (Danone, 2022).

Nestlé Health Science is a wholly-owned subsidiary of Nestlé which is responsible for building the bridge between the pharmaceutical and nutrition industry. It combines science and life through its vast portfolio of active lifestyle nutrition, medical nutrition and pharmaceuticals (Nestlé Health Science, 2022). Through new product lines as well as respective acquisitions, Nestlé Health Science has integrated trends such as plant-based alternatives and high protein products (Nestlé, 2021). Its products can be acquired in hospitals, doctor’s offices, pharmacies, drugstores, convenience stores and through e-commerce in over 186 countries (Nestlé, 2021). It continuously works on expanding its lifestyle portfolio, shown by the acquisition of Vital Proteins in 2022 (Nestlé Health Science, 2022) and The Better Health Company in 2022 (Koe, 2022). Moreover, Nestlé Health Science educates health care professionals through its medical hub and provides resources through webinars, videos as well as clinician tools.

An overview of Fresenius Kabi and the main players in the ONS market regarding the most important characteristics is given in the following table.

Table *1: Overview of Fresenius Kabi and main players in the ONS market*

Key differentiators		**Fresenius Kabi**	**Abbott**	**Nestlé Health Science**	**Nutricia**
Product portfolio	Lifestyle ONS offered		X	X	
	Medical ONS offered	X	X	X	X
Trends implemented	Natural ingredients		X	X	X
	Vegan protein sources		X	X	X
	High protein products	X	X	X	X
Specific age groups targeted	Pediatric		X	X	X
	Adult	X	X	X	X
	Geriatric	X		X	X
Recent M&A activities			X	X	X

To sum up, the ONS market is consolidated between four main players. It has experienced a CAGR of over 4% between 2016-2020, with all players growing their ONS segments at a similar average rate in this time span (Future Market Insights, 2021). Furthermore, it is expected that a CAGR of 6% through 2031 will be achieved, foreshadowing further growth opportunities and aligning with set objectives of competitors to further develop in the market. Hence, this highlights the importance and future relevance of the market, showing why players in the market have moved from organic to inorganic growth through M&A to extend their product portfolio and geographical presence (Capstone Partners, 2022). Increasing consolidation through inorganic growth and the addition as well as extension of brands to cover the ONS wellness market has intensified the competitive pressure for Fresenius Kabi (Masterson, 2022).

2.3 SWOT analysis of Fresenius Kabi

In order to evaluate the strategic position of Fresenius Kabi within its competitive environment in the ONS market, a SWOT analysis was carried out in order to identify internal Strengths (S) and Weaknesses (W) as well as external Opportunities (O) and Threats (T) (Sarsby, 2016) - a detailed version can be found in appendix 1.

First of all, the **strengths** of Fresenius Kabi include

- Its strong market position within the health care industry as unit of Fresenius SE
- Benefits from cost synergies, brand capital and Fresenius SE´s resources (FitchRatings, 2020)
- Strong brand characterized by trust, reliability and high quality
- Global presence (timely supply and distribution of products)
- Being well-known for its ONS portfolio for managing chronic and acute diseases, combatting malnutrition and aiding in recovery processes

However, the main strengths shown are opposed by the following **weaknesses**.

- Limited product breadth: Absence of any lifestyle ONS products
- Limited product depth regarding formats: no bars and powders offered
- Lack of specification regarding specific age groups (pediatric care)

From an external perspective, **opportunities** for Fresenius Kabi can be seen with regard to

- Product portfolio: Enter lifestyle ONS market to reach new customers as well as add varieties to existing product lines to improve acceptance rates (Delompre, Guichard, Briand, & Salles, 2019)
- New geographies: Establish presence in unserved geographies in Asia-Pacific (Ogilvy, 2016)
- Marketing and distribution: Offer ONS products through new distribution channels such as drugstores, convenience and grocery stores as well as e-commerce. Increase marketing efforts to create more brand awareness for new product lines

Lastly, **threats** for Fresenius Kabi can be attributed to the competitive environment as all main players offer multiple brands in the lifestyle ONS segment. In detail,

- Increased M&A activities of main players in the ONS market
- Continuous extension of competitor's lifestyle ONS product range
- Changes in regulations, taxations laws and price volatilities

In conclusion, Fresenius Kabi has a strong ONS product portfolio to combat malnutrition and a very good reputation in the market. However, growth acceleration can only be achieved by geographic expansion as well as market entry into the lifestyle ONS segment within and across Asia-Pacific. Huge opportunities present themselves especially in Asia-Pacific as the market with the strongest growth rate, widespread awareness about health and increased purchasing power. Fresenius Kabi already covers most of the geographies in Asia-Pacific but some remain unserved such as Bangladesh and Myanmar that have experienced strong population growth, an emerging middle class and increased disposable income over the last decades (Ogilvy, 2016).

3. Methodology

3.1 Research method and data collection

There is a variety of qualitative, quantitative and mixed research methods available in order to conduct analysis and deduct findings from data. For the purpose of this thesis, the qualitative research method of stakeholder interviews and the quantitative method of a survey were chosen (Pathak, Jena, & Kalra, 2013). The combination of both types of data enables a more encompassing, inclusive data set that allows for cross-topic interpretations and analyses. This significantly aids in answering the set research question by substantiating the literature research.

For **qualitative data** collection, a sample of six in-depth stakeholder interviews was carried out as they are a powerful qualitative research method in terms of both content depth and length to gain an understanding of the company beyond public figures and financial statements as well as profit from the expertise and tacit knowledge from the interviewees (EPA United States Environmental Protection Agency, 2022). In the interviews, key decision makers within Fresenius Kabi in Europe and Asia-Pacific (such as the Executive Vice President Asia-Pacific) were asked to provide a snapshot in the ONS market in both regions. Further on, the focus laid on Fresenius Kabi's business model in Europe and Asia-Pacific, the behavior of European and Asia-Pacific consumers as well as the ONS product portfolio. Finally, a business outlook was discussed (transcriptions of the interviews see appendix 2).

To complement the interviews with **quantitative data**, a survey was elaborated and conducted with the objective of assessing the market trends in the ONS market regarding lifestyle supplements in Germany, the home market of Fresenius Kabi. Fresenius Kabi has stated that Asian consumers usually adopt nutrition trends from Europe with a few years of delay, hence a survey with a consumer base in Germany foreshadows trends that will become important in

Asia-Pacific shortly. Data for the survey was drawn from a total sample size of **233** participants who filled out the survey consisting of five general questions and 20 content questions. German participants between the ages of 18 to 65+ years were eligible to take the survey. The survey covered different topics with a mix of quantitative questions including closed, multiple-choice questions (see appendix 3). Moreover, the survey aimed at providing a new perspective concerning gaps in the product portfolio of Fresenius Kabi and how it could be improved through new product lines.

3.2 Method of analysis

The analytical process of analyzing the chosen qualitative and quantitative research methods includes coding the in-depth interviews and evaluating the survey's responses. This will ensure that the findings are analyzed through a lens of reflexiveness, criticality and thoroughness (McLeod, 2019). The coding process involves the identification of key terms mentioned in the interviews and subsequent categorization of associated statements. This facilitates the recognition of similar themes and patterns across the interviews and poses as the base for further interpretation of the codes (Saldana, 2015). For the aim of this thesis, inductive coding will be utilized, meaning that the codes will not be predetermined but rather result from the raw data itself (Given, 2008). Due to strict confidentiality at Fresenius Kabi, the interviews were anonymized and could not be recorded for transcription purposes but notes were taken in an intelligent verbatim style with the permission of the interviewees (Eppich, Gormley, & Teunissen, 2019). Nevertheless, the coding will still be performed the exact same way. The different codes with their respective statements from the interviews can be found in detail in appendix 4.

The survey will solely make use of quantitative data due to the nature of the questions and their answer formats. As the sample size does not qualify for empirically meaningful and statistically significant findings, breakouts were performed in order to create correlations and reveal consumer behavior across different segments. Hence, the evaluation will be illustrated by a number of figures which build the foundation for deriving interpretations and findings. Again, the survey findings will be compared and contrasted to the presented literature research to either confirm or contradict mainstream opinions and megatrends.

4. Findings from data analysis

4.1 Analysis of qualitative data

Consumer behavior differs between Europe and Asia-Pacific in terms of awareness about health, flavor preferences, product formats and preferred channels. **Firstly**, in Europe, ONS are viewed as products for sick people and are widely unknown due to an absence of visibility and education on enteral nutrition (I3, ll.78-79). In contrast, Asian consumers are known for having a high awareness about health and the importance of preventative care to promote longevity. As ONS products can be bought in convenience, grocery and drugstores in Asia-Pacific, both the physiological barrier as well as the psychological barrier to incorporate ONS products into their daily diet are removed. **Secondly,** another distinguishing feature between both geographies are flavors because sweet flavors are clearly preferred in Europe following traditional dessert styles while savory, less rich flavors similar to conventional Asian foods are requested in Asia-Pacific (I3, ll.106-107; I4, ll.139-140). Hence, the distinctive local flavor profiles have to be considered as only some western flavors are gaining popularity across Asia-Pacific. **Thirdly**, favored product formats differ between Europe and Asia-Pacific with Europe characterized as a liquids market and Asia-Pacific known to offer more powders due to durability and drinking preferences (I4, l.136+144). **Fourthly**, channel preferences differ between the two regions. Pharmacies, hospitals and doctor's offices are the main distribution channels for ONS products in Europe due to their nature as mostly prescription-based products (I3, ll.69-70). In Asia-Pacific, drugstores, convenience and grocery stores are preferred with a strong penetration of e-commerce as one of the main distribution channels (I2, ll.101-102).

Another crucial finding is that **growth opportunities** are based on two main drivers - geographies and product portfolio. Fresenius Kabi became well aware of competitor's offerings and successes in the lifestyle ONS market (I2, l.154), a segment completely unserved by them. Following the identified megatrends, the lifestyle ONS segment is growing due to an increased consciousness about health, therefore offering fruitful portfolio extension opportunities. Specifications provide further growth opportunities because Fresenius Kabi offers some ONS products for children but does not focus on pediatric care through a specific, all-encompassing product line (I2, ll.126-127). Additionally, the extension of Fresenius Kabi's channels, especially in Asia-Pacific, could pose as a beneficial investment in order to reach more consumers and facilitate purchases. This needs to be accompanied by increased marketing efforts to advertise its products further to consumers outside the classic patient setting (I2, ll.119-120).

Furthermore, multiple interviewees pointed out that **entry barriers** in form of regulations are no significant hurdles for Fresenius Kabi when entering new geographical markets. Since ONS are regulated through the Foods for Special Medical Purposes law (International Special Dietary Foods Industries, 2022), regulations do not notably differ between Europe and Asia-Pacific (I2, l.14). Even though ONS are sometimes viewed differently along the spectrum of foods and drugs by country, the majority of countries comply with the above-mentioned law. Hence, regulations can be regarded as a factor with low importance with respect to entry barriers. Similarly, reimbursements vary between European and Asian countries but as they are carried by consumers, they do not strongly influence geographical choices for Fresenius Kabi. Nevertheless, it can be remarked that reimbursements are common in Europe whereas in Asia-Pacific, consumers predominantly have to buy their ONS products out of pocket in accordance with the common categorization of ONS as OTC products (I4, ll.61-62). Moreover, reimbursements are never granted for lifestyle ONS products, hence its significance for Fresenius Kabi would remain low in this new segment as well.

Regarding **education on nutrition** for both consumers and health care professionals, multiple sources stated that Fresenius Kabi educates consumers on nutrition through its platform on enteral nutrition but only as a supplement to a treatment (I2, ll.42-43; I4, ll.72-73). Hence, consumers outside this environment are not taught about nutrition by Fresenius Kabi which can largely also be accounted to the lack of lifestyle consumers that are targeted by now. In contrast, Fresenius Kabi offers multiple education opportunities for health care professionals including the organization of congresses, digital webcasts and e-learning resources (I1, l.57; I2, l.41).

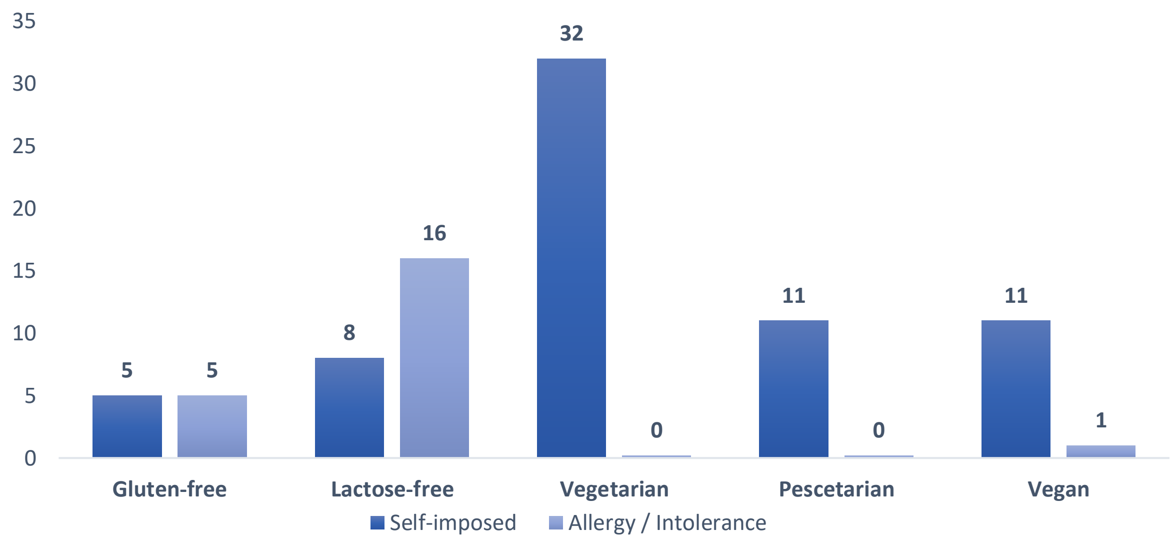
Nevertheless, similarities between both Europe and Asia-Pacific were also observed. One common denominator for both geographies are **customer segments** in terms of age groups and disease profiles. In Europe and Asia-Pacific, Fresenius Kabi’s products are safe to consume by both children and adults and target a multitude of different diseases resulting from or in malnutrition. Another similarity are the **trends** that are developing and changing the market for ONS and local consumer preferences. The three main trends of natural ingredients, vegan protein sources and high protein products are shaping both markets and are forecast to gain rising relevance due to increased awareness about health and nutrition, environmental concerns as well as animal welfare (I2, ll.92-93+89-91).

In summary, the stakeholder interviews allowed meaningful insights and confirmed the majority of the findings from the literature review. Beyond that, each stakeholder offered profound tacit knowledge from both personal experience and company-internal information to supplement the findings from literature.

4.2 Analysis of quantitative data

The quantitative data was collected via a survey with a sample size of 233 participants. Since only the responses of German participants were taken into account, the sample size was reduced to 217 participants. First of all, it must be stated that 88% of participants said that they associate healthy nutrition with the term "health". This aligns with the perceived importance that healthy nutrition plays in their lives. In addition, it can be observed that around 63% of participants do not consciously follow any dietary restrictions but from those who do, around 75% said that those restrictions are self-imposed.

Figure 1: Dietary restrictions vs. self-imposed or based on allergy

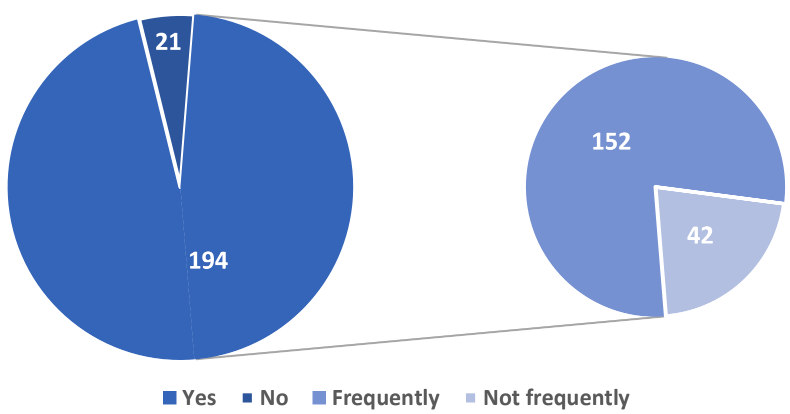


Regarding **consumer behavior** when shopping for food, only 4% of participants declared that they never check ingredients on foods while the rest of the sample does so most of the time (see figure 4, appendix 5). It turned out that especially products advertised as healthy are checked. In accordance with that, it was slightly more important for participants to be mindful of organic rather than minimal ingredients of products (see figure 5, appendix 5).

Concerning **vegan-friendly food**, more than half of the participants stated that they are actively searching for vegan-friendly food when grocery shopping. While the majority (42%) of these participants is doing so because of animal welfare, still over 30% take environmental preservation and awareness about their own health into account.

With respect to **high protein products**, 89% of participants stated that they have tried products advertised as high protein in the past with 78% continuing to frequently buy them.

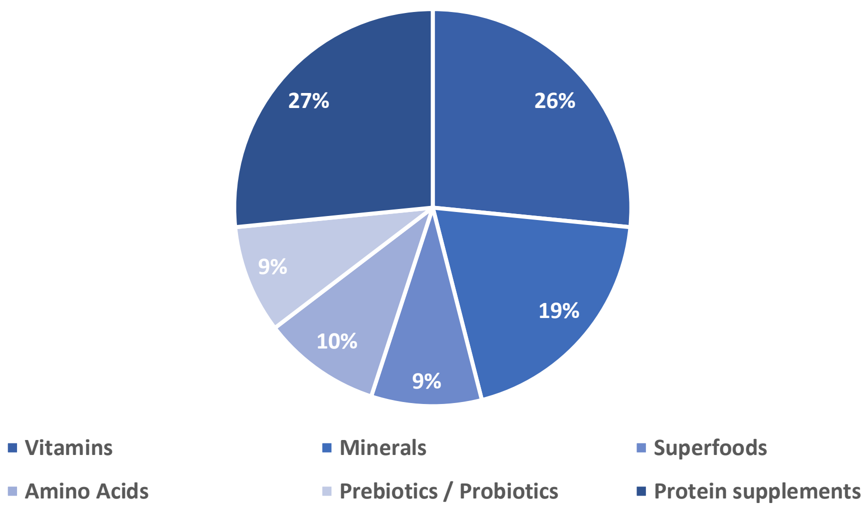
Figure 2: Willingness to try high protein products vs. frequency of subsequent purchase



Claimed by almost 80% of participants, the main motivation for doing so was caused by the health benefits of protein. Regarding the formats of products tried, there was a relatively even distribution among all product formats tried by the participants (see figure 6, appendix 5).

Overall, 85% of participants said that they are conscious about getting enough nutrients in their diet with 85% using supplements to aid in that. The types of supplements most commonly used are protein supplements (27%), vitamins (26%) and minerals (19%).

Figure 3: Types of supplements frequently used



69% of participants associated nutrition with the term fitness and 66% of participants stated that they believe that supplements are necessary or beneficial to achieve their fitness goals. Moreover, 92% of the participants consuming supplements feel better and stronger when they take them.

5. Discussion

5.1 Discussion of findings

From a business perspective, **entry barriers** play a significant role in establishing a new business or additional operations in new geographies. Here, entry barriers can show up in the political, economic, social and regulatory environment. Contrary to previous assumptions, Fresenius Kabi does not struggle with such entry barriers due to the global presence of Fresenius SE and standardizations through laws (I1, ll.47-48). Additionally, education efforts for health care professionals are sufficient to continuously persuade the medical field of the quality and effectiveness of Fresenius Kabi's products. As a result, this reputation facilitates the distribution of its ONS products due to prescriptions and doctor's recommendations.

Nevertheless, the analysis of **consumer behavior** revealed multiple gaps in Fresenius Kabi's portfolio that can and should be converted into growth opportunities. Firstly, awareness about Fresenius Kabi's ONS products should be promoted further in Asia-Pacific through extensive education of consumers. Even though health consciousness is already prevalent, Fresenius Kabi should invest more in marketing in order to properly advertise its products and proven benefits to prevail against competition (I2, ll.114-117). Furthermore, compliance with hygiene factors such as preferred flavors, ingredients and product formats should be guaranteed to offer products that consumers include in their consideration set in the first place. In order to create consumer loyalty and a stronger brand, Fresenius Kabi should be advised to expands its distribution channels towards offering products in drugstores, grocery and convenience stores to broaden consumer reach in Asia-Pacific (I2, ll.109-111; I4, ll.129-131). Further developing its e-commerce business would also be an important addition to existing distribution channels to comply with trends and facilitate the purchase of products for consumers.

In line with that, one of the biggest opportunities for Fresenius Kabi would be the extension of its **product portfolio** by including lifestyle ONS products. Based on its strong brand and reputation as a reliable, trust-worthy company characterized by high quality, synergies could be leveraged by motivating existing consumers to supplement with ONS on a daily basis and reaching lifestyle ONS consumers that could also purchase its products in times of disease (I2, l.154).

Along this, Fresenius Kabi needs to gather and further implement **global megatrends** into its existing products and consider the shift towards cleaner, plant-based and high protein products in its future product developments (I3, ll.87-88; I4, ll.160-161). Offering more variations of existing products such as vegan versions of its ONS containing cow's milk as well as reducing the number of artificial sweeteners, additives and preservatives would be advisable to improve product portfolio depth (I4, ll.164-166). Increasing product portfolio breadth would be achieved through the addition of lifestyle products as well as specific pediatric product lines, both growing consumer segments. For instance, both the portfolio depth regarding high protein products as well as the breadth in terms of lifestyle supplements could be combined by offering high protein yoghurts and bars fortified with additional micronutrients (I3, ll.90-91; I4, ll.175-177). Given the nature of the Asian market as the "growth vector for clinical nutrition" (I3, l.117), Fresenius Kabi should also assess the attractiveness of serving new geographies in Asia-Pacific to build the ONS market in countries with high instances of malnutrition (I1, l.19).

Continuing with the survey results, it is notable that the majority of participants with dietary restrictions chose those constraints voluntarily. This is in line with the global megatrends described in the literature review and confirmed in the findings of the interviews, again reaffirming that people are more aware and educated about nutrition and how their diet has an impact on their own health, animals and the environment. Thus, Fresenius Kabi should increase its product portfolio depth by adding versions of their existing products that suit a variety of different dietary requirements as a growing number of consumers make changes to their diets. Furthermore, revisiting the rise of nutrition in the broader health context, nutrition is increasingly seen as an integral part of health because it was most frequently associated with health together with well-being in the survey. This also corresponds with participants stating that nutrition plays a somewhat important to really important role in their life, hence consumers make conscious decisions about their foods regarding factors such as quality, quantity and source of nutrients. Additionally, from 85% of participants saying that they intentionally incorporate nutrient-dense foods into their diet, 85% of those do so with the help of supplements. Once again, this stresses the rising relevance and growth potential of the lifestyle ONS market which Fresenius Kabi should not miss out on. Particularly vitamins, minerals and protein supplements are desired which offer a broad array of potential products and multiple opportunities for Fresenius Kabi to differentiate itself in the lifestyle ONS market through its strong reputation. As 66% of survey participants believe that supplements are necessary or beneficial to achieving their fitness goals, Fresenius Kabi is advised to focus on both fitness goals as well as other wellness ambitions such as increased energy, joint health, better sleep and weight management.

Moreover, one of the global trends researched by literature and mentioned by all interviewees refers to a demand for more minimally processed products with limited to no artificial ingredients. This matches the survey results of 65% of participants checking the ingredients on their groceries most of the time or always, especially regarding products advertised as "healthy". This is largely due to the fact that consumers who frequently buy health foods are inherently more aware about health and nutrition due to their own interest. Therefore, they are more inclined to check ingredients on labels as they are more knowledgeable concerning which ingredients to look out for and which to avoid. Especially organic ingredients are important to consumers to avoid ingesting toxins from pesticides and protect the environment through less harmful harvesting methods. Fresenius Kabi should leverage this movement towards cleaner products and invest in R&D to substitute artificial ingredients, especially sweeteners, in its products with more natural ingredients.

Contrary to the trend towards veganism identified through the literature review and the interviews, only slightly more than half of the survey participants stated that they actively look for vegan-friendly foods. This result could be biased due to age as the majority of <34 years old participants expressed that they do look for plant-based alternatives whereas older participants did so significantly less. As the trend of veganism has emerged over the past decade and the topics of animal welfare and environmental preservation have primarily gained support from generation Z (born between 1995 until 2010), it is not surprising that the older generation - raised on animal products - does not adopt this trend.

Validating the global trend and what Fresenius Kabi continues to observe in their consumers' behavior, almost 90% of the participants of the survey have tried high protein products with the majority of them proceeding to buy them frequently. This highlights the importance of implementing high protein products in the form of lifestyle supplements in Fresenius Kabi's portfolio through extending its breadth. As all formats of high protein products were tried with a slightly larger occurrence of protein bars, Fresenius Kabi should offer this potential new product line as bars but also yoghurts, puddings, shakes and powders depending on the geography. For instance, a stronger focus should be laid on liquids in Europe in contrast to powders in Asia-Pacific.

To sum up, in Asia-Pacific Fresenius Kabi should expand its product breadth through entering the lifestyle ONS market by - in the first step - acquiring a well-known brand. To enlarge the product depth, more formats and varieties of its existing products considering global megatrends should be offered. Additionally, Fresenius Kabi should expand geographically in Asia-Pacific by assessing new markets struggling with malnutrition offering its existing products. Overall, Fresenius Kabi should start to distribute its product range through drugstores, grocery and convenience stores as well as extend its e-commerce business in Asia-Pacific.

5.2 Limitations

Despite the relevant and meaningful findings of this thesis, it is important to highlight that several limitations need to be denoted regarding the conducted research. Considering the scale and scope of this thesis, it is notable that this thesis was confined through the maximum number of pages, thus it only offers a prioritized assortment of findings. Furthermore, there was only limited access to data due to strict confidentiality standards of Fresenius Kabi. This prohibited the creation of transcriptions as Fresenius Kabi does not allow external parties to transcribe interviews and make it public to any outside agency. In line with that, Fresenius Kabi also does not allow the conduct of surveys with its consumers in any given geography. Hence, a lack of funding to external parties from Fresenius Kabi has made it impossible to conduct a survey with consumers in Asia-Pacific. Therefore, only a sample survey for such an event could be provided as means for future research (see appendix 6).

Even though the survey was conducted in the home market of Fresenius Kabi, the results can still be extrapolated to the Asian-Pacific market as it usually lags a couple of years behind the European market regarding ONS and trends. Furthermore, the headquarter of Fresenius SE in Germany makes strategic decisions for all geographies, hence there is always a bias towards consumer preferences from the home market with regards to other markets. In conclusion, the recommendations given based on the survey are consistent with the findings from the interviews and can therefore be conferred to the Asian-Pacific market. Nevertheless, a future study would need to be conducted in Asia-Pacific to validate the findings of this thesis.

Moreover, due to the relatively small sample size of the survey carried out in the German market, a statistical analysis of the data to explore significance did not prove to be useful and would only yield in meaningful results if it were to be conducted on a much larger scale (>1,000 participants) by Fresenius Kabi in the future. Even though both the qualitative and the quantitative research method have borne fruitful insights, other techniques such as focus groups and mixed research methods could still be explored to collect further data and offer more than a snapshot of perspectives.

5.3 Future outlook

Moving away from the status quo, Fresenius Kabi bears a multitude of business opportunities in its ONS segment as discussed before. Taking the findings and discussion into consideration, different measures should be implemented to pursue the recommendations. First of all, a survey should be conducted on a large scale across multiple Asian-Pacific markets to verify the results of the survey conducted for the purpose of this thesis and refine its findings. Furthermore, the presented research methods could be supplemented with focus groups of Asian consumers to better understand the needs of lifestyle consumers and create ONS products specifically targeted to this audience. With consideration to entering new geographies, PESTLE analyses and similar tools should be used to assess the market attractiveness of unserved countries. This should serve as a starting point to consider whether a new market entry would meet pre-defined KPI’s including financial targets and the achievement of a larger global footprint.

6. Conclusion

ONS have been a staple supplement prescribed by doctors and health care professionals for patients suffering from any disease accompanied or caused by malnutrition. Prevalence of viruses such as COVID-19 have only heightened awareness about preventative care and the importance of health overall on a global scale, boosting the growth of the lifestyle ONS market immensely. Fresenius Kabi is a solid competitor in the global ONS market with established operations across the world and products defined by quality, reliability and trust. Nevertheless, Fresenius Kabi lags behind competitors such as Abbott and Nestlé Health Science in terms of product portfolio depth and breadth, losing momentum in key markets and leaving substantial growth opportunities open for exploration. It fails to leverage its strong brand image and consumer loyalty to broaden its consumer reach and expand both in terms of geography and product portfolio. The ONS market is known to "have a very fast innovation cycle" (I2, l.183), hence continuously adapting to changing preferences and adopting promising trends is required to gain market share and create long-lasting relationships with consumers. Especially in Asia-Pacific, Fresenius Kabi should actively pursue shaping and building the ONS market by living its mission "caring for life" through showing that ONS are "not just a supplement" (I3, l.145) but actually a lifestyle in itself. In order to achieve this assertive objective, Fresenius Kabi should offer its existing product portfolio in new geographies in Asia-Pacific and a line of lifestyle products in all geographies already served - an objective that requires both organic and inorganic growth. In conclusion, Fresenius Kabi should not rest on its current solid performance but embrace its improvement opportunities for the future and enter the attractive lifestyle ONS market.

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Appendix

Appendix 1: Detailed SWOT analysis of Fresenius Kabi

In order to evaluate the strategic position of Fresenius Kabi within its competitive environment in the ONS market, a SWOT analysis was carried out in order to identify Strengths (S) as well as Weaknesses (W) internally and Opportunities (O) as well as Threats (T) externally.

Strengths of Fresenius Kabi include its strong market position within the health care industry as part of Fresenius SE. Fresenius SE is a leading provider of health care products and medical supplies, having a broad service offering that includes hospitals. Hence, its smaller division, Fresenius Kabi, immensely benefits from cost synergies, brand capital and Fresenius SE's resources (FitchRatings, 2020). Additionally, Fresenius SE is a strong brand within the field of medical professionals who trust in its products and translate their loyalty towards Kabi's products, thereby promoting and prescribing their products to patients. This reputation is also validated by the partnerships it has established as well as being one of the members of the MNI, a trademark in the ONS industry (Medical Nutrition International Industry, 2012).
In addition to that, Fresenius Kabi has a strong global presence which aids in the timely supply and distribution of their products. Hence, the brand of Fresenius Kabi itself as a reliable provider representing quality and trust continues to be affirmed (Link, 2022).

On the other hand, **weaknesses** of Fresenius Kabi are its lack of specification regarding any age groups and its limited product offerings. Even though it is well-known for its ONS portfolio for managing chronic and acute diseases, combatting malnutrition and aiding in recovery processes, it does not offer a product line exclusively targeted at pediatric care. Additionally, its products can be bought in a number of flavors but the product range is limited in terms of formats such as powders and bars are not offered at all. Another significant weakness is the absence of any lifestyle supplements targeted at the broad population of people who are health conscious. This includes products to boost immunity, increase energy, support weight management, achieve fitness goals and decrease fatigue among others. Hence, its product portfolio is too narrow in terms of breadth and depth.

From an external perspective, **opportunities** for Fresenius Kabi can be measured by the product portfolio and geographies given the fact that the overall global ONS market has a strong CAGR. Starting with the product portfolio, the ONS market continues to evolve beyond clinical settings towards an overall holistic approach towards health supplemented by ONS products (Glanbia Nutritionals, 2021). As Fresenius Kabi does not offer any wellness products, this huge gap in its portfolio could promise a whole new consumer audience and help to prevail against competitors active in the lifestyle market through leveraging its strong brand. Furthermore, the addition of varieties to its existing product portfolio would offer consumers more flexibility and improve acceptance rates (Delompre, Guichard, Briand, & Salles, 2019). Hence, the fast-paced environment of consumer preferences regarding health can be used as a force to continuously adapt Fresenius Kabi's product portfolio to better serve consumers, both existing and new ones. Moreover, huge opportunities present itself in Asia-Pacific as the market with the strongest growth rate, widespread awareness about health and increased purchasing power. Fresenius Kabi already covers most of the geographies in Asia-Pacific but some geographies remain unserved such as Bangladesh and Myanmar that have experienced strong population growth, an emerging middles class and increased disposable income over the last decades (Ogilvy, 2016). Therefore, new distribution and marketing channels could be explored in these markets together with the extension of Kabi's product portfolio mentioned before. In Asia-Pacific, consumers primarily acquire their ONS products in drugstores, convenience and grocery stores as well as through e-commerce - channels that Fresenius Kabi currently not utilizes (Grand View Research, 2021). Furthermore, Fresenius Kabi does not adequately advertise its products to consumers, so many potential consumers do not even have knowledge about Kabi's offerings in terms of benefits and range, unless they were prescribed and promoted by health care professionals.

Lastly, **threats** for Fresenius Kabi can be attributed to the competitive environment as all main players offer multiple brands in the lifestyle ONS segment. Nestlé Health Science only recently bought a majority stake of Orgain, a prominent supplier of protein powders, shakes, bars and plant-based supplements, in February, 2022 (Capstone Partners, 2022). In contrast to its competitors, Fresenius Kabi has not engaged in M&A activities concerning its ONS portfolio over the past years, missing out on opportunities to revoke its weaknesses and limiting growth opportunities. Additionally, risks can also be found in Fresenius Kabi's position as a global business unit within Fresenius SE, exposing it to potentially detrimental changes in regulations, taxation laws as well as price volatilities.

In conclusion, Fresenius Kabi has a solid product portfolio which is mainly targeted at combatting malnutrition and enjoys a good reputation with patients and health care professionals. Nevertheless, significant internal weaknesses together with external threats from players such as Abbott and Nestlé Health Science pose growth hurdles. Hence, the identified weaknesses have to be converted into strengths through the addition of new products based on trends and the target of specific new age groups such as children in order to fully realize the multiple opportunities that Fresenius Kabi can tap into. The external opportunities that should be pursued include geographic and product expansion within and across the ONS market in Asia-Pacific. Overall, those opportunities cannot only be taken advantage of through organic growth but also with the help of strategic acquisitions of lifestyle ONS players or joint ventures.

Appendix 2: Interview transcriptions

Transcription 1

Name: Herbert Meyer

Position: Executive Vice President Region Asia-Pacific

Company: Fresenius Kabi

Date of Recording: 17th of October, 2022

Meeting type: Microsoft Teams call

I: So, the main point of this interview is for me to gain a better understanding of the market for ONS in Asia-Pacific which implies the operations of Fresenius in Asia, Asian consumers in contrast to consumers in Europe and so on.

M: Yes and you want to focus on ONS only, right?

I: Yes, please. Okay, starting off with Fresenius in Asia-Pacific. Since when is Fresenius Kabi active in Asia-Pacific?

M: I think we started covering geographies in Asia in the early nineties.

I: Interesting. Could you tell me in which countries Fresenius Kabi is currently active in Asia-Pacific?

M: Hmm yes, Kabi is basically covering the whole region from India up to Japan and down to New Zealand.

I: Okay, are there any geographies that are missing?

M: Yes, in my understanding, Kabi is currently not in Bangladesh and Myanmar.

I: Bangladesh and Myanmar, is there a reason why Kabi is not in those markets? Or had Kabi established operations in the past there and retreated from the market due to specific reasons?

M: No, not to my knowledge.

I: Alright. Now, thinking about covering a new geography, what are common entry barriers that Fresenius has faced in Asia-Pacific in the past?

M: Hmm this highly depends on the specific countries. I can think of Indonesia and Vietnam for example, there we needed manufacturing licenses to produce. I would think that this was one of our main hurdles.

I: And I can assume that those manufacturing licenses are obtained by the government? So probably a lengthy process itself?

M: Yes, this takes a lot of time, so this is definitely a hurdle in some countries.

I: Okay, very interesting, thank you. Now, how difficult has been the establishment of operations and distribution in Asia-Pacific concerning infrastructure, I know that for example in India, infrastructure is a huge problem for distributors?

M: That used to be not a significant problem for us, so no, I don’t think so.

I: Alright, what about regulations and taxation? Does that differ greatly from regulations and tax laws in Europe?

M: No, because Kabi is registered in Europe, everything is actually interconnected and settled by the laws in Europe. This makes it easier for us.

I: I wasn’t aware of that, interesting. Moving on, does Kabi educate on nutrition beyond supplying their products? Does Fresenius engage in any kind of informational sessions, workshops etc. in order to educate consumers about adequate nutrition, how to live more healthily and so on?

M: No really with consumers which is a gap in our services, I assume but we do organize a number of congresses for doctors and work together with them.

I: Okay. Now, I would like to continue with Kabi’s business model in Asia-Pacific. So, what operating model does Fresenius use in Asian-Pacific countries? Has Fresenius established operations in all of the countries that they are covering or do they also do only export in certain countries?

M: Yes, we do both, in smaller countries we export our products only. For example, in Cambodia, the market is so small, there is no point for us in setting up our operations there. If we have the opportunity, we try to export from neighboring countries where we actually have production facilities.

I: Interesting. With regards to production, does Kabi have centralized or decentralized production facilities in Asia-Pacific?

M: Hmm we have both, depends on what is less expensive for us in a specific country. But I cannot specify the countries due to confidentiality.

I: Yes, makes sense. Concerning branding, I guess that culture plays a pretty big role in the Asian market, right? Especially regarding the variety of religions in those countries?

M: Yes, definitely, that is something that we have to consider with everything, like marketing, product flavors.

I: Yes, I guess also ingredients because I know that a lot of products have to be halal in Asia due to religious reasons.

M: Exactly, almost all of our products.

I: Can you tell me anything about your marketing strategies in Asia-Pacific?

M: That is unfortunately confidential.

I: I thought so. Now, has Kabi ever engaged in partnerships with governments, private companies or let's say start up to facilitate market entry or market its ONS products?

M: Usually not, but there are a few exceptions like Sri Lanka and, let me think, Cambodia. So any kind of niche markets, there we make use of partnerships with vendors and distributors to export our products due to very low-price levels. But that's it, usually we do it ourselves.

I: Interesting. I could assume that there are also big price differences between Europe and Asia, right? So not only between specific Asian countries?

M: Yes, that has to be considered for sure.

I: Alright, moving on to the behavior of Asian consumers in contrast to consumers in Europe. Are there any key differentiators between both groups of consumers?

M: Yes, yes, definitely. But I would say that the main difference is that the EN market has only arrived in Asia in early 2000. So, like 40 years later than Europe. So, the consumers are simply behind on the advancements that Europe already made.

I: Ah, very interesting and do you mean by "arrived in Asia in early 2000" that Kabi has arrived then in Asia?

M: Oh yes, other competitors have been there before but Fresenius is building the market for ONS.

I: Yes. And does Kabi target any specific age groups or disease-related groups in those geographies?

M: No, our product portfolio is quite broad. Our ONS products can be consumed by every age group and we target lots of different diseases like forms of cancer, patients suffering from strokes and, yes, of course, patients who undergo dialysis due to Fresenius Medical Care.

I: Of course, absolutely. Interesting. Now maybe we can take a quick look at Kabi's ONS product portfolio as you already mentioned it just now. How do products offered in Asia-Pacific differ from products offered in Europe?

M: So, in my understanding, we offer the same products in both geographies but we offer different types of flavors to accommodate to local flavor profiles. For example, in India we offer cardamon as a flavor. And as I already said, we take into account religions in terms of preferences or requirements like halal.

I: Yes, definitely, that is very important, I would agree. Lastly, I would like to get your opinion about the business outlook of Fresenius and specifically Kabi in Asia-Pacific. Naturally, this is all confidential, so maybe you can just give me some broad answers or if you are not comfortable, you don't have to answer those questions at all. So, how much would you say is expansion in Asia-Pacific an opportunity and a growth driver for Kabi and Fresenius in general?

M: It’s a huge opportunity, as it is one of the main growth markets for the Group, particularly China is of great importance for both the Group and Kabi.

I: Awesome, thank you. Then, last question, how would you describe Fresenius’ mission in emerging Asian markets?

M: Hmmm, yes, mission. I would say: “Making medicine available for ever more people”. And affordable, wait, let me rephrase that. Let’s say “Making medicine available and affordable for ever more people”. Yes, that sounds better.

I: Thank you, that sounds very good. And again, thank you so much for sitting down with me and taking the time out of your day to help me with my Master thesis. I really appreciate it.

<u>Transcription 2</u>

Name: Maria Hambacher

Position: Head of Portfolio Strategy & Business Development

Company: Fresenius Kabi

Date of Recording: 18th of October, 2022

Meeting type: Microsoft Teams call

I: Alright, so starting off with Fresenius in Europe. In which countries does Fresenius operate in Europe?

H: We operate throughout Europe, except for Turkey, I think.

I: Why not Turkey?

H: We were in Turkey in the past but due to the low-price levels, the market was too small for our business, so we retreated some time ago.

I: Okay. Would you tell me some common entry barriers for Fresenius in Europe? Anything that usually came up when Fresenius tried to enter a new market such as strict government regulations?

H: No, market entry barriers are usually low as ONS products and enteral nutrition for malnutrition are regulated through the "food for special medical purposes" law. This means that we, I mean Fresenius Kabi, only has to inquire notifications to introduce new products. So, there is no lengthy admission procedure but the ONS products simply have to be registered. Nevertheless, there is one hurdle, I would think. And that's reimbursements. You see, one gets reimbursements in every European country for tube fed products but that differentiates by country for ONS. This is because ONS greatly target stakeholders, not retail.

I: Ah, very interesting, I didn't know about that. How difficult was the establishment of operations in Europe regarding infrastructure, regulations and taxation? I guess we already answered the regulations' part just now.

H: I would say that it was not something really relevant for us as distributors were already available.

I: You mean distributors from Kabi or from other divisions of Fresenius like Fresenius Medical Care?

H: No, primarily from Kabi because the ONS segment was introduced later.

I: Thank you. Does Fresenius educate its customers about nutrition beyond supplying their products? And if so, do they target rather medical personnel or consumers?

H: So, we do educate on nutrition but to be honest Kabi's key differentiator amongst competitors are biosimilars or generics. Here, we do a great deal concerning medical education like "United for clinical education" and for example on nutritionevents.com. We also organize digital webcasts and offer e-learning. In some countries, we inform consumers about nutrition as an add-on via our platform on enteral nutrition but that's it.

I: Okay, thank you for the insights. Now moving on to the business model of Fresenius Kabi in Europe. Could you tell me about the business model in general? Does Fresenius usually establish a physical presence in each country or does it solely export to some countries?

H: Hmm, so of the top of my head, I would say that we have a presence in about 90% of the European markets but in smaller countries, like especially in Southeast-Europe such as Kosovo and Israel or also Greece, we do our business through distributors due to the low-price levels. So, we always decide on a dimension of size and price levels as a rule of thumb.

I: Okay, so I assume that Fresenius has both centralized and decentralized production facilities, right?

H: Yes, exactly.

I: Alright. And how does distribution and marketing of ONS products for Fresenius look like in Europe?

H: It is always a combination of external sales positions and key accounts.

I: Yes, that makes sense. Now, has Fresenius ever engaged in partnerships with local governments, private companies or even start-ups in the past in order to facilitate market entry? Or market its products?

H: Yes, Fresenius Kabi is a member of the Medical Nutrition Industry. Through that, the members work on reimbursement and use its insights for lobbying. They also offer a thorough dossier on ONS.

I: Yes, I read about that. Other members include Nestlé Health Science, Abbott Nutrition and Nutricia among others, right?

H: Yes, exactly, so all main players of the ONS industry are members.

I: Alright, now let's talk about the behavior of European consumers in comparison to Asian consumers. How would you describe their differences?

H: Okay, so maybe starting with the European consumers. I will generalize my characteristics but of course, there are also country-specific differences within Europe and within Asia that I will now disregard. In Europe, there is a strong focus on liquid products. The majority of ONS products are also sold in pharmacies and most of them are also on prescription. Again, reimbursement tends to differ, so in some European countries, only standard, not disease-specific, products are reimbursed whereas in others, there is no reimbursement at all. Additionally, halal certifications also tend to play a role, therefore we always make our products halal. What we can clearly see in Europe is a huge trend towards plant-based proteins due to environmental concerns and animal welfare. In general, high protein products are more and more demanded. In line with that, consumers ask for more natural ingredients and organic products as more research has come out about whole foods.

I: Yes, that is very interesting and definitely trends that came up in the last years.

H: Yes, exactly. Now in comparison to that, we have the Asian consumers. Generally, there is a very high awareness about health, so nutrition, especially healthy nutrition, tends to play a huge role there. That's why they also consider preventative care as really important. They like to consume much more powders and convenience products than we do. And of course, they also enjoy a different flavor profile. In contrast to us, they like to buy their ONS products more in drug stores, via retail and especially via e-commerce. Regarding reimbursements, Asian consumers usually have to buy everything out of pocket.

I: Okay, that is very interesting, I appreciate your insights. So we can see clear differences between Asian and European consumers in terms of product preferences and also distribution channels.

H: Yes, definitely and that also poses a difficulty for Kabi. In Asia, Kabi has to make significant investments for shelf listings and spaces and would require a specific unit for branding and marketing. And we simply do not have that yet because for that we need a lot of man power and a really solid marketing sales approach. Looking at Abbott Nutrition for example, they are really successful in Asia because they can be found in every convenience and drug store. And they also advertise their ONS products towards consumers and patients, creating a lot of brand awareness. Kabi lacks that in Asia. Kabi is more commonly known within the health care space and advertises its products more towards healthcare professionals. In order to step out of that, we would need to establish sales forces in pharmacies and drug stores that actively advertise our ONS products on sight to consumers. We should also invest in consumer marketing, especially in display advertisements but of course, this is very costly.

I: These are great points, thank you for sharing those with me. Does Fresenius focus on any specific age groups, for instance such as pediatric care or specific diseases in Europe?

H: No, we serve patients with a risk of malnutrition in any form, so chronic and acute illnesses. But pediatric care is something we should take a look at.

I: Yes, I guess so. Thank you for sharing your thoughts on these topics. Now I would love to hear your insights about Kabi's ONS product portfolio. Maybe you can tell me in general what the typical consumers or patients of your ONS products are? In Europe, I mean.

H: Yes, so we serve a variety of patients. I am going to name the ones that in my opinion are our biggest patient groups. So, we have patients in the ICU, meaning patients undergoing severe surgeries, then we serve patients with gastrointestinal types of cancer as well as lung cancers. In general, we also offer our products to oncological patients undergoing chemotherapy or immunotherapy. Another segment would be the dialysis patients from Fresenius Medical Care, neurological patients with dysphagia, so difficulty of swallowing, due to strokes and people suffering from Type II diabetes with a risk of malnutrition.

I: Very interesting portfolio of patients. Regarding the last patient group, does Kabi also offer ONS for weight management in order to manage diabetes?

H: No, not yet because these would be ONS as a meal replacement. But weight management is a huge market and for example Glucerna from Abbott Nutrition is offered for weight management for patients with type II diabetes in Asia. It is hugely successful.

I: Yes, that makes a lot of sense. I guess that lifestyle ONS products are really successful due to versatility in usage.

H: Yes, 100% and we lag behind our competitors in this regard.

I: Alright, so exactly which ONS products are sold in Europe?

H: Wait a second, I am going to pull up a presentation and show you a overview. So, here you can see our ONS product portfolio. We offer a variety of products including shakes, yoghurts, puddings, powders and sip feeds. Usually, they differentiate in terms of calorie content and protein content. We have calorie shots which are of course really high calorie whereas other products are lower calorie and high protein. You can also see here that we offer multiple flavors for each product, ranging from the basic flavors like vanilla, chocolate and strawberry to tropical fruits and even savory flavors. The sip feed is called “Thick&Easy” which is for people with dysphagia, for example.

I: Okay and do these products differ within Europe in terms of flavors?

H: No, not really but in some countries, we added some other variants depending on the local preferences. In France, for example, we introduced fruit purees.

I: That is interesting, okay. And in comparison, to Asia?

H: Here, the local flavor profiles are definitely different, more savory flavors are demanded. And as I said, powders are really popular but we are not positioned as good regarding those as baby food businesses for example.

I: I understand. Now, my last topic would be the business outlook for Kabi in Europe. Feel free to skip out any questions that breach confidentiality, otherwise you can generalize your answers as you wish. So, how much is expansion in Europe concerning the product portfolio, so regarding breadth and depth, a priority for Kabi?

H: Hmm, so enteral nutrition and ONS have a very fast innovation cycle and experience a lot of pressure from the market through ever-changing consumer needs. I mean, consumers adopt new trends very fast and demand them right away.

I: Okay. How would you describe some general business objectives of Kabi over the next 3 years in Europe?

H: Simply, grow over the market, I would say.

I: Alright and last question. In your own words, how would you describe Fresenius' mission in Europe?

H: Hmm, let me think about that a second… I would say "Serve patients with best nutrition solutions".

I: Okay, that sounds great. Then I think we are finished here. Thank you so much for your detailed responses and explanations, I highly appreciate that you have given me so much of your time.

<u>Transcription 3</u>

Name 1: Bora Kim

Position: Senior Vice President Regional Business Centre NESEA

Company: Fresenius Kabi

Date of Recording: 20th of October, 2022

Meeting type: Microsoft teams call

Name 2: Meera Patel

Position: Senior Vice President South East Asia (SEA) and Managing Director Indonesia

Company: Fresenius Kabi

Date of Recording: 20th of October, 2022

Meeting type: Microsoft teams call

Name 3: Jose Garcia

Position: Senior Vice President North East Asia-Pacific

Company: Fresenius Kabi

Date of Recording: 20th of October, 2022

Meeting type: Microsoft teams call

I: Great, then let’s dive right in. So, first of all, I would like to understand Fresenius in Asia-Pacific. In which countries is Kabi currently active in Asia-Pacific?

K: We are present in all major countries; in smaller ones we operate via distributors.

I: Okay, what are common entry barriers that any of you would say Fresenius has faced so far in Asia-Pacific? I could think of government regulations, varying price levels, low purchasing power or anything like that.

K: Hmm, we did not face any major barriers because our situation is never unique, you know? Other competitors usually faced the same problems, so there are usually solutions for that available. But yes, government regulations can be pretty different between Asian countries. Mrs. P, would you like to say something about that?

P: Yes, so depending on the government, ONS might be viewed and therefore regulated as a food, a drug or as a product within enteral nutrition, hence different processes are in place.

G: Right, putting in my perspective from Australia, there are a lot of biosecurity concerns. That is why the government has adopted strict regulations with a list of countries that are banned from distributing and advertising their products in Australia but Fresenius is not affected by that.

I: Very interesting insights. So, I can assume that the establishment of operations and distribution in Asia-Pacific is also not a huge hurdle, right?

K: Exactly.

I: Does Fresenius also educate on nutrition through congresses, online resources or flyers in pharmacies beyond supplying their products?

P: Hmm every country has their own programs with some of them engaging in regional programs to tackle malnutrition at a local level. That depends on how much the local government prioritizes combatting malnutrition.

G: I agree and depending on the country as well, there are different regulations regarding how ONS products can be promoted.

K: Yes but usually, social media is used as an effective marketing tool.

I: Thank you, I was not aware that social media is an important marketing lever. I understand that due to confidentiality, you do not want to make statements about the business model of Fresenius in Asia-Pacific, therefore I would directly move on to the behavior of Asian consumers. Feel free to also draw a comparison to European consumers.

K: Yes, so I can say that Asian consumers move very quickly, meaning they quickly adopt trends. Generally, they are also really conscious about health and well-being, that is a real priority in their lives. They have a desire to stay younger. That is why Abbott Nutrition and Nestlé also target 50+ consumer with their products and offer more life-style products, like for when you are feeling tired or low on energy. They are also hugely influenced by influencers and youtubers, so social media platforms play a crucial role in informing consumers and their purchasing behavior.

P: They are digitally savvy, right.

I: That is very interesting, thank you for sharing all that. What are the main distribution channels for Asian consumers?

P: Most of the ONS products are sold in drug stores and via e-commerce. Actually, one can see promoters in drug stores from for example Abbott Nutrition who approach potential consumers and inform them about the health benefits of their different products.

I: Alright.

G: I can also speak on behalf of the European consumers as I have been working in Germany for 10 years. European consumers differ from Asian consumers by placing a huge emphasis on pharmacies as distribution channels or in the case of consumers, points of purchase. European consumers like to buy from “trusted” sources such as hospitals, doctor’s offices and pharmacists, like where they feel a lot of research is behind the offering of those products. Here, the point of sales promotion is not nearly as important as in Asia.

I: Okay, that makes sense. So, if European consumers are more inclined to buy from those “trusted” sources, do they have a different view on ONS products than Asian consumers?
G: Exactly, that is one of the key differentiators, I would say. European consumers associate enteral nutrition, in this case ONS, with sick people. They don’t view ONS as preventative care or simply lifestyle or wellness products like Asian consumers.

I: This is a very interesting distinction. In line with that, what are the most important consumer trends that you have observed in Asia-Pacific?

K: There are a few prerequisites for products sold in Asia-Pacific such as halal certificates which are especially a must for Muslim-dominant countries such as Indonesia and Malaysia. Trends are definitely plant-based proteins, we can see consumers increasingly looking for vegan alternatives to whey protein.

G: Yes, with that, we can also observe this craze for high protein products such as yoghurts fortified with protein. Even though they are not nutritionally complete, they aid in providing more protein to one’s diet.

I: Okay, so these are also trends that we have observed in Europe, right?

K: Definitely.

P: Yes, trends often arrive a few years later in Asia-Pacific than in Europe.

I: Alright. Now moving on to a quick question about the ONS product portfolio in Europe in comparison to the one in Asia-Pacific. How do they differ?

P: We can see that sweet in Asia is not the same as in Europe for sure. We are used to much less sweet food, most of our food is not as filled with sugars and artificial sweeteners. Often, flavor profiles don't match our foods as good as well. That is why Asian consumers prefer flavors such as green tea, matcha, walnut, chicken soup and corn.

G: In addition to that, we have to keep in mind that a huge population across Asia-Pacific is lactose intolerant, so the market has to offer a lot more lactose-free products anyways.

I: Super interesting comments. Now, our last fragment of today's interview is about the business outlook of Fresenius in Asia-Pacific. Here, I would love to know how much expansion in Asia-Pacific is an opportunity for Kabi.

K: It is a huge opportunity, I would say. Asia is the growth vector for clinical nutrition for both parenteral and enteral nutrition.

G: Yes and there are still lots of gaps in our portfolio that need to be closed to be the market leader.

P: I would also say that especially in countries where malnutrition is a huge problem for governments, Kabi has a real chance of succeeding.

I: Great. And how would you generally describe business targets for Fresenius in the next 3 years?

K: In general, we would like to double or triple or businesses depending on the country and would like to continue expanding our portfolio offering.

I: Okay, last question. Maybe each one of you could tell me in your own words how you would describe Fresenius' mission in emerging Asian markets?

P: I can start. I would say "Nutrition as a focus to aid governments in combatting malnutrition".

G: Hmm, that's a good one… I guess I would orientate myself at our overall mission and say "Caring for life for patients with chronic and acute illnesses at every stage by helping doctors find solutions". Sorry, it is a bit long but I find it very important to highlight that we strive to be an anchor for our patients in the preventative sense, when they need to manage diseases on a daily basis and after surgeries or interventions.

K: I would be short and say "Not just a supplement" because ONS give the clinical outcomes that are needed for doctors to carry out their job.

I: These were all very powerful mission statements, thank you for sharing that with me. And again, thank you very much for providing so much information and helping me out with your insights and experience. I appreciate that a lot.

Transcription 4

Name: Christin Stamer

Position: Global Senior Director (Strategic Marketing) Enteral Nutrition

Company: Fresenius Kabi

Date of Recording: 27th of October, 2022

Meeting type: Microsoft Teams call

I: Great, then we can get right into it if you want. So, starting off with Fresenius in Europe. In which European countries is Fresenius Kabi present?

S: To my knowledge, we are present in almost all markets, so we distribute our ONS products in over 100 countries worldwide. Not sure about missing countries in Europe but we do not serve the Japanese market for example.

I: Are there any specific reasons for that you might like to share?

S: Yes, so Japan is an entirely different market compared to Asia as a whole and to the rest of the world. In Japan, mostly Japanese products are offered. I mean, competitors of Kabi like Nutricia and Nestlé sell some products there but it is mostly a really local market.

I: What are the reasons for that?

S: Hmm, I can think of one unique reason because the default unit of measure is different in Japan than in other countries because the Japanese have a different physiology from us. That’s why they often need separate prescriptions and dosages.

I: Oh, that is very interesting. What are some common entry barriers for Fresenius in Europe regarding ONS?

S: I would say that regulations are the most common barriers. You see, ONS fall in the “Foods for Special Medical Purposes” category in Europe. This means that there are certain regulatory requirements that our ONS products have to fulfill in order for us to sell them. Through this law, a lot of this process is standardized but some European countries demand registrations that can take up to one year. Some other countries allow a way easier process regarding distribution and also more flexibility with the ingredients of the ONS products. In Europe, ONS products are mostly distributed via hospitals and pharmacies, so really via healthcare channels. Other channels are not really made for those products because of the FSMP specification in contrast to lifestyle products. Do you know yfood?

I: Yes, I do.

S: Right, these products are registered as a food, not a FSMP, so they are sold in supermarkets, drug stores and so on. But as Kabi is focused on patients with malnutrition, they have the focus not so much on normal consumers but more on patients.

I: Yes, that makes sense.

S: I would also say that the channels are important and can pose like an indirect entry barrier. Some countries in Europe have a really medical approach where patients can buy the ONS products in pharmacies without prescriptions but the products are always consumed with prior consultation with their doctors. Whereas in some countries like the UK, Portugal and Spain, reimbursement levels differ because patients only get their money back if the ONS was prescribed by their doctor.

I: Okay, how is the process in Germany?

S: In Germany, patients usually get one prescription for an ONS product and after that, they usually pay out of pocket because up to 40% of all patients actually believe that what they have been prescribed with is actually helping, so they don’t mind to continue buying it out of pocket. You see, ONS products are expensive, meaning that they also represent a budget constraint for doctor’s and specialists, so they often only prescribe them once.

I: That is very insightful, thank you. How does this system compare to Asia?

S: Actually, in Asia, there are no reimbursements for ONS and it is sold more like an OTC product.

I: Alright. Now does Fresenius Kabi educate on nutrition beyond supplying their products?

S: Yes, Fresenius educates both healthcare professionals and patients about nutrition in general and its importance. Especially geriatric patients don’t want to cook because they lost their wives or do not have the energy to do so, so they only eat fast food. Naturally, they are malnourished due to that as they don’t get enough nutrients in their diet. For example, protein is crucial for geriatric patients to retain bone density and muscle and this usually lacks in ready meals. We also offer our website with resources in over 20 countries.

I: Right. Moving on with the business model of Fresenius in Europe. We already talked a lot about it when discussing the previous questions but maybe we can go through them nevertheless to miss nothing. How does the business model of Fresenius look like in Europe?

S: Our main focus lies on hospitals, doctors and specialists. Pharmacies have historically not been a main channel but they have become increasingly important in the past 5-7 years together with online pharmacies. We can clearly see that patients become more aware of their health and want to actively take a part in it.

I: Okay and does Fresenius has centralized or decentralized production facilities in Europe?

S: Mostly centralized.

I: And regarding distribution?

S: We have our own sales forces in each country that go to the hospitals and pharmacies to talk to the professionals about our products and why they should sell them. So, each sales force is responsible for their specific country.

I: Great and has Fresenius ever engaged in partnerships with governments, private companies or start-ups to facilitate market entry or distribute their products?

S: Not to my knowledge in Europe but we have worked with distributors in Asia.

I: Awesome. Now I would like to talk to you about the behavior of European consumers in contrast to Asian consumers. What would you say are key differentiators regarding their behaviors?

S: Yes, so what I have always been seeing is that in Europe, ONS is relatively unknown. This is a huge barrier for us. People see ONS as food for astronauts and is often associated with palliative medicine. So, there is a huge psychological barrier on the consumer side. Consumers simply don’t know that ONS products are supplemental and are used on top of a person’s normal nutrition. Another huge factor is a lack of visibility. In Europe, ONS sold in pharmacies are often placed in storage rooms of pharmacies and are not displayed behind the counters. So, consumers can’t even see them, meaning no attention is drawn to these products.

I: That is really interesting, thank you. How different is that in Asia?

S: Very different. In Asia, there is a very low barrier when it comes to consuming ONS products. Asian consumers know that they do something good for their health when they take ONS and they are generally more health aware. They like to eat nutritious foods and have a better nutritional balance than we do. We can also see that with geriatric patients and patients suffering with diabetes. What we can also see across Asia is that they prefer powders over liquids, so they simply stir their powders into their normal foods or into water and drink it along their normal meals.

I: Okay and do they use different channels?

S: Of course, in China, pharmacies are a channel as they gain some popularity but yes, for example in Singapore, Malaysia and Philippines, drug stores are the preferred distribution channels. There is usually a counter where medicine only available with prescription is sold within drug stores. There, foods for special medical purposes are also sold in supermarkets, so they are in far higher proximity to consumers than in Europe. The ONS products are sitting on the shelves in grocery stores.

I: Alright, maybe you can also go through the preferences with regards to ONS products at this point?

S: Yes, so starting with Europe, it is predominantly a liquids market. Historically it has never really been a huge powder market but convenience has become more and more important in Europe. Consumers in Europe also don't mind drinking a lot and drinking thick liquids. We also like strong flavors with rich tastes. So, we can see more special and dessert-like flavors trending for ONS such as toffee caramel.

I: I understand.

S: Whereas in Asia, as I said, there is a focus on powders which are also more inexpensive. Naturally this accommodates the Asian consumers. Asians don't like to drink a lot and powders naturally have a longer shelf life, so that comes in handy. They also usually play around with the dosage of their ONS powders if they feel like a serving is too strong in terms of taste. So, they adapt the flavors and their richness. In general, the flavors are also simpler. They still like vanilla and chocolate but they do not like to eat sweets as their traditional desserts are on a bean paste basis. So, they have other expectations for flavors such as green tea or wheat. Nevertheless, international companies have shaped those markets in terms of flavors as well because they were served by global supply chains. But we can see that Asians have a different flavor profile than us. A trend in Asia is also a focus on neutral flavors for ONS with reduced sugar contents.

I: Very interesting. Speaking of trends, what would you say are the most important consumer trends that you can see in Europe?

S: Generally, consumers are way more educated and informed about health. A shift towards more vegetarian and especially vegan alternatives is taking up speed but sometimes there are still quality problems because not every plant-based protein source is nutritionally complete and we want to still maintain our high quality. Another trend is that consumers don't want all the additives and preservatives in their products. ONS products sometimes get a bad reputation for being too artificial, so everyone works on making their products with more natural ingredients. For example, I guess you know the baby food company HiPP from Germany. They sold their ONS business some time ago and only kept their sip feeding line. They now only sell their products with natural ingredients. As a rule of thumb, I would say that the ONS market always follows food trends with a short delay.

I: Alright, are there any other trends in the food industry that the ONS market already started following?

S: Yes, everything high in protein is definitely another trend. You probably know it from the German supermarkets but all popular dairy brands have introduced yoghurts high in protein and this is exactly what you can see in the medical field. Protein has a variety of proven benefits and is essential to build and retain muscle. What we can really see is that ONS products were originally created to mimic our normal diet but time after time, more calories were added to help patients with malnutrition to gain weight. That was really the first main goal of ONS, to help people gain weight. And then, more and more protein was added due to the multiple benefits of it.

I: Alright and speaking of patients, does Fresenius Kabi target any specific age groups or disease profiles with its ONS portfolio?

S: The approach of Kabi is to take a look at the biggest patient groups where malnutrition is a high risk. This includes especially geriatric patients that are either healthy and want to take preventative care which we can see more in Asia than Europe but also patients with accompanying illnesses. Oncological patients, patients suffering from renal insufficiencies, diabetes and patients in the ICU are also targeted. In general, patients are also supplemented with ONS before and after surgeries because sometimes they have difficulty swallowing or gut issues.

I: So, would you say that Kabi only focuses on patients, not really “lifestyle” consumers of ONS?

S: Yes, exactly because we offer food for special medical purposes, so we target people who are ill. In Asia, there is more this lifestyle component because there is more awareness.

I: Thank you for sharing those insights. Just a quick summarizing question about the ONS product portfolio of Kabi in both Europe and Asia. Is it any different besides flavors?

S: We have not been distributing our products to Asia as long as we have been doing so in Europe, so naturally our product portfolio is smaller there. The business in Asia is still developing.

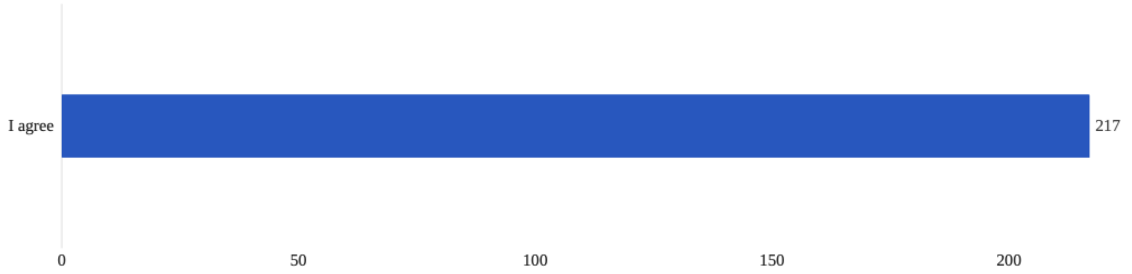
I: Okay. Lastly, maybe you can touch on the business outlook for Fresenius Kabi in Europe.

S: The ONS category has extreme potential because currently, a lot of consumers are not educated enough about the products and the demand or need is huge. Malnutrition remains an important topic because our population is only getting older and sicker. But also, lifestyle supplements have gained popularity and should not be disregarded. Still, I would say that we want to serve our patients as holistically as possible and offer all required products for each specific illness to create individualized solutions.

I: Thank you so much. This conservation was extremely insightful and I appreciate your time a lot. Thank you for sharing your expertise and knowledge.

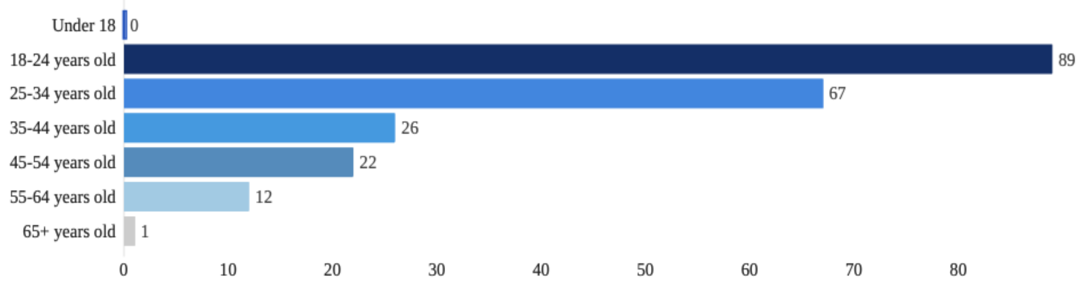
Appendix 3: Conducted survey

Q0 - Dear participant, the following survey is conducted for the purpose of my master thesis at NOVA School of Business and Economics and is used to gather data about nutrition and supplements from the perspective of German citizens. In order to collect high quality data, I would like to ask the participant to answer the questions truthfully in order to reproduce accurate results. The survey will not take more than 5 minutes. In an effort to guarantee confidentiality, your participation is anonymous and your answers will not be publicised outside the scope of this master thesis. By clicking "I agree" below, you consent to participating in this survey on a voluntary manner and answering the questions to the best of your abilities.



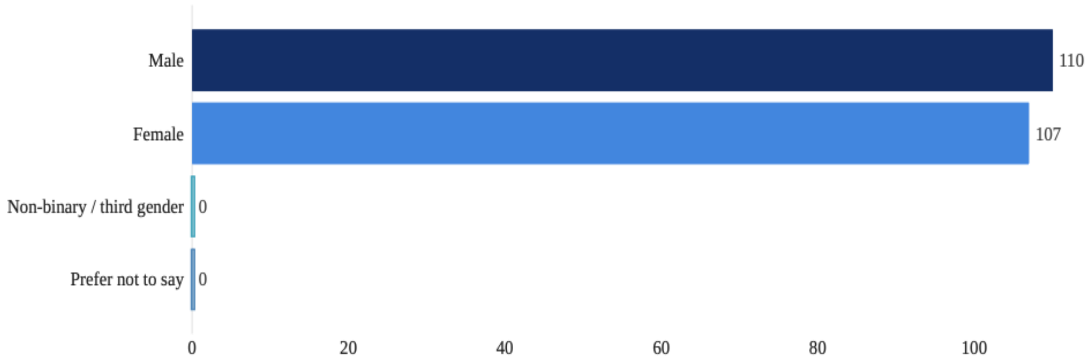
Field	Choice Count
I agree	217
Total	217

Q1 - How old are you?



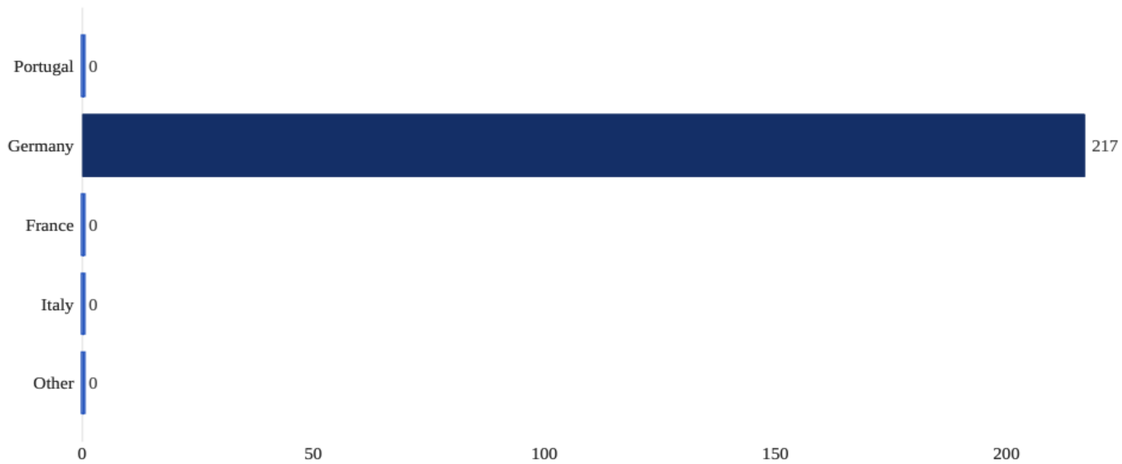
Field	Choice Count
Under 18	0
18-24 years old	89
25-34 years old	67
35-44 years old	26
45-54 years old	22
55-64 years old	12
65+ years old	1
Total	217

Q2 - With which gender do you identify most with?



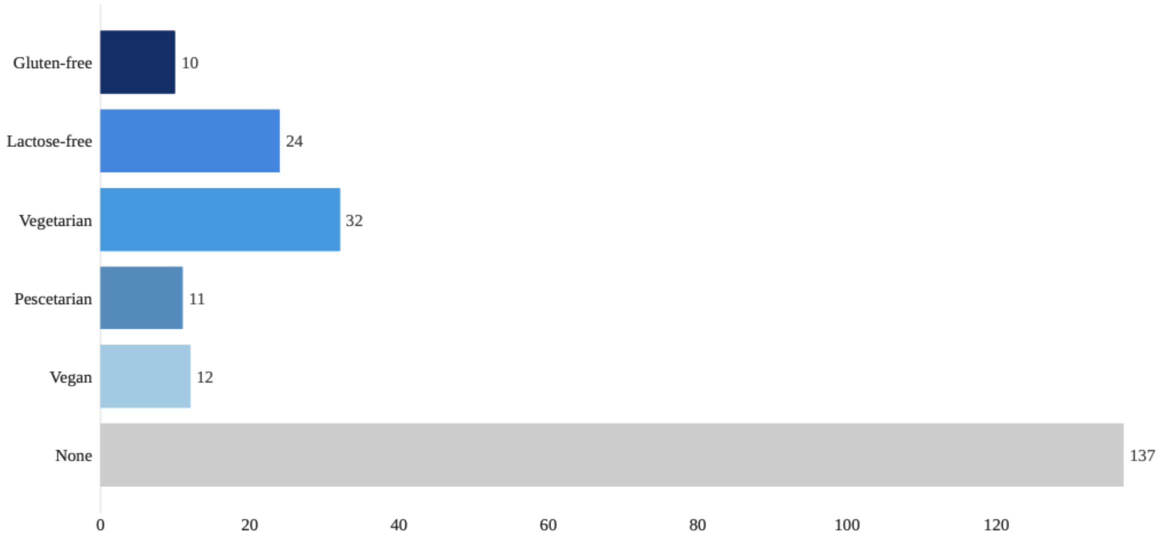
Field	Choice Count
Male	110
Female	107
Non-binary / third gender	0
Prefer not to say	0
Total	217

Q3 - Where are you from?



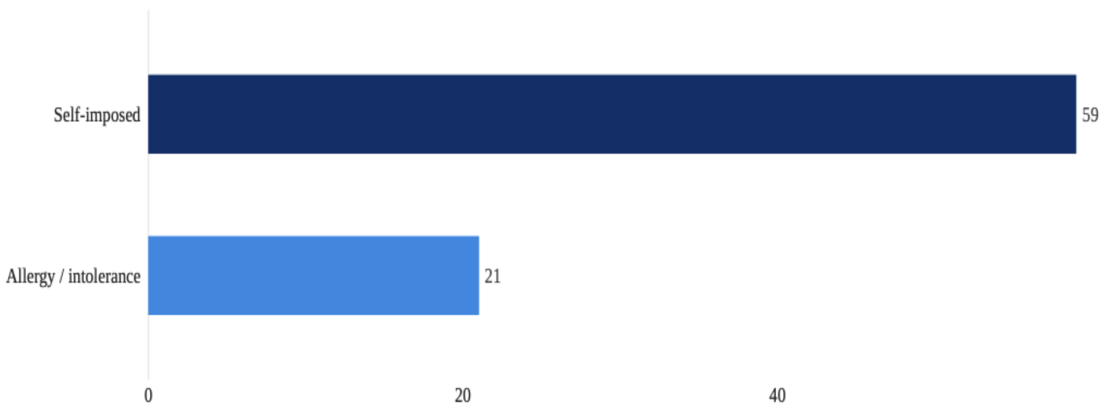
Field	Choice Count
Portugal	0
Germany	217
France	0
Italy	0
Other	0
Total	217

Q4 - Do you have any of the following dietary restrictions?



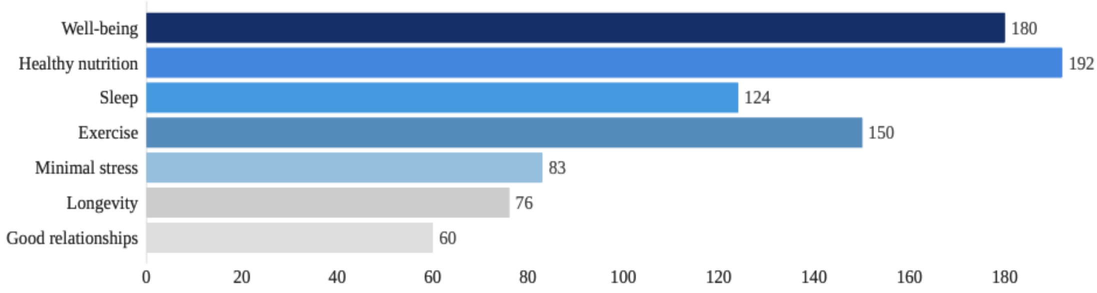
Field	Choice Count
Gluten-free	10
Lactose-free	24
Vegetarian	32
Pescetarian	11
Vegan	12
None	137
Total	226

Q4.1 - Are those dietary restrictions self-imposed or based on an allergy / intolerance?



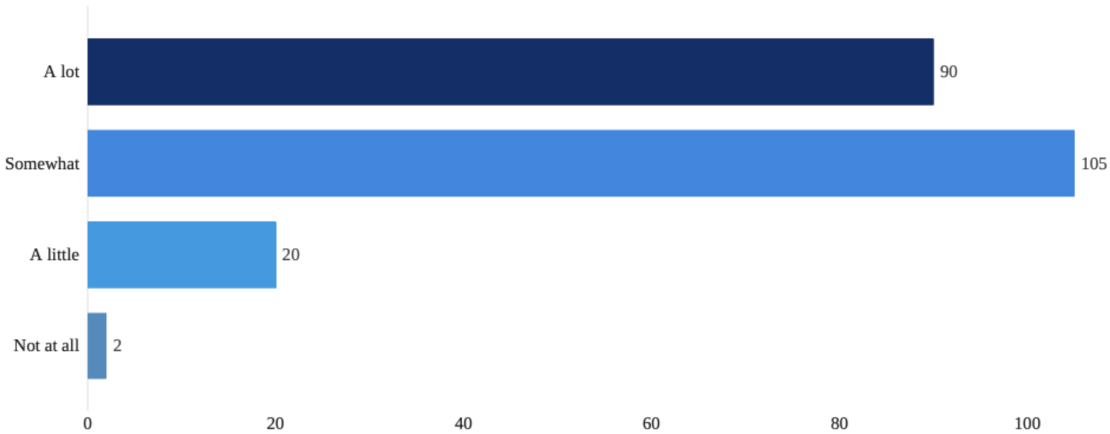
Field	Gluten-free	Lactose-free	Vegetarian	Pescetarian	Vegan	None
Self-imposed	5	8	32	11	11	0
Allergy / intolerance	5	16	0	0	1	0
Total	10	24	32	11	12	0

Q5 - What associations do you have with the term "health"?



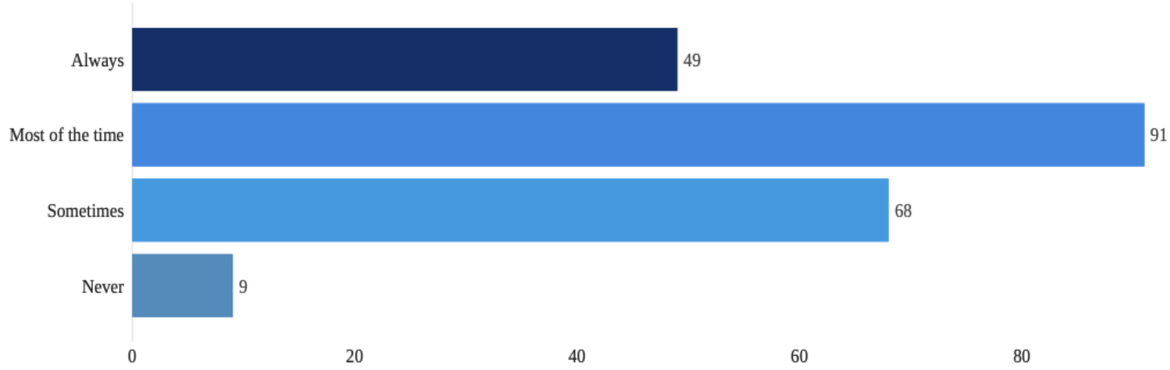
Field	Choice Count
Well-being	180
Healthy nutrition	192
Sleep	124
Exercise	150
Minimal stress	83
Longevity	76
Good relationships	60
Total	865

Q6 - Does healthy nutrition play a significant role in your life?



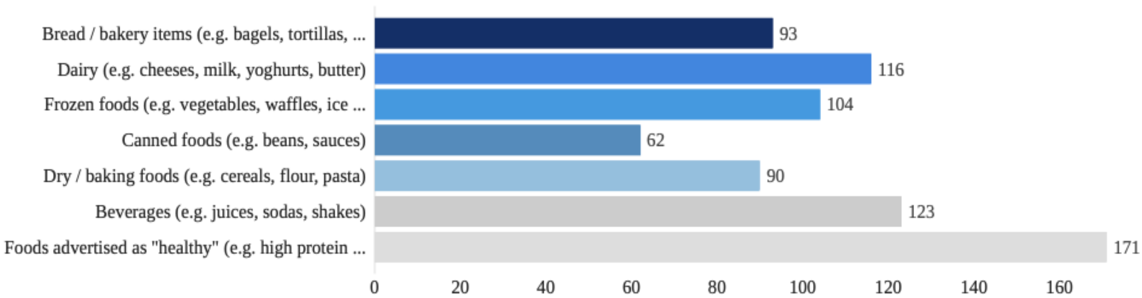
Field	Choice Count
A lot	90
Somewhat	105
A little	20
Not at all	2
Total	217

Q7 - Do you check ingredients when you go grocery shopping?



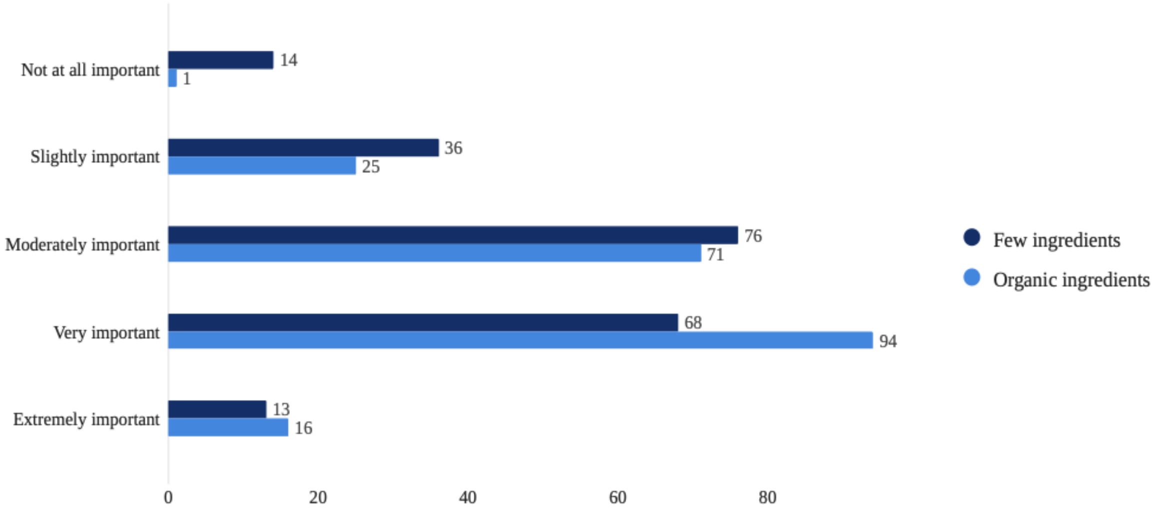
Field	Choice Count
Always	49
Most of the time	91
Sometimes	68
Never	9
Total	217

Q7.1 - On which types of products do you check ingredients?



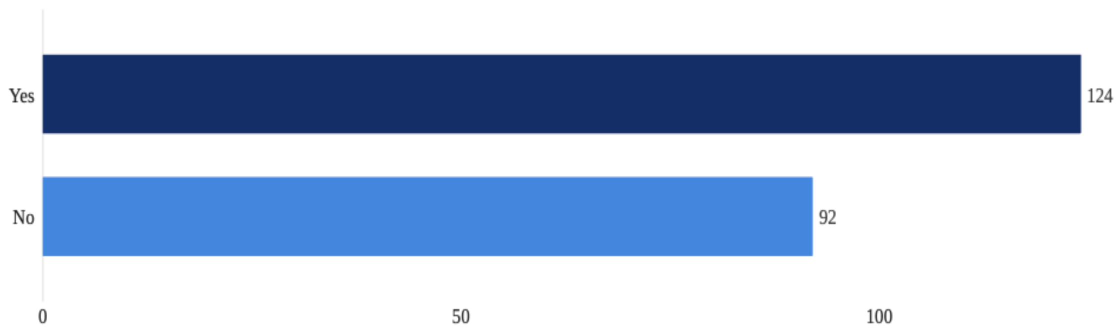
Field	Choice Count
Bread / bakery items (e.g. bagels, tortillas, pastries)	93
Dairy (e.g. cheeses, milk, yoghurts, butter)	116
Frozen foods (e.g. vegetables, waffles, ice creams, pre-cooked meals)	104
Canned foods (e.g. beans, sauces)	62
Dry / baking foods (e.g. cereals, flour, pasta)	90
Beverages (e.g. juices, sodas, shakes)	123
Foods advertised as "healthy" (e.g. high protein products, organic products)	171
Total	759

Q7.2 - How important is it for you that products have...?



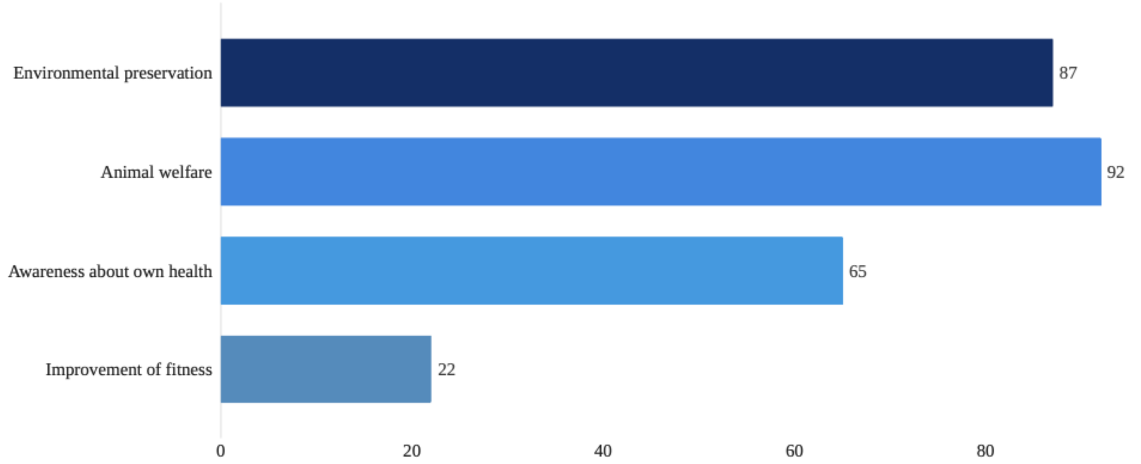
Field	Not at all important	Slightly important	Moderately important	Very important	Extremely important	Total
Few ingredients	14	36	76	68	13	207
Organic ingredients	1	25	71	94	16	207

Q8 - Do you consciously look for vegan-friendly foods?



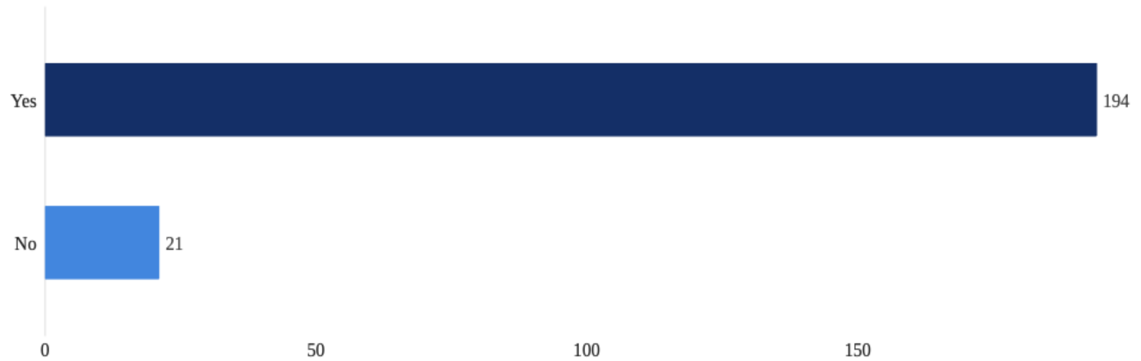
Field	Choice Count
Yes	124
No	92
Total	216

Q8.1 - Due to which of the following factors do you source more plant-based foods?



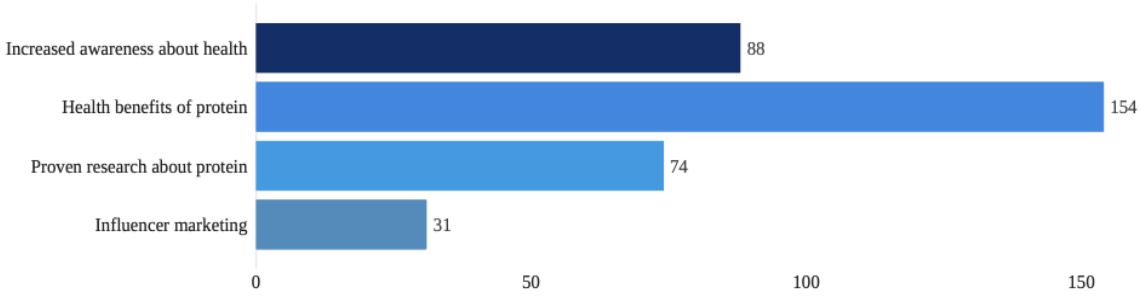
Field	Choice Count
Environmental preservation	87
Animal welfare	92
Awareness about own health	65
Improvement of fitness	22
Total	266

Q9 - Have you ever tried products advertised as "high protein"?



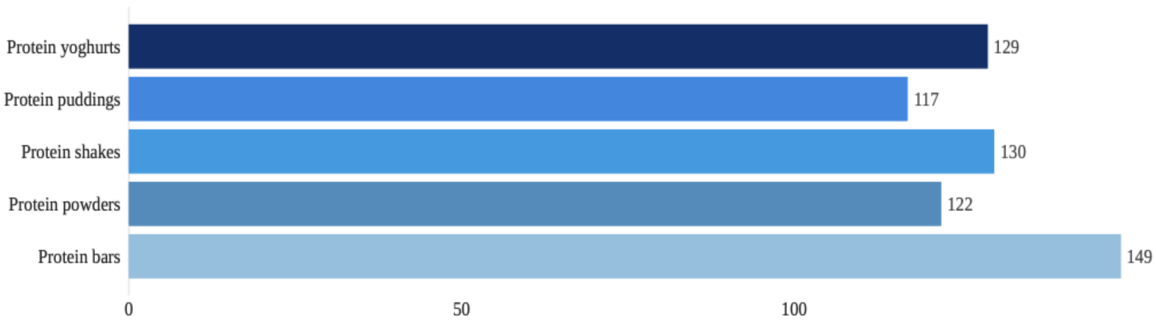
Field	Choice Count
Yes	194
No	21
Total	215

Q9.1 - Why have you tried products advertised as "high protein"?



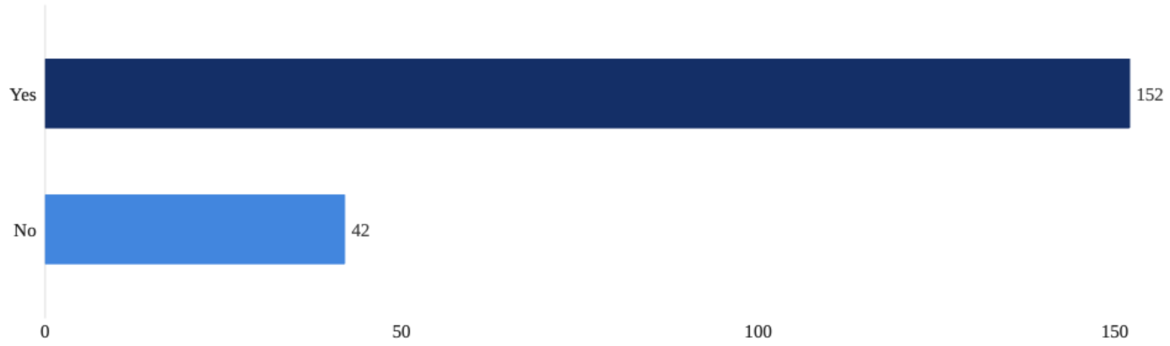
Field	Choice Count
Increased awareness about health	88
Health benefits of protein	154
Proven research about protein	74
Influencer marketing	31
Total	347

Q9.2 - Which products advertised as "high protein" have you tried?



Field	Choice Count
Protein yoghurts	129
Protein puddings	117
Protein shakes	130
Protein powders	122
Protein bars	149
Total	647

Q9.3 - Do you frequently buy products marketed as "high protein"?

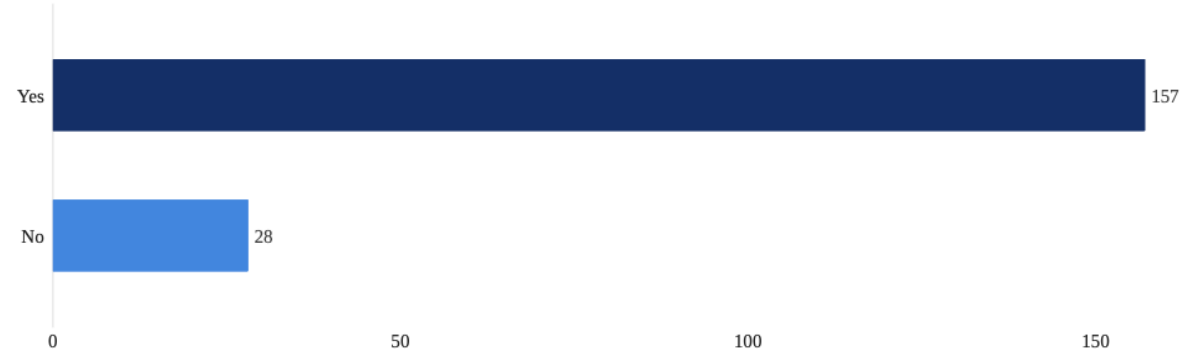


Field	Choice Count
Yes	152
No	42
Total	194

Q10 - Are you conscious about getting enough nutrients (e.g. proteins, fats, carbohydrates, vitamins, minerals) in your diet?

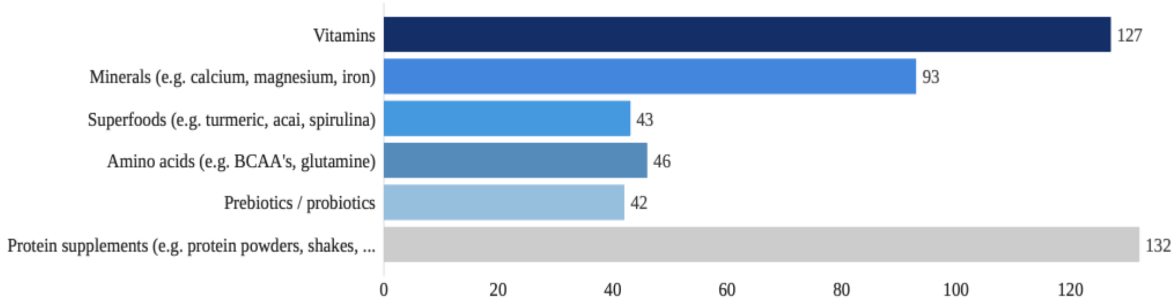
Field	Choice Count
Yes	185
No	30
Total	215

Q10.1 - Do you use supplements to aid in that?



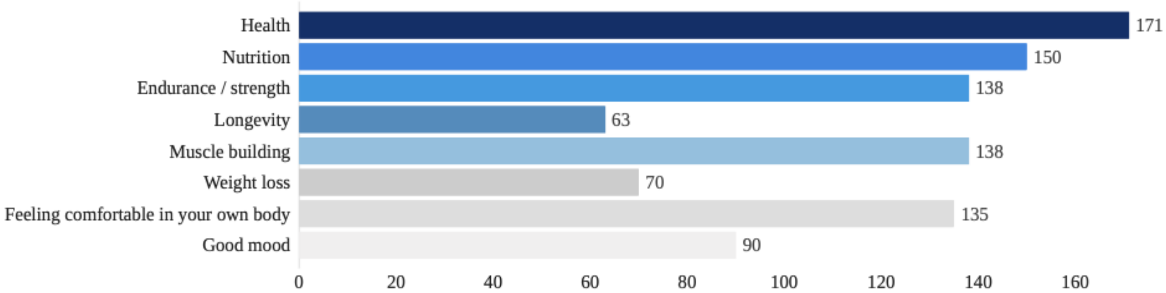
Field	Choice Count
Yes	157
No	28
Total	185

Q10.2 - Which kind of supplements are you using?



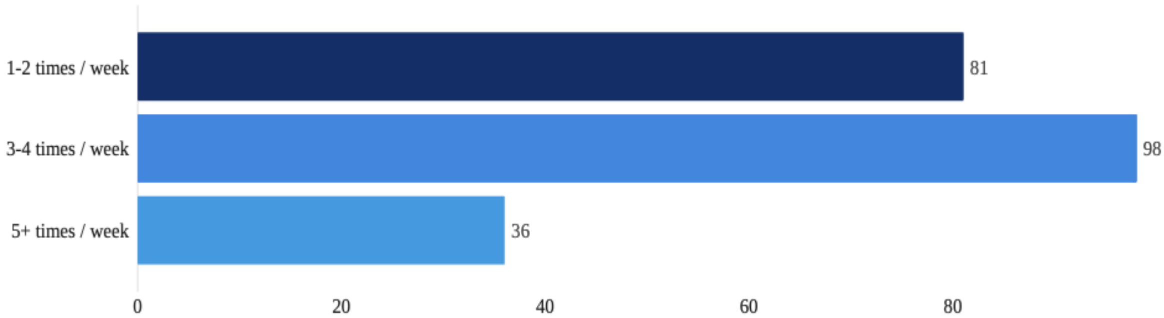
Field	Choice Count
Vitamins	127
Minerals (e.g. calcium, magnesium, iron)	93
Superfoods (e.g. turmeric, acai, spirulina)	43
Amino acids (e.g. BCAA's, glutamine)	46
Prebiotics / probiotics	42
Protein supplements (e.g. protein powders, shakes, bars)	132
Total	483

Q11 - What associations do you have with the term "fitness"?



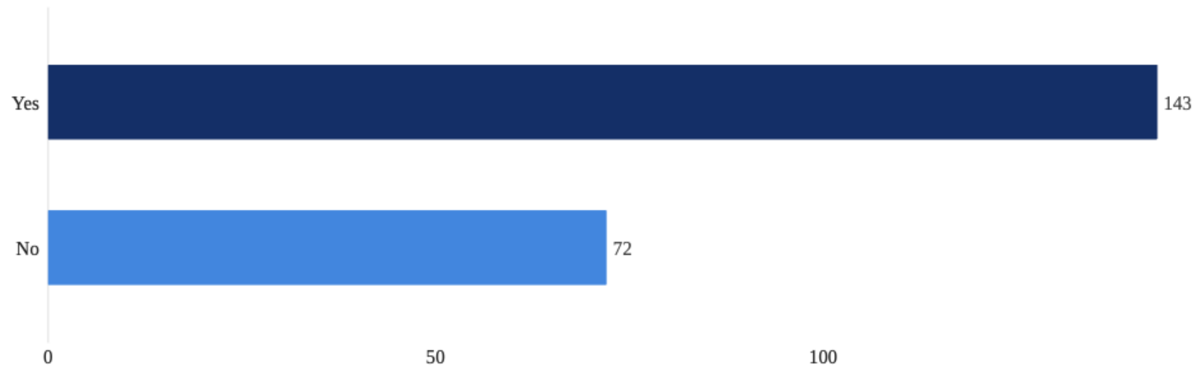
Field	Choice Count
Health	171
Nutrition	150
Endurance / strength	138
Longevity	63
Muscle building	138
Weight loss	70
Feeling comfortable in your own body	135
Good mood	90
Total	955

Q12 - How often do you engage in exercise per week?



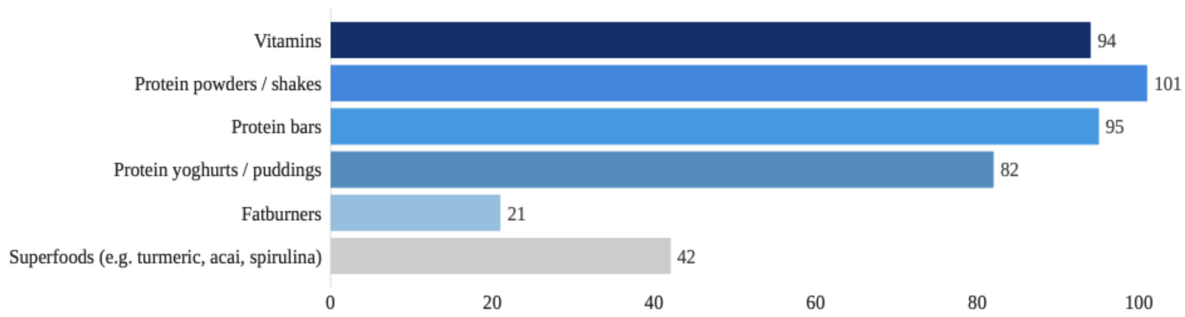
Field	Choice Count
1-2 times / week	81
3-4 times / week	98
5+ times / week	36
Total	215

Q13 - Do you think that supplements are necessary or beneficial to achieving your fitness goals?



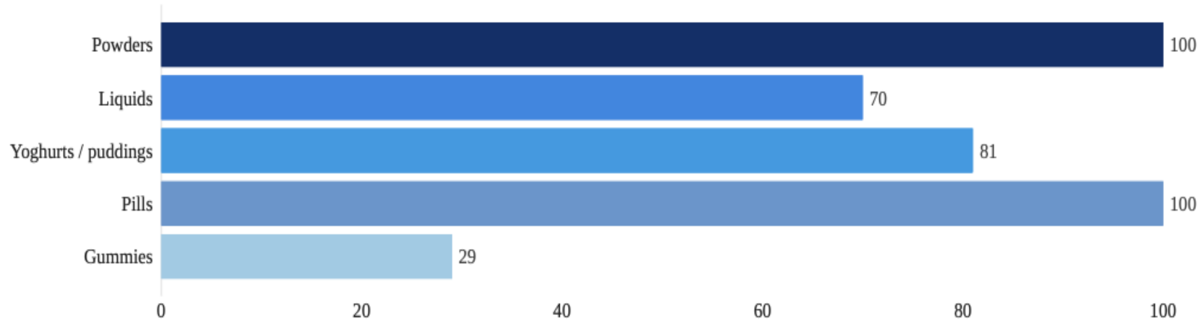
Field	Choice Count
Yes	143
No	72
Total	215

Q13.1 - What kind of supplements do you take for fitness?



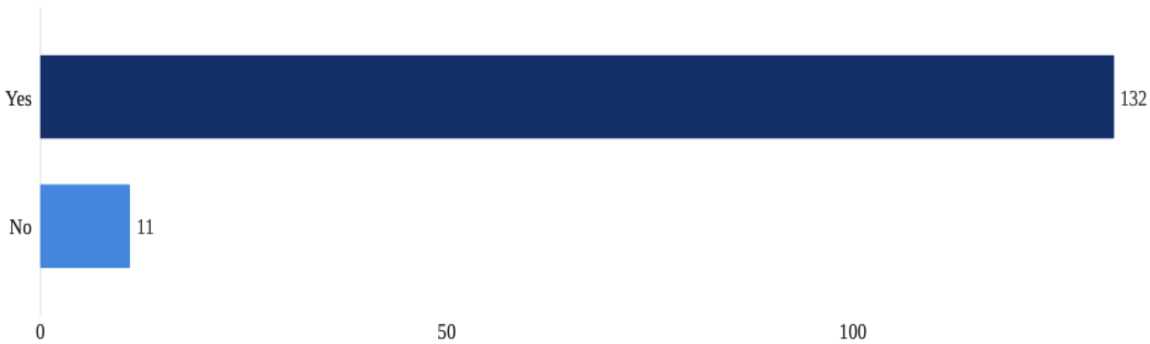
Field	Choice Count
Vitamins	94
Protein powders / shakes	101
Protein bars	95
Protein yoghurts / puddings	82
Fatburners	21
Superfoods (e.g. turmeric, acai, spirulina)	42
Total	435

Q13.2 - What formats of supplements do you prefer?



Field	Choice Count
Powders	100
Liquids	70
Yoghurts / puddings	81
Pills	100
Gummies	29
Total	380

Q13.3 - Do you feel better / stronger when you take supplements?



Field	Choice Count
Yes	132
No	11
Total	143

Appendix 4: Consolidated coding tables

Category	Description	Codes	Anchor Example
Entry barriers	Refers to factors that prevent or impede the entry of new firms into an industry or market	**Regulations**	*Europe:* "[…] entry barriers are usually low as (…) (ONS) are regulated through the Foods for Special Medical Purposes law." – Maria Hambacher, line 14-15 "[…] no lengthy admission procedure […]" – Maria Hambacher, line 17 "[…] ONS fall in the "Foods for Special Medical Purposes" category in Europe." – Christin Stamer, line 23-24 "[…] a lot of this process is standardized but some European countries demand registrations that can take up to one year." – Christin Stamer, line 26-27 *Asia:* "[…] because Kabi is registered in Europe, everything is actually interconnected and settled by the laws in Europe. This makes it easier for us." – Herbert Meyer, line 48-49 "[…] depending on the government, ONS might be viewed and therefore regulated as a food, a drug or as a product within enteral nutrition, hence different processes are in place." – Meera Patel, line 14-16 "[…] there (in Australia) are a lot of biosecurity concerns. (…) the government has adopted strict regulations with a list of countries that are banned from distributing and advertising their products in Australia but Fresenius is not affected by that." – Jose Garcia, line 18-21
			"[…] one gets reimbursements in every European country for tube fed products but that differentiates by country for ONS." – Maria Hambacher, line 19-20

		Reimbursements	"[…] in some European countries, only standard, not disease-specific, products are reimbursed whereas in others, there is no reimbursement at all." – Maria Hambacher, line 86-88 "[…] Asian consumers usually have to buy everything out of pocket." – Maria Hambacher, line 102-103 "[…] in some countries like the UK, Portugal and Spain, reimbursement levels differ because patients only get their money back if the ONS was prescribed by their doctor." – Christin Stamer, line 46-48 "[…] up to 40% of all patients actually believe that what they have been prescribed with is actually helping, so they don't mind buying it out of pocket." – Christin Stamer, line 53-55 "[…] in Asia, there are no reimbursements for ONS and it is sold more like an OTC product." – Christin Stamer, line 61-62
		Licenses	"[…] Indonesia and Vietnam for example, there we needed manufacturing licenses to produce." – Herbert Meyer, line 30-31 "[…] this (process) takes a lot of time." – Herbert Meyer, line 37
Education on nutrition	Defined as any type of learning journey to encourage the adoption of healthy eating habits and other nutritionally beneficial lifestyle choices	**Education for consumers**	*Europe:* "[…] a gap in our services […]" – Herbert Meyer, line 56 "In some countries, we inform consumers about nutrition as an add-on via our platform on enteral nutrition but that's it." – Maria Hambacher, line 41-43 "[…] Fresenius educates (…) patients about nutrition in general and its importance. Especially geriatric patients (…) are malnourished (…) as they don't get enough nutrients in their diet." – Christin Stamer, line 67-71 "We also offer our website with resources in over 20 countries." – Christin Stamer, line 72-73

			Asia: "[…] social media is used as an effective marketing tool." – Bora Kim, line 38
		Education for healthcare professionals	"[…] we do organize a number of congresses for doctors and work together with them." – Herbert Meyer, line 56-57 "[…] organize digital webcasts and offer e-learning." – Maria Hambacher, line 41 "[…] depends on how much the local government prioritizes combatting malnutrition." – Meera Patel, line 32-33 "[…] Fresenius educates (…) healthcare professionals (…) about nutrition in general and its importance." – Christin Stamer, line 67-68
Consumer behaviour	Refers to the study of consumers regarding the methods employed to select, utilize and discard goods and services	**Awareness about health**	*Europe:* "European consumers associate enteral nutrition, in this case ONS, with sick people. They don't view ONS as preventative care or simply lifestyle or wellness products like Asian consumers." – Jose Garcia, line 78-80 "We (Kabi) can clearly see that patients become more aware of their health and want to actively take a part in it." – Christin Stamer, line 82-83 "[…] What I have always been seeing is that in Europe, ONS is relatively unknown. This is a huge barrier for us." – Christin Stamer, line 105-106 "People see ONS as food for astronauts and is often associated with palliative medicine. So, there is a huge psychological barrier on the consumer side." – Christin Stamer, line 106-108 "Another huge factor is a lack of visibility. In Europe, ONS sold in pharmacies are often placed in storage rooms (…) and not displayed behind the counters. So, consumers can't even see them […]" – Christin Stamer, line 109-112

			Asia: "[…] very high awareness about health (…), especially healthy nutrition, tends to play a huge role there." – Maria Hambacher, line 97-98 "[…] they (Asian consumers) also consider preventative care as really important." – Maria Hambacher, line 98-99 "[…] they (Asian consumers) are also really conscious about health and well-being, that is a real priority in their lives. They have a desire to stay younger." – Bora Kim, line 47-48 "In Asia, there is a very low barrier when it comes to consuming ONS products. Asian consumers know that they do something good for their health when they take ONS and (…) are generally more health aware." – Christin Stamer, line 116-118
		Flavors	"[…] offer the same products in both geographies but we offer different types of flavors to accommodate to local flavor profiles." – Herbert Meyer, line 129-130 *Europe:* "[…] we (Kabi) offer multiple flavors for each product, ranging from basic flavors like vanilla, chocolate and strawberry to tropical fruits and even savory flavors." – Maria Hambacher, line 163-164 "We (European consumers) (…) like strong flavors with rich tastes. So, we can see more special and dessert-like flavors trending for ONS such as toffee caramel." – Christin Stamer, line 139-140 *Asia:* "[…] local flavor profiles are definitely different, more savory flavors are demanded." – Maria Hambacher, line 174-175

			“[…] sweet in Asia is not the same as in Europe for sure. We (Asian consumers) are used to much less sweet food, most of our food is not as filled with sugars and artificial sweeteners. Often, flavor profiles don’t match our foods as good as well.” – Meera Patel, line 103-105 “[…] Asian consumers prefer flavors such as green tea, matcha, walnut, chicken soup and corn.” – Meera Patel, line 106-107 “[…] we have to keep in mind that a huge population across Asia-Pacific is lactose intolerant […].” – Jose Garcia, line 109-110 “They (Asian consumers) (…) usually play around with the dosage of their ONS powders if they feel like a serving is too strong in terms of taste. So, they adapt the flavors and richness.” – Christin Stamer, line 146-148 “[…] flavors are (…) simpler. They still like vanilla and chocolate but they do not like to eat sweets as their traditional desserts are on a bean paste basis. (…) flavors such as green tea or wheat.” – Christin Stamer, line 149-151 “[…] focus on neutral flavors with reduced sugar contents.” – Christin Stamer, line 154-155
		Preferred channels	*Europe:* “The majority of ONS products are also sold in pharmacies and most of them are on prescription.” – Maria Hambacher, line 85-86 “[…] European consumers (…) (are) playing a huge emphasis on pharmacies as distribution channels or (…) points of purchase.” – Jose Garcia, line 67-69 “European consumers like to buy from trusted sources such as hospitals, doctor’s offices and pharmacists (…) where they feel a lot of research is behind the offering of those products. Here (in Europe), the point of sales promotion is not nearly as important as in Asia.” – Jose Garcia, line 69-72

			“In Europe, ONS products are mostly distributed via hospitals and pharmacies, so really via healthcare channels. Other channels are not really made for these products because of the FSMP specification (...).” – Christin Stamer, line 29-31 “Our (Kabi’s) main focus lies on hospitals, doctors and specialists. Pharmacies have historically not been a main channel but they have become increasingly important in the past 5-7 years together with online pharmacies.”– Christin Stamer, line 80-82 *Asia:* “[…] buy their ONS products more in drug stores, via retail and especially e-commerce.” – Maria Hambacher, line 101-102 “Most of the ONS products are sold in drug stores and via e-commerce. (…) one can see promoters in drug stores from (…) Abbott Nutrition who approach consumers and inform them about the health benefits of their different products.” – Meera Patel, line 59-62 “[…] in Singapore, Malaysia and Philippines, drug stores are the preferred distribution channels. (…) foods for special medical purposes are also sold in supermarkets, so they are in far higher proximity to consumers than in Europe.” – Christin Stamer, line 127-128; 129-131
		Product formats	*Europe:* “In Europe, there is a strong focus on liquid products.” – Maria Hambacher, line 84-85 “We offer a variety of products including shakes, yoghurts, puddings, powders and sip feeds.” – Maria Hambacher, line 159-160 “[…] predominantly a liquids market (…) but convenience has become more and more important […].” – Christin Stamer, line 136-138 “Consumers in Europe (…) don’t mind drinking a lot and drinking thick liquids.” – Christin Stamer, line 138-139

			Asia: "[…] consume much more powders and convenience products than we do." – Maria Hambacher, line 99-100 "[…] they (Asian consumers) prefer powders over liquids, so they simply stir their powders into their normal foods or water and drink it along their normal meals." – Christin Stamer, line 121-122 "(Asians) focus on powders which are also more inexpensive. (…) Asians don't like to drink a lot and powders have a longer shelf life […]." – Christin Stamer, line 144-146
		Ingredients	"[…] almost all of our products (have to be halal in Asia due to religious reasons)." – Herbert Meyer, line 85 "[…] halal certifications also tend to play a role, therefore we always make our products halal." – Maria Hambacher, line 88-89 "There are a few prerequisites for products sold in Asia-Pacific such as halal certificates which are especially a must for Muslim-dominant countries such as Indonesia and Malaysia." – Bora Kim, line 85-87
Customer segments	Refers to the process by which customers are divided into segments based on common characteristics	**Age groups**	"[…] our ONS products can be consumed by every age group […]" – Herbert Meyer, line 120-121 "The approach of Kabi is to take a look at the biggest patient groups where malnutrition is a high risk. This includes especially geriatric patients […]" – Christin Stamer, line 187-188
		Disease profiles	"[…] we target lots of different diseases like forms of cancer, patients suffering from strokes and (…) patients who undergo dialysis […]" – Herbert Meyer, line 121-122 "[…] patients in the ICU (…), patients with gastrointestinal types of cancer (…). (…) oncological patients undergoing chemotherapy or immunotherapy. (…) dialysis patients (…), neurological patients with dysphagia (…) and people suffering from Type II diabetes […]" – Maria Hambacher, line 135-140

			"Oncological patients, patients suffering from renal insufficiencies, diabetes and patients in the ICU are (…) targeted. (…) patients are also supplemented with ONS before and after surgeries […]." – Christin Stamer, line 190-192
Trends	Describes the general direction in which something is developing or changing or in the way that people are behaving	**Natural ingredients**	"[…] consumers ask for more natural ingredients and organic products are more research has come out about whole foods." – Maria Hambacher, line 92-93 "[…] consumers don't want all the additives and preservatives in their products. ONS products sometimes get a bad reputation for being too artificial, so everyone works on making their products with more natural ingredients." – Christin Stamer, line 164-166
		Vegan protein sources	"What we can clearly see in Europe is a huge trend towards plant-based proteins due to environmental concerns and animal welfare." – Maria Hambacher, line 89-91 "Trends are definitely plant-based proteins, we can see consumers increasingly looking for vegan alternatives to whey protein." – Bora Kim, line 87-88 "A shift towards more vegetarian and especially vegan alternatives (…)." – Christin Stamer, line 160-161
		High protein products	"[…] high protein products are more and more demanded." – Maria Hambacher, line 91 "[…] observe this craze for high protein products such as yoghurts fortified with protein." – Jose Garcia, line 90-91 "[…] everything high in protein is definitely another trend. (…) all popular dairy brands have introduced yoghurts high in protein and this is exactly what you can see in the medical field." – Christin Stamer, line 175-177
Growth drivers	Relates to the critical inputs and actions that advance the performance of a business	**Geographies**	"[…] Kabi is currently not in Bangladesh and Myanmar." – Herbert Meyer, line 19 "Asia is the growth vector for clinical nutrition for both parenteral and enteral nutrition." – Bora Kim, line 117-118

			"[…] especially in countries where malnutrition is a huge problem for governments, Kabi has a real chance of succeeding." – Meera Patel, line 123-124
		Product portfolio	"[…] they (competitors) also advertise their ONS products towards consumers and patients, creating a lot of brand awareness. Kabi lacks that in Asia. Kabi is more commonly known within the healthcare space and advertises its products more towards healthcare professionals." – Maria Hambacher, line 114-117 "[…] ONS have a very fast innovation cycle (…). (…) consumers adopt new trends very fast and demand them right away." – Maria Hambacher, line 183+185 "We have not been distributing our products to Asia as long as we have been doing so in Europe, so naturally our product portfolio is smaller there. The business in Asia is still developing." – Christin Stamer, line 206-208
Growth opportunities	Refers to an investment or project that has the potential to grow significantly, leading to a profit through the coverage of new markets in terms of geographies as well as products / services	**Lifestyle products**	"[…] weight management is a huge market and (…) Glucerna from Abbott Nutrition is offered for weight management for patients with Type II diabetes in Asia. It is hugely successful." – Maria Hambacher, line 146-149 "[…] we lag behind our competitors in this regard (concerning lifestyle ONS products)." – Maria Hambacher, line 154 *Asia:* "[…] Abbott Nutrition and Nestlé also target 50+ consumer with their products and offer more lifestyle products, like for when you are feeling tired or low on energy." – Bora Kim, line 48-50 "[…] we offer food for special medical purposes, so we target people who are ill. In Asia, there is more this lifestyle component because there is more awareness." – Christin Stamer, line 198-200
		Specifications	"[…] we serve patients with a risk of malnutrition in any form, so chronic and acute illnesses. But pediatric care is something we should take a look at." – Maria Hambacher, line 126-127

			"The ONS category has extreme potential because (…) consumers are not educated enough about the products and the demand (…) is huge. Malnutrition remains an important topic […]." – Christin Stamer, line 213-215
		Channels	"In Asia, Kabi has to make significant investments for shelf listings and spaces and would require a specific unit for branding and marketing." – Maria Hambacher, line 109-111 "[…] we (Kabi) would need to establish sales forces in pharmacies and drug stores that actively advertise our ONS products on sight to consumers." – Maria Hambacher, line 117-119 "We should also invest in consumer marketing, especially in display advertisements but of course, this is very costly." – Maria Hambacher, line 119-120
Purpose of Fresenius Kabi	Refers to a persistent desire to fulfill a long-term objective that bears importance for oneself and the world	**Fresenius Kabi's mission**	"[…] making medicine available and affordable for evermore people." – Herbert Meyer, line 147-148 "[…] serve patients with the best nutrition solutions." – Maria Hambacher, line 195-196 "[…] nutrition as a focus to aid governments in combatting malnutrition." – Meera Patel, line 135-136 "[…] caring for life for patients with chronic and acute illnesses at every stage by helping doctors find solutions." – Jose Garcia, line 139-140 "[…] not just a supplement […]" – Bora Kim, line 144 "[…] we want to serve our patients as holistically as possible and offer all required products for each specific illness to create individualized solutions." – Christin Stamer, line 217-218

Appendix 5: List of figures (continued)

Figure 4: Prioritization of health vs. frequency of checking ingredient labels

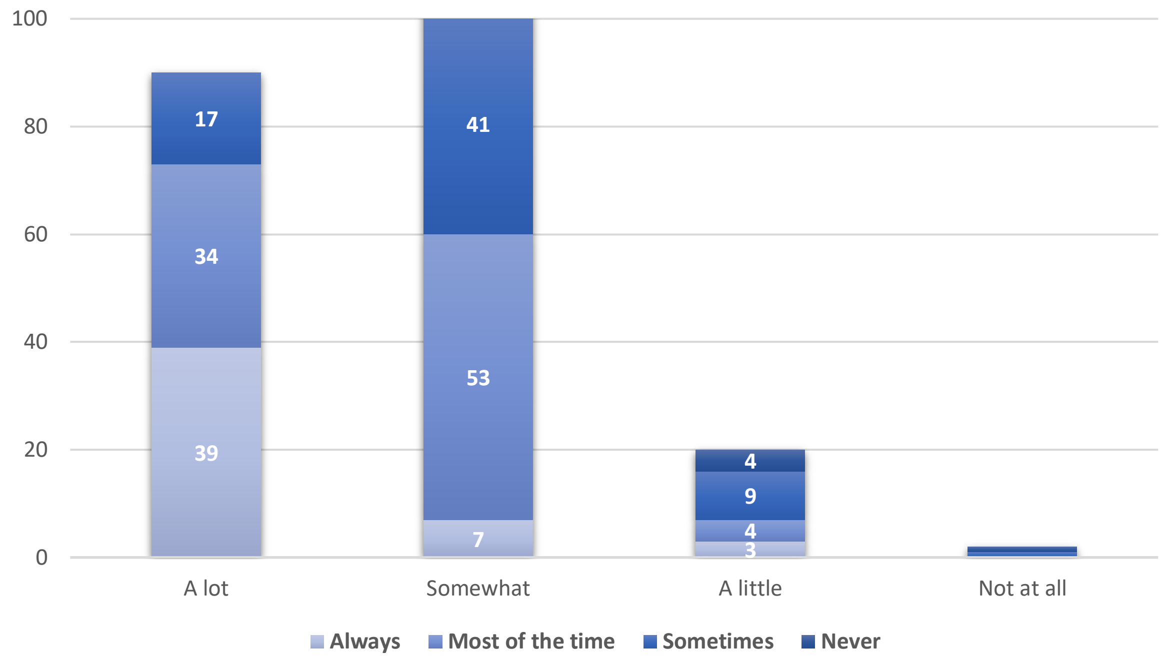


Figure 5: Importance of few vs. organic ingredients

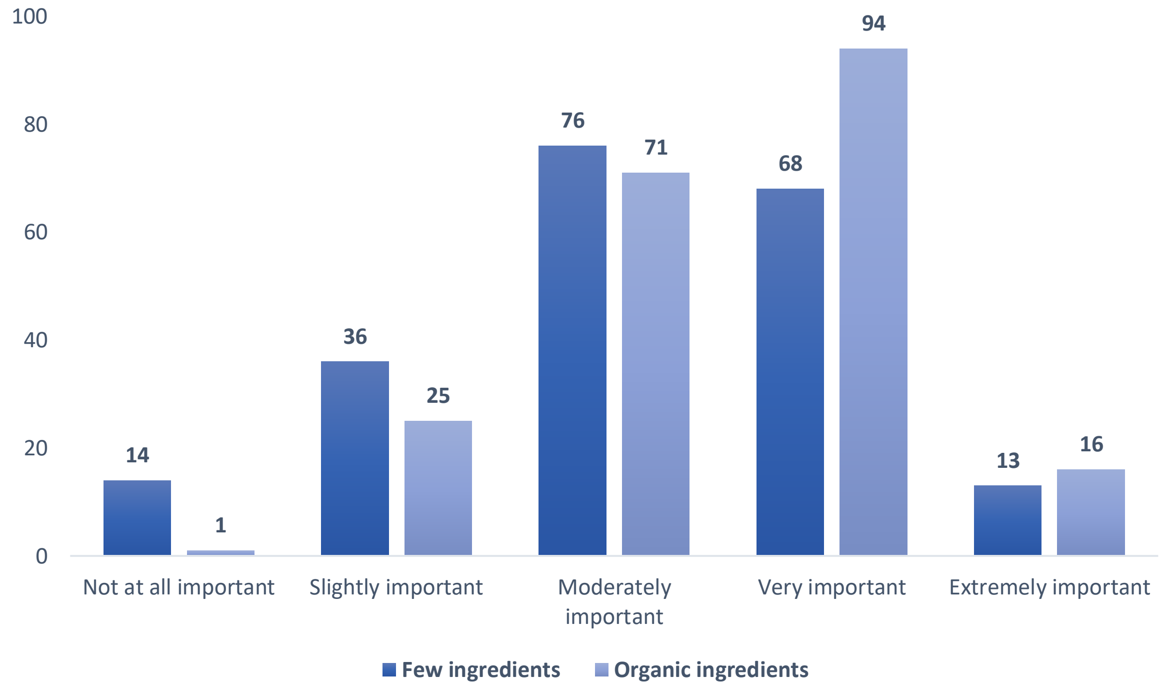
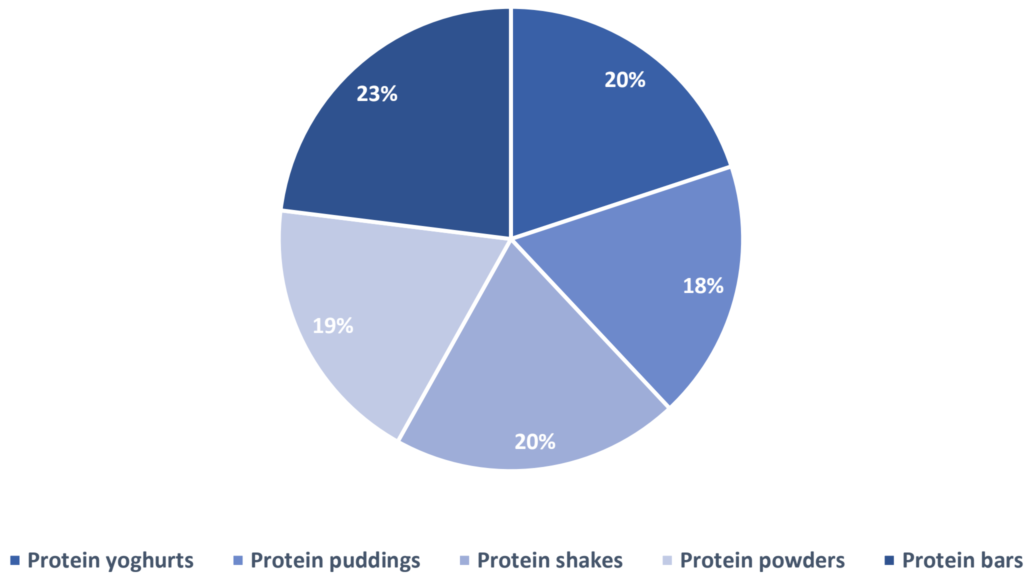


Figure 6: High protein product formats tried



Appendix 6: Sample survey for Asian-Pacific consumers

Personal questions

- Which age group do you fall into?
- With which gender do you identify the most with?
- What is your nationality?
- Where is your permanent residence?
- Which religious group do you identify with?
- What is the highest degree that you have achieved in your education?
- What is your income level?
- Do you have any dietary restrictions?
- Are those dietary restrictions self-imposed or based on an allergy/intolerance?

Personal health

- What associations do you have with the word “health”?
- Does healthy nutrition play a significant role in your life?
- Would you say that healthy nutrition improves the quality of your life?
- Do you check ingredient labels when doing your grocery shopping?
- If yes, on which types of products do you check ingredients?
- If yes, how important is it for you that products have minimal ingredients?
- If yes, how important is it for you that products have organic ingredients?
- Do you check whether a product is halal?
- Do you check whether a product is kosher?
- Do you look for vegan-friendly products?
- If yes, do you consciously source more vegan options due to any of the following factors (e.g., awareness about own health, animal welfare, environmental preservation, improvement of own fitness)?
- Have you ever tried products advertised as “high protein”?
- If yes, why?
- If yes, which ones?
- Do you frequently buy products advertised as “high protein”?
- Are you conscious about getting enough vitamins in your diet?

- If yes, do you use supplements to aid in that?
- Are supplements an important component of healthy nutrition for you?
- Which types of supplements are you using?
- For what purpose are you using those supplements?
- How often do you use supplements?
- What is your favorite supplement brand?
- Why are you buying your supplements from this particular brand?
- Do you prefer to purchase your supplements online or offline?
- If you prefer to buy offline, in which kind of stores do you buy your supplements?
- Through which channels are you mostly influenced to buy food?
- Do you feel that you are educated about healthy nutrition?
- Would you say that culture plays an important role in your food choices?

Health and fitness

- What associations do you have with the word "fitness"?
- How often do you engage in exercise per week?
- Do you think that supplements are necessary or beneficial to achieving your fitness goals?
- If yes, what types of supplements do you take for fitness?
- What formats of supplements do you prefer?
- Do you feel better or stronger when you take supplements?

Fresenius Kabi

- Have you ever heard of Fresenius Kabi?
- How have you heard of Fresenius Kabi?
- Have you ever used any of Fresenius Kabi's products?
- If yes, what was the purpose of their use?
- Where did you purchase Fresenius Kabi's products?
- Would you have rather bought them through other channels?
- Were you satisfied with the effect of the products?
- Would you buy products from Fresenius Kabi again?
- Would you recommend products from Fresenius Kabi to others?

- Do you perceive that Fresenius Kabi's products are priced fairly?
- Do you perceive Fresenius Kabi as a trust-worthy brand?
- Do you perceive Fresenius Kabi as a high-quality brand?
- Would you buy lifestyle supplements from Fresenius Kabi?
- Which kind of lifestyle supplements would you buy from Fresenius Kabi?
- What product flavors would you be interested in buying?
- What product types would you be interested in buying?
- What product formats would you be interested in buying?
- What would be the most important product characteristics in a supplement for you? (e.g., low sugar, high protein, natural ingredients)