



PROBIOTICS IN LATIN AMERICA: OPPORTUNITIES & CHALLENGES



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EXECUTIVE SUMMARY

Quarterra sees exciting opportunities for growth in the functional foods market. If properly approached, the functional foods market in Latin America will prove lucrative and rewarding for foreign investors.

By 2025, the Latin American probiotics market is expected to reach a value of \$7.73 billion (USD), growing at a rate of 6.74% per year. A huge opportunity exists for market entrants, but the reward for investment can only be attained if the acting entity is fully cognizant of the environment. Obstacles to success in these markets include the state of the varying legislation among Latin American countries and lack of consumer education.

To capitalize on the growth of functional foods and probiotics within Latin America, firms must monitor national and regional regulatory developments, focus on best-fit markets, clearly position products in the market, and employ a marketing strategy that balances health claims with direct education.



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PROBIOTICS AND THEIR ROLE AS A FUNCTIONAL FOOD

The human microbiome, or “the community of microorganisms that lives on us and in us” (National Center for Complementary and Integrative Health, n.d) is rich with good bacteria and yeast, known as probiotics. Intestinal probiotics provide numerous benefits to human health, many of which are just beginning to be understood. Probiotics offered on the consumer market may improve and promote microbiome health. As the potential of probiotics becomes ever more evident, their market presence only proliferates.

Purchasable probiotics include foods, beverages, dietary supplements, animal feed, and cosmetic products. For the purpose of this paper, however, we will refer to probiotics as a category of functional foods. Probiotic bacteria are believed to provide a myriad of health benefits, including aiding digestion, improving uptake of calcium, iron, and zinc, enhancing immune function, and eliminating disease-causing cells. They can promote overall gut health and help the gut recover from disruptions to its ecosystem, caused by events such as illness (National Center for Complementary and Integrative Health, n.d). In some cases, probiotics may even prevent specific sicknesses. Yet all these benefits are likely only the beginning of all that probiotics offer.

Despite the plethora of health benefits linked to probiotics, much more research must be done to fully understand the microorganisms. Many of the claims made about probiotics may be overstated. In fact, a recent report by the American Gastroenterological Association (AGA) asserts that there is not enough evidence to sufficiently support health claims linked to many strains of probiotics. At worst, potential negative effects exist. Infants and the elderly — groups with compromised immune systems and illnesses — may be at higher risk of suffering unintended consequences of probiotic

consumption (National Center for Complementary and Integrative Health, n.d). Because the probiotic market is largely unregulated, a lot of misinformation circulates, and unfortunately a lot of the information that reaches the consumer is poorly substantiated (Cortes, 2020).

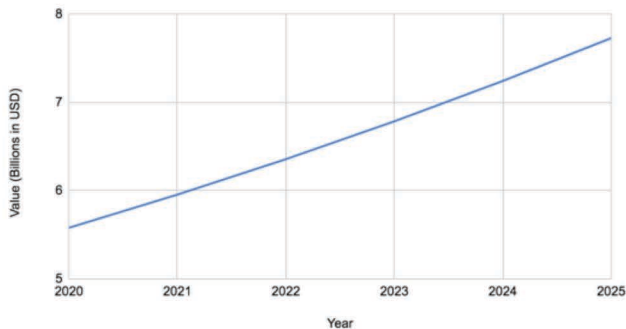
Nonetheless, despite concerns over the validity of claims made about probiotics, the microorganisms are widely available for consumer purchase. Purchasable probiotics are very similar to those naturally occurring in humans (National Center for Complementary and Integrative Health, n.d). The probiotics in these products can contain naturally occurring bacteria or the bacteria may be added during processing. Fermented and cultured dairy goods are very popular sources of probiotics. Other sources include miso, tempeh, and soy beverages (Harvard Medical School, 2014).

Probiotics found on the market may be made up of a variety of microorganisms including both bacteria and yeast. Bacteria belonging to the *Lactobacillus* and *Bifidobacterium* families are commonly used, along with the yeast *Saccharomyces boulardii*. Not all probiotics have the same health effects. For example, one strain of probiotics can be used to treat constipation while another can alleviate diarrhea. Because different probiotic strains affect the human microbiome differently, trademarking of proprietary strains can be considered part of a commercial strategy.

As a unique sales and marketing tool, a trademarked strain can offer a competitive advantage, but due to extreme lack of consumer education, it's key to invest time and effort into ensuring that a strain is well supported by science and its benefits well communicated.

OPPORTUNITIES FOR PROBIOTICS IN LATIN AMERICA

Projected Probiotic Market Growth in Latin America



YEAR	VALUE (USD)
2020	5,580,000,000
2021	5,956,092,000
2022	6,357,532,601
2023	6,786,030,298
2024	7,243,408,740
2025	7,730,000,000

Probiotics are popular, and the market for them is growing. Despite the overwhelming amount of information that is still unknown to industry, consumers find the purported benefits of probiotics quite compelling. Demand for probiotics has risen in parallel to worldwide health and wellness trends. By 2025, the global probiotic market is expected to be worth \$77.09 billion (USD) (Grand View Research, 2019). And between 2020 and 2025, sales of probiotics are expected to grow at an average annual rate of 7.1% (Mordor Intelligence, n.d)

On top of general health and wellness trends, dozens of drivers are propelling the probiotic industry forward. Innovation has further enabled growth. The development of superior strains and new delivery systems are the result of copious amounts of research development in several countries, including China, Japan, and India.

Factors driving global growth include:

- Increased attention toward preventive medicine (Mordor Intelligence, n.d), personalized nutrition, and weight management
- Growing consumer education on probiotics
- Demographic shifts including aging populations and a growing middle class
- Consumer demand for products in the health and wellness space
- COVID-19-prompted fear of illness, uncertainty, and desire for immunity

Although supply-side demand for vitamin and dietary supplements decreased slightly early in the COVID-19 pandemic due to the temporary shutdown of major distribution centers, the market for dietary supplements will likely soar in the wake of the crisis. Consumers could also have a greater interest in health, creating a prime environment for sales growth in immunity-oriented probiotic supplements (Cision PR Newswire, 2020).

Of the many ways to consume probiotics, functional foods and beverages — rather than dietary supplements — are favored by consumers and account for more than 80% of the market share of all probiotic products (GanedenBC30, 2018). Traditionally, dairy has been the most standard functional food form for probiotics, with yogurt being the most popular category within dairy. While opportunities to expand dairy offerings exist, through innovative items like probiotic ice cream and lactose-free dairy products, upcoming growth is expected to come from dairy alternatives and cereal-based fermented products (Grand View Research, 2019). Probiotic cereal-based products, such as pasta and pancakes, are newly possible with the usage of heat-stable spore

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forming bacteria (Williams, 2017). Furthermore, non-dairy products, such as juices, sports and energy beverages, and teas, are increasingly finding appeal as some consumers eliminate lactose from their diet (Nazhand et al., 2020). Between 2017 and 2022, this non-dairy beverage segment is predicted to grow at a compound annual growth rate of 9.6% (Shaikh, 2018).

While the probiotic market is growing across the world, the opportunities in Latin America are significant. Over the next five years (Market Data Forecast, 2019), the Latin American probiotics market is expected to grow by 6.74% per year, reaching a value of \$7.73 billion (USD) by 2025 (Market Data Forecast, 2019). At the moment, probiotic market growth is greatest in Brazil and Mexico. These two countries account for 70% of regional growth alone. In fact, Brazil's probiotic market, the largest and fastest-developing Latin American market, is expected to grow at an average annual rate of 11% through 2022 — nearly double the regional average and far greater than the global average. On the other hand, while Mexican probiotic use is actually quite low compared to other countries, an increasingly health-conscious population has primed the market for probiotic entry and expansion.

Throughout Latin America, recent consumer habits have primed the region for probiotic entry and explosion. Popular product categories for consumers in 2017 included laxatives and indigestion and heartburn remedies. Since probiotics have been linked to aiding with gastrointestinal health problems, a clear market opportunity exists for probiotics to benefit consumers who have yet to be reached (GanedenBC30, 2018). Furthermore, as Latin America's middle class grows, so does disposable income (GanedenBC30, 2018). Higher disposable incomes enable and invite increased spending on products in

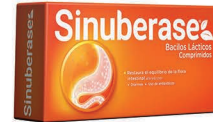
the functional foods category (Kotilainen, Rajalahti, Ragasa, & Pehu, 2006). Interestingly, physician recommendation is another unique driver for probiotic consumption in Latin America. Medical practitioners in Latin America are much more likely to actively recommend supplements than their colleagues in, for example, North America, where medical professionals customarily take a neutral position on supplementation.

The Latin American food and beverage probiotic market can be divided into four major categories: dairy products, non-dairy products, cereals, and dry foods (Panda & Shetty, 2018). Similar to what's occurring in the rest of the world, the non-dairy vehicle for probiotic products is becoming a more enticing market in Latin America. However, dairy is still performing very well, accounting for about 30% of 2018 revenues (Culliney, 2019b). Major food and beverage companies have begun to capitalize on the opportunities for probiotics in Latin America, including Nestle S.A., Danone, KeVita, Fonterra Co-operative Group, and Yakult Honsha (Mordor Intelligence, n.d). In Latin America, Yakult Honsha and Nestle S.A. are rapidly growing their presence.



PROBIOTIC PRODUCTS AVAILABLE IN LATIN AMERICA

BRAND	COMPANY	PRIMARY ACTIVE STRAIN	MARKET
Floratil	Biocodex	Saccharomyces boulardii CNCM I-745	Brazil/Mexico
Sinuberase	Sanofi	Bacillus clausii	Mexico
Bion Intime	Merck KGaA	Lactobacillus rhamnosus GR-1, Lactobacillus reuteri RC-14®	Chile
Activia	Danone	Bifidobacterium animalis lactis DN-173 010/CNCM I-2494.	Mexico
Regeneris	Alpina	Bifidobacterium lactis BB12	Colombia
Yakult	Yakult Honsha	Lactobacillus casei Shirota	Brazil



CHALLENGES IN THE PROBIOTIC MARKET

Operating in the Latin American probiotic market poses challenges, especially regarding varying regulation among countries and consumer knowledge. Despite geographic proximity, each Latin American country must be approached as a distinct entity. In every market, consumers hold different priorities and values, and the governments hold different definitions and regulations of probiotics. These incongruous dynamics make executing a business across the region difficult and the careful selection of countries in which to operate crucial. It's imperative that any company operating throughout Latin America understand these differences so that they can effectively allocate their resources.

Across Latin American countries, the same probiotic may be classified differently. Because of the product's makeup, form, and health claims, the probiotic may be classified as a drug, food, or a dietary supplement (Daniells, 2018). For the most part, the regulatory framework for food supplements has been developed exclusively on a national level, with little collaboration or communication across markets.

Within Latin America, countries themselves have pointed to the need for regulatory harmonization, starting among regional blocs, i.e., the Southern Common Market (MERCOSUR) and the Caribbean Community (CARICOM). Thus far, the majority of harmonization has been horizontal — meaning that regulatory consistency occurs at a very general level — including regulations around labeling and food additives. The main shortcoming of this approach to harmonization is that the regulations apply to food, and, depending on the nation, not all probiotics are considered food products. Thus, while a certain uniformity of regulation exists among some countries, it doesn't remain consistent throughout the separate levels of bureaucracy within the countries.

Taking a closer look, the differences between countries is excruciatingly nuanced. For example, in Argentina, probiotics are considered a food ingredient. A limited number of health claims may be made about these products, and these products must be authorized by the government before they can be sold. This process, although multifaceted, is considered “efficient” (Ereno, 2020).

Brazil's regulatory procedure has evolved over the years to become more clear. In 2018, Brazil's National Health Surveillance Agency declared dietary supplements its own category. Following this legislation, the government, in an effort to demonstrate its commitment to regulations, released a guidance document with questions and answers about the regulatory procedures for companies looking to enter the market. In Brazil, food supplements that contain probiotics must be pre-authorized before entering the market. The government permits products to contain certain ingredients, along with amounts of those ingredients, and specific claims that can be made about them. The document covers topics ranging from acceptable amounts of vitamin A, recommended daily values for the nutrition label, and the use of cryoprotectants (Culliney, 2019a).

Currently, Mexico does not recognize health claims associated with food supplements. However, a few claims can be made about ingredients used in food supplements but not about the supplements themselves. And while there are no guidelines for probiotic use in Mexico, a list of approved strains does exist. Regulations pertaining to food supplements are outlined by the Regulation on Sanitary Control of Products and Services (RCSPS).

CHALLENGES IN THE PROBIOTIC MARKET

Despite the obstacles probiotic regulation presents, much potential exists for probiotic growth in Latin American markets, if the industry can educate the consumer. The average consumer does not understand probiotics or the products containing probiotics. Some manufacturers are responsible for muddying the waters. Due to the restrictions placed on permitted health claims, some manufacturers add minerals and vitamins to probiotic products to achieve the health statements they want. However, doing so can mislead consumers and further confuse them about the benefits offered by probiotics. Without a clear understanding of probiotics and their benefits, consumers could look for alternative products that meet their needs, foregoing probiotics altogether (Cutler, 2019).

In addition, marketing must puncture the “probiotic umbrella.” The probiotic umbrella refers to the widespread practice of transferring the health claims associated with one strain to the health claims of all probiotics. Such an extension can hinder product differentiation and even be dangerous (Gray, 2018). Unexpected consequences can arise from generalizing between strains with respect to dose and duration of intake. Because there is so much to be learned about probiotics, many of these risks are still unknown (De Simone, 2018). Thus, consumption of an unexpected strain may pose an unforeseen risk to an unsuspecting consumer, especially if the consumer is a member of a vulnerable group.

For example, Danone has exclusive rights to *Bifidus regularis*, the trademarked name of *Bifidobacterium animalis* DN-173 010 in the United States. In Canada, Dannon uses B.L. Regularis. In the United Kingdom, the same strain is trademarked as *Bifidus Digestivum*. The strain, which has scientific backing to support that it promotes bowel regularity, is used in Dannon’s Activia products (Harvard Medical School, 2014). However, in 2018, a U.S citizen filed a class action lawsuit against Dannon. The accuser claimed that Dannon overextended the laboratory results in its marketing, which misled consumers (GI Society, 2010).

The task of raising consumer consciousness about probiotics cannot be done without acknowledging the setbacks created by restrictions on the type of health claims that legally can be made. Therefore, both obstacles to market success must be addressed together.



RECOMMENDATIONS FOR ACHIEVING SUCCESS WITH PROBIOTICS IN LATIN AMERICA

Maneuvering Latin America's probiotic markets can be difficult. To be an effective player, entities must consider both varying regulations and the consumer. A few key considerations can set the stage for success.

1. Monitor national and regional regulatory developments
2. Focus on the best-fit market
3. Clearly position products in the market
4. Employ a marketing strategy that balances health claims with direct education

MONITOR NATIONAL AND REGIONAL REGULATORY DEVELOPMENTS

Entities operating in the probiotic space must monitor both national and regional regulatory changes and developments. Due to the rapidly changing regulatory dynamics within countries, regions, and between regional blocs, foreign firms must closely watch multiple levels of regulatory developments. To ensure compliance with current rules, in-house or contracted regulatory experts can be employed to stay abreast of regulatory changes.

Successful entities will be those with strategies that target markets based on a favorable regulatory climate and framework for probiotic products, rather than basing market merit solely on the size of the population or probiotic market (Ereno, 2020).

FOCUS ON THE BEST-FIT MARKET

Each market in Latin America behaves differently. For this reason, firms must select the market that best aligns with its goals.

A firm with ambitions to expand across the region should consider investing in markets that are early proponents of harmonization. This will allow for greater operational ease down the line. Firms with this strategy should consider investing in progressive markets like Argentina. Argentina, for example, is spearheading the movement for regulation harmonization, through which policymakers are pushing for a probiotics standard. Lobbying should help carry this movement forward. In the meantime, though, it is key to take note of which countries are pushing for harmonization. Focusing on the early harmonizers will provide an ideal group of countries to enter, since the cost of switching operations among countries will be easier.

Firms looking to quickly achieve a high volume of sales in an individual market should focus on the region's largest markets. Brazil is an excellent candidate for firms with this strategy. In 2018, Brazil accounted for 52% of Latin America's probiotic revenues (Panda & Shetty, 2018). Despite being the center of growth in Latin America, the Brazilian market struggles with a lack of consumer awareness. To effectively tap into Brazil's market potential, a probiotic company must be prepared to understand, educate, and market to the consumer.

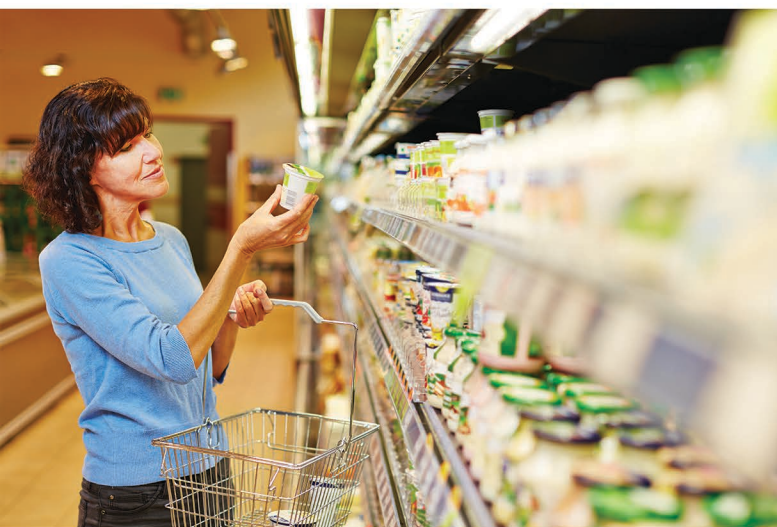
Each Latin American market has its own flavor and offers advantages and disadvantages. To be successful in the region's probiotic market, it is critical that a firm fully understands the profile of each market and selects a strategy that reflects the firm's capabilities.

RECOMMENDATIONS FOR ACHIEVING SUCCESS WITH PROBIOTICS IN LATIN AMERICA

CLEARLY POSITION PRODUCTS IN THE MARKET

Products with effective market positioning will both convey a clear and substantiated benefit from the strains selected and be offered in an array of packaging.

Because the populations of Latin American countries are becoming increasingly health conscious, clear positioning on the health benefits of certain probiotic strains can be an effective way to position these products with prospective consumers. Frequent colds, eye health, obesity, stress, and sleep problems rank high among Latin American consumers' concerns, creating an important opportunity for probiotic products.



Understanding how different Latin American consumer segments view probiotics and their benefits is also essential to proper product positioning. Age, gender, and culture, among other factors affect consumer values and drive their needs.

EMPLOY A MARKETING STRATEGY THAT BALANCES HEALTH CLAIMS WITH DIRECT EDUCATION

The best approach to educate the consumer mixes prioritizing health claims with direct education (Cutler, 2019). Consumers must be made aware that probiotics are not only used to treat but also can be used to prevent, and that incorporating probiotics into daily diets can have many benefits for human health. Many people are not aware of these benefits (like the lack of good bacteria in the human microbiome), so they cannot accurately assess the healing properties of probiotics. A message like this will go far with younger generations (Cutler, 2019).

Consumers are overwhelmed with information, making it difficult for them to distinguish between what's true and what's false. An amalgamation of scientific information and journalistic sensationalism makes this task even more difficult. Therefore, educating the consumer can make your product stand out. Trademarking a strain can boost efforts to differentiate your product, because it puts the trademark owner in greater control of how consumers perceive the product.



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