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The impact of the regulatory context in Internationalization strategies of firms. The case of TIM in Brazil.

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Indroduction

In today's increasingly interconnected global economy, the internationalization of businesses has emerged as not just a strategic advantage but a critical necessity for enterprises seeking to expand their market reach, optimize resources, and maintain a competitive edge. Internationalization refers to the process by which companies extend their operations beyond their domestic borders, often in search of new markets, cost efficiencies, or strategic partnerships. For industries like telecommunications, where technological advancements are continuously reshaping the landscape, the ability to operate on a global scale has become an essential part of sustaining long-term growth and innovation.

The push toward internationalization is driven by various factors: saturated home markets, the opportunity to diversify risk across different geographies, and access to new customer bases and resources. Historically, global expansion has been a hallmark of corporate success, dating back to the early multinational enterprises of the 18th century. Today, however, internationalization is far more complex, requiring companies to carefully navigate the diverse economic, political, and regulatory environments of their target markets. Moreover, it demands a keen understanding of local cultures and consumer behavior to ensure successful market entry and long-term operational success.

One sector where internationalization has played a particularly transformative role is telecommunications. The telecommunications industry is not only integral to the global economy but also serves as the backbone of digital transformation across industries. The ability to provide seamless communication services, internet access, and innovative technological solutions across multiple countries is now a crucial competitive factor for telecom companies. As these firms expand into new regions, they face unique challenges, including compliance with local regulations, adapting to infrastructure limitations, and managing cultural and operational differences. At the same time, they encounter significant opportunities for growth, particularly in emerging markets where technological advancements, such as 5G, are rapidly transforming connectivity and consumer expectations.

Brazil, as one of the largest and most dynamic telecommunications markets in Latin America, offers a prime example of both the opportunities and challenges associated with internationalization in this sector. With a rapidly growing population that increasingly demands mobile connectivity, broadband services, and digital solutions, Brazil has become a critical market for global telecom players. However, the Brazilian market also presents formidable obstacles, such as stringent regulatory requirements, economic volatility, and intense competition from both local and international players.

This document focuses on the case of Telecom Italia's expansion into Brazil through its subsidiary, TIM Brazil. As one of the key players in the Brazilian telecommunications market, TIM Brazil's journey illustrates the broader trends of internationalization in emerging markets. The document explores the various phases of TIM's internationalization strategy, beginning with its market entry into Brazil, the development of strategic partnerships, investments in infrastructure, and the adaptation to the country's unique regulatory environment. Additionally, it analyzes the risks and rewards of operating in a market like Brazil, highlighting TIM's efforts to navigate these challenges and capitalize on the opportunities presented by the rapid digitization of the country.

Moreover, the document delves into the technological and regulatory developments shaping the future of the telecommunications industry in Brazil, with a particular focus on TIM's role in spearheading innovations such as 5G. By examining TIM's strategies and outcomes, this study provides valuable insights into the broader dynamics of international business in emerging markets, where the interplay of regulation, competition, and technological evolution creates a highly competitive and dynamic business environment.

The case of TIM Brazil serves as a window into the larger global forces driving the internationalization of businesses in the telecommunications sector. It not only offers lessons for companies looking to expand into emerging markets but also sheds light on the critical role that innovation and strategic adaptability play in sustaining success in a rapidly evolving industry.

CHAPTER I

The internationalization process of the enterprise

Modern enterprises are called upon to operate in a market context that knows no borders, a system in which global dynamics influence every aspect of business activities. In this unprecedented era of interconnection, the internationalization of businesses is not a recently invented phenomenon but a process with ancient historical roots, dating back at least to the Enlightenment period[1]. Economic history teaches us that expansion beyond national borders has always been a key component of commercial progress.

Business internationalization is a strategic process through which a company expands beyond national borders, seeking to penetrate new foreign markets and establishing relationships with other companies, consumers, and institutions in these territories. This process is not limited to simply exporting goods and services, but encompasses a range of activities that may include manufacturing abroad, purchasing raw materials from international suppliers, and establishing strategic alliances with foreign partners[2]. Companies undertake internationalization for a variety of reasons, including market expansion to find new customers and increase their revenue base, risk diversification to reduce dependence on a single domestic market, especially in saturated or distressed economic environments, access to resources to obtain raw materials, technologies, or know-how that may not be available in the domestic market, and improving competitiveness through access to larger markets and growth opportunities. Internationalization is a complex process that requires strategic planning and comprises mainly three steps: market analysis to assess foreign markets and identify opportunities and risks; creation of an internationalization plan that outlines objectives, resources needed, and ways to enter new markets; and implementation of international activities, which may include exporting, setting up subsidiaries or joint ventures. Thus, internationalization represents a significant opportunity for businesses to grow and prosper in a global context, but it requires a well-planned and strategic approach to address the challenges associated with this process.

[1] Fernandes, C., Veiga, P. M., & Gerschewski, S. (2023). SME internationalisation: past, present and future trends. *Journal of Organizational Change Management*, *36*(1), 144-161.
[2] Caroli, M. G. (2000). *Globalizzazione e localizzazione dell'impresa internazionalizzata* (Vol. 48). FrancoAngeli.

The shift from a local market to a global context requires careful strategic planning and a deep understanding of the concept of strategy, which has its origins in the strategic military thought of the past. Within this framework, strategy is seen as the art of orchestrating and directing complex operations to achieve the most favorable results with the minimum dispersion of resources.

The internationalization process of a company is not limited to expanding sales into new markets but also includes the global sourcing of raw materials, technology, equipment, and sometimes even financial and human resources. This extension of business activities across borders entails a strategic and structural internal reorganization that must be guided by a comprehensive vision of the market and the ability to seize emerging opportunities in various geographies.

In this landscape, technology, and in particular ICT, has played a crucial role in facilitating internationalization, making communication and the management of businesses with geographically distributed presences simpler and more immediate.

At the same time, logistics has undergone a radical transformation, with significantly reduced costs and the emergence of global logistics companies that provide efficient services and minimize errors through automation and computerization[3]. These logistical improvements have made the international flow of goods smoother, a key factor in opening markets and expanding commercial exchanges.

Therefore, internationalization should not be regarded simply as an exercise in exporting but rather as the development of a true global presence that leverages the most advantageous conditions in various markets for sourcing and selling. Companies that do not pursue an international strategy find their growth limited and are exposed to the invasion of foreign competitors, lacking a support network to fall back on during times of economic turbulence.

1.Causes behind the internationalization process

In recent years, internationalization has emerged as a significant opportunity for business expansion and development. For modern companies, internationalization is no longer merely

[3] Melin, L. (1992). Internationalization as a strategy process. *Strategic management journal*, *13*(S2), 99-118.

an option to expand their reference market or acquire new customers; it has become a crucial challenge, essential for the survival of the company itself. According to Melin (1992), internationalization should be seen as a dynamic strategy process, where companies must continually adapt to the changing international environment[4].

With the onset of globalization and the digital revolution, there has been a gradual increase in competition, compelling companies to compete not only with national players but also with international ones. In a market environment where domestic firms are constantly challenged by foreign enterprises, often characterized by significantly lower labor costs and cheaper access to raw materials, there is an escalation in competition that reduces prices and profitability. This drives companies to seek new sources of competitive advantage.

The motivations behind internationalization can be classified into intrinsic, extrinsic, and mixed motives. Intrinsic motives are driven by efficiency gains and resource exploitation, such as accessing cheaper labor markets or leveraging location-specific advantages. Extrinsic motives, on the other hand, are often influenced by external pressures, such as political interventions or economic policies that either facilitate or compel international expansion. For instance, regulatory changes, trade liberalization, or the establishment of free trade zones can act as strong extrinsic motivators.

Internationalization is also characterized by a series of stages, where companies might start with exporting and move to more integrated forms of market presence like foreign direct investments. This staged approach allows firms to gradually build their capabilities and reduce the risks associated with international ventures.

Companies often find that regional expansion strategies are more feasible and realistic compared to global ones. This is because regional strategies allow firms to operate in environments that are culturally and institutionally similar to their home markets, reducing the barriers to entry. Advances in regionalism, such as the formation of NAFTA or the stages of European integration, have provided stronger motivational triggers for sustained internationalization than globalization alone.

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[4] Melin, L. (1992). Internationalization as a strategy process. *Strategic management journal*, *13*(S2), 101

Acquisitions are increasingly becoming a preferred mode of entry into foreign markets. This approach enables companies to bypass intermediate stages of internationalization and gain immediate market presence and operational capabilities.

Therefore, operating in foreign markets has become not just an option, but a necessity. Another driving force behind the move toward internationalization is the need to respond to a slowdown in the domestic market by seeking out new, more advantageous markets with greater growth potential, rather than just facing national competition. Studies have shown that companies active in foreign markets achieve better results in terms of competitiveness and business volume growth even in their home market[5].

Penetrating foreign markets allows a company to reap significant benefits, including:

i. **Increased Revenue**: Facilitated by the expansion of the market from national/regional to international/global dimensions.
ii. **Reduced Business Risk**: Diversifying into multiple markets helps companies better manage potential crises, reducing reliance on individual markets and increasing the chances of overcoming periods of crisis or recession.
iii. **Overcoming Product Seasonality**: Achieved through market diversification.
iv. **Extending the Product Lifecycle**: A product considered obsolete in the domestic market may still be innovative and meet consumer needs in less developed contexts.
v. **Decreased Fixed Costs**: Realized through exports and large-scale production, leading to a reduction in fixed costs for the company.
vi. **Economies of Scale**: As activity in foreign markets becomes more significant, the company can begin an exponential growth process in size, gaining access to new financial and other resources, and exploiting cost advantages related to scale.
vii. **Increased Company Profitability**: If sales in foreign markets do not overly affect fixed costs, they contribute to increasing profits and profitability.
viii. **New Knowledge and Know-How**: Expanding the company's boundaries beyond the domestic market provides access to innovative knowledge and skills usable in both domestic and foreign markets.

[5] Van Tulder, R. (2015). *Getting all motives right: A holistic approach to internationalization motives of companies*. Rotterdam School of Management, Erasmus University. 36-56

ix. **Contractual Power**: A foreign presence enhances the company's image, leading to increased contractual power with suppliers, banks, etc.
x. **Competitive Advantage in the Domestic Market**: Skills acquired in foreign markets can also be used domestically to gain a competitive edge over local firms.
xi. **Sourcing**: Access to various markets allows for a broader choice of supply sources.
xii. **Branding**: A brand successful internationally will gain more success domestically due to increased visibility, customer loyalty, and advertising.
xiii. **Greater Efficiency**: The experience of international competition demands maximum efficiency, raising the barriers to entry for foreign players in the domestic market[6].

Internationalization should be viewed as an evolving strategic process, driven by a mix of intrinsic and extrinsic motivations, and shaped by both internal capabilities and external market conditions. This dynamic approach allows companies to continuously adapt and thrive in the complex global market environment.

2.Theories and Models on internationalization

As the shift from international trade to international investments progressed, and globalization intensified, numerous researchers have endeavored to elucidate the decision-making processes involved by developing various models. This section will delve into the analysis of major theories explaining the processes and reasons behind the internationalization and internalization of foreign investment choices. While initial research was strictly based on economic aspects, ignoring any entrepreneurial and strategic context, such decisions are in fact strategic, enabling firms to enhance their profitability. Strategy is scrutinized both from a geographical perspective—deciding on which markets to invest—and from an organizational standpoint—determining how to enter these new markets. The goal is to achieve localization economies, scale economies, and experience economies by expanding one's market; however, this is constrained by the need for product differentiation, distribution channels, marketing strategies, or varying regulations required by each nation. This framework is further contextualized by analyses concerning uncertainty and risk. It is essential, however, to emphasize that it is inaccurate to generalize these analyses: each enterprise is the outcome of

[6] Melin, L. (1992). Internationalization as a strategy process. *Strategic management journal*, *13*(S2), 109

its resources (Resource Based View, RBV) and its historical trajectory, crafting bespoke decisions to capitalize on the unique features that distinguish it. Over the decades, theories have evolved to keep pace with the increasing spread of globalization; initially, two main perspectives emerge: an economic approach and a behavioral approach. Subsequently, the most significant theories are examined.

2.1 Hymer's Industrial-Economic Theory

The movement against the purely macroeconomic approach based on the simple flow of capital between independent counterparties was elaborated by Stephen Hymer in his 1960 doctoral dissertation[7]. Hymer addresses the problem of determining when firms prefer to make direct investments abroad aimed at local production, rather than continuing to export products manufactured in the home country. In 1960, Hymer was the first to develop a theory of internationalization by tracing it back to business activity and no longer to international flows of goods and capital. He realized that it is precisely the characteristics of the enterprise itself that determine the process of expansion abroad.

Hymer, through his theory, follows the development process of an enterprise according to which, initially, it will tend to increase its size by operating only in its domestic reference context. The goal will be to increase profits. When the firm realizes that its local production has reached saturation levels, the only way it will expand will be to use the revenues earned to implement investments outside its national borders, thus seeking to increase its market power[8].

Hymer's model focuses on the firm rather than the individual product. He starts from the observation that traditional neoclassical theory does not explain the existence of reciprocal investment between advanced countries; therefore, he looks for the determinants of the internationalization process in the characteristics of the firm. The economist assigns to the firm the goal of increasing its market power and market share, since the latter is associated with a higher rate of return on investment than its competitors.

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[7] Hymer S.H., (1960), *The International Operations of National Firms: A Study of Direct Investment*. MIT PhD Thesis, published by MIT Press, Cambridge.
[8] Dunning, J., & Rugman, A. (1985). *The influence of Hymer's dissertation on the theory of foreign direct investment*. American Economic Review, 75(2), 228-232.

The ability to increase the share held is linked to the ability to erect and maintain barriers to entry that discourage new entrants and coercively force less efficient producers out of the market. These barriers can be related to the possession of various competitive advantages, including technological control, economies of scale, brand recognition, knowledge and skill assets, and control of distribution channels.

Hymer explains the factors that enable a company to develop its efficiency regarding the market shares achieved and the motivations that enable it to overcome the risks involved in a foreign expansion operation (uncertainty in the market, regulatory barriers, difficulties with economic operators, etc.). He argues that the phenomenon of internationalization occurs in an environment where market imperfections are present, that is, factors that prevent the market from functioning perfectly.

Hymer's theory is based on market imperfections, which better represent reality than previous frictionless theories of competition and transaction costs[9]. Multinational corporations arise to overcome this obstacle through a strategic choice to minimize risk. Hymer bases his work by recognizing only structural imperfections such as economies of scale, diversification, and distribution networks. Regarding diversification, he suggests that profits in one nation may be negatively correlated with profits in another nation, and thus diversification in each state provides greater stability.

In analyzing this imperfect scenario, several elements emerge that induce the firm to expand abroad, among them the cost and differentiation advantages the firm has in its own country and the possibility of exploiting them by operating in the international market, especially when demand in the local market is declining or stable. The firm may possess strong advantages such as brand reputation, a favorable condition in financial markets, or the possession of specialized skills developed over the years that it can exploit to expand and gain competitive advantages.

For Hymer, it is random elements that determine whether firms have different capabilities such as the distribution of capabilities or an entirely fortuitous discovery of entrepreneurial formulas or natural resources in the area. From this we can derive that from the different distribution of advantages among states comes the different scale of international operations undertaken by

[9] C. Demattè, F. Peretti, E. Marafioti, (2013). *Strategie di Internazionalizzazione*, Egea, Cap 1.2

firms[10]. We must also point out that, according to Hymer's thinking, the decision-making process of a business, like the decisions made by a manager, will also determine the advantage of a particular nation positively or negatively.

Thus, Hymer applied the strategy to foreign direct investment (FDI): foreign investment has become a key player in what is no longer just a process, but an active role in controlling activities outside national borders with related transfer of technology and knowledge, while retaining ownership rights. His theory of business internationalization is an integral part of a firm's growth process, determined by historical variables and distinctive competitive advantages.

The structural imperfections identified by Hymer are internal, implying that strategic actions developed by multinational enterprises (MNEs) may not be efficient. They are incomplete due to the cognitive imperfections of transaction costs, leading to the internalization of investments and increased efficiency[11]. It was Williamson[12] who first developed the transaction cost analysis (TCA) based on Coase's studies. Coase argued that it is more cost-effective to internalize an activity as long as the organizational costs incurred are lower than the costs of conducting an operation through the market[13]. Williamson further posits that when transaction costs exceed a certain internal hierarchical threshold, it becomes more advantageous for a multinational to fully integrate the activity.

Within this framework, it is crucial to define transition costs, including both ex-ante and ex-post costs. These encompass costs associated with research (which especially increase when exploring new markets), negotiation, opportunism, bounded rationality, uncertainty, and control. As these costs rise, vertical integration becomes more favorable. However, there are limits to growth due to increased internal information distortions and bureaucracy[14]. Additionally, the lack of resources and knowledge is a significant driver of internationalization, making the model incomplete.

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[10] Horaguchi, H., & Toyne, B. (1990). *Setting the record straight: Hymer, internationalization theory and transaction cost economics*. Journal of International Business Studies, 21(3), 487-494.
[11] Bain, J. S. (1956). *Barriers to new competition: their character and consequences in manufacturing industries.* Harvard University Press.
[12] O'Brien, D. (1976). Markets and hierarchies: Analysis and antitrust implications (Book review). Economic Journal, 86(343), 619-621.
[13] Coase, R. (1937). *The nature of the firm*, Economica, 4 (16), 386–405
[14] Op. Cit. O'Brien, 1976

Therefore, the transaction cost theory emphasizes the importance of managing and minimizing inefficiencies within multinational operations. By understanding and optimizing these costs, MNEs can better strategize their global operations, potentially overcoming barriers that hinder expansion and efficiency in international markets. This strategic approach, while focusing on minimizing transaction costs, also requires firms to be adaptable and responsive to the dynamic and often unpredictable nature of global markets.

2.2 The product life cycle

In the landscape of business internationalization studies of the 1960s, Raymond Vernon stands out as one of the leading scholars with a model based on the close relationship between business expansion of firms, the product life cycle and the characteristics of the countries involved. Vernon's theory, developed in 1966, is based on the well-known concept of the “product life cycle”[15], identifying a specific and unique mechanism for the international growth of innovative firms and a particular direction of international trade flows. The central idea is that there is a close relationship between the product life cycle, typical country characteristics and the international expansion of firms.

The product life cycle, according to Vernon, consists of four successive stages: introduction, growth, maturity and decline. These stages correspond, respectively, to introduction into the domestic market, preparation for export, production abroad, competition in export markets and the domestic market with imports, or, alternatively, total abandonment of the market for the product in question. The dynamics of these stages describe the typical path of a technologically new product and its evolution in international markets.

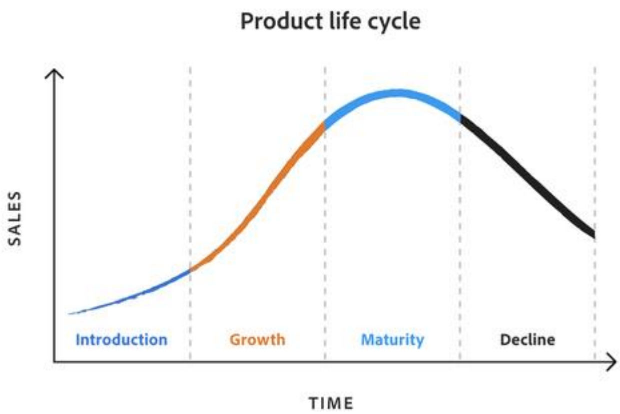
Introduction - at this stage, the product is entirely new and not yet standardized, so the company markets it only in its local market. Prices are still high and the enterprise tries to be as flexible as possible, experimenting with various models and trying to understand which one has the most demand in the market. Being able to communicate the presence of the new product in the local market and defend against possible imitators is crucial.

[15] Vernon, R., (1966). *International investment and international trade in the product cycle*.Quarterly Journal of Economics, 80 (2), 190-207.

Growth - if the product is successful, it begins to establish itself in the local market, leading to more standardized production and cost reduction through large-scale diffusion. At this time, the enterprise may seek opportunities in foreign markets, including offering differentiation of different versions of the product. The enterprise initially moves by exporting and only then installs production units abroad to lower production costs.

Maturity - the main goal at this stage is to lower production costs to continue to grow the profitability of the product, which is now mature and standardized. Other goals include exporting process technologies to eliminate exports and investing in downstream stages such as marketing, service and after-sales.

Decline - at this stage, the product has reached its peak technologically and faces competition from new entrants that imitate the product. Demand for the product becomes stable or declining. The enterprise, in order to survive the competition, concentrates production in developing countries where production costs are significantly lower. At this point, the firm can choose to produce a new product following the process just described or leave the market.



The model has been a significant contributor to explaining the international development and growth of firms. However, it has also received criticism, being considered a product of its time and neglecting the role of local resources[16]. For example, Vernon's approach has been superseded by other studies that emphasize increasing interdependence of processes, such as Dunning's eclectic paradigm.

[16] C. Demattè, F. Peretti, E. Marafioti, (2013). *Strategie di Internazionalizzazione*, Egea, Cap 1.2

Vernon's model differs from other theories of internationalization, such as Hymer's, which focus on market imperfections and the competitive advantages of multinational firms. While Hymer emphasizes the characteristics of the firm and its ability to erect barriers to entry to increase market power, Vernon focuses primarily on the product and its inherent characteristics through the different stages of the life cycle.

Raymond Vernon's product life cycle theory, therefore, provided a useful framework for understanding the dynamics of business internationalization. Although it has limitations, such as a lack of attention to local resources and a focus on the product rather than the firm, the model remains an important contribution to the internationalization literature. Both Hymer and Vernon's theories represent complementary ways of viewing internationalization, emphasizing the importance of firm and product characteristics, respectively.

2.3 Dunning's eclectic paradigm

Various theories of business internationalization have emerged since 1960. Among them, one of the most influential was proposed by John Dunning in 1981, known as the Eclectic Paradigm[17]. This theory extends the analysis of the determinants of internationalization by including localization variables to better explain firms' choices to invest outside their national borders.

Dunning's Eclectic Paradigm is an analytical framework that seeks to explain the motives and localization choices that drive a firm to go international. The paradigm is based on three key elements, known as OLIs, which represent ownership advantages (Ownership advantages), internalization advantages (Internalization advantages) and location advantages (Location advantages), respectively[18]:

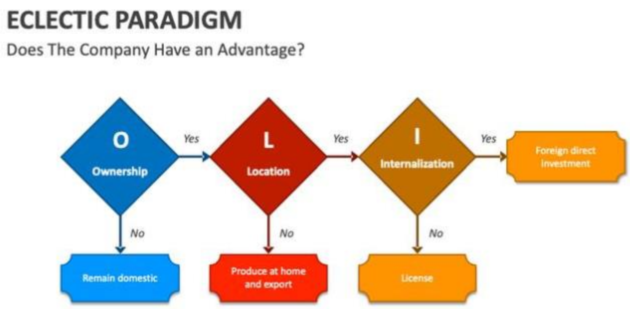
Ownership Advantages (O) - These advantages refer to the tangible and intangible assets possessed by the enterprise, such as specific resources, unique skills, advanced technology, organizational capabilities, and management capabilities. These advantages give the enterprise a distinct competitive advantage over local enterprises in the destination country. The ability to

[17] Dunning, J., (1980). *Explaining Changing Patterns of International Production: In Defense of the Eclectic Theory.* Oxford Bulletin of Economics and Statistics, 41 (4), 269-295.
[18] Op. Cit Dunning, J., 1980

transfer these advantages at low cost across national borders is critical to successful internationalization.

Internalization Advantages (I) - Internalization advantages explain why a firm decides to manage its international operations internally, rather than through licensing agreements or external contracts. Managing activities internally allows the firm to maintain control over its competitive advantages, reduce transaction costs, and protect itself from risks such as business partner opportunism and regulatory uncertainties.

Location Advantages (L) - Location advantages refer to the specific characteristics of the country in which the firm decides to invest. These advantages may include the lower cost of inputs (such as labor and raw materials), the availability of infrastructure, the presence of efficient transportation systems, a high level of workforce education, and favorable economic and political conditions. Dunning analyzes how country-specific characteristics influence net competitive advantage, favoring large firms able to benefit from economies of scale and government conditions that influence the training of skilled workers.



A critical aspect of the Eclectic Paradigm is the importance of localization variables that influence firms' decision to expand internationally[19]. Dunning points out that location choice is not static and can vary over time and according to specific market conditions. Elements of localization advantage can be closely related to internalization motives, such as a firm's preference to incorporate an activity into the value chain to prevent regulatory acts or reduce transaction and negotiation costs.

[19] Dunning J.H., (1992), *Addison-Wesley Multinational Enterprises and the Global Economy*, Addison-Wesley.

Dunning also introduces the concept of the Investment Development Path (IDP), or investment development cycle[20]. According to this model, a nation goes through different stages of economic development that influence its attractiveness for foreign investment. Initially, a nation is in a pre-industrialization stage, unattractive to foreign investment due to a lack of location advantages. However, with the development of an efficient legal system, adequate infrastructure and communications, and a skilled workforce, the attractiveness of location increases and local businesses also benefit.

Despite its wide acceptance, Dunning's Eclectic Paradigm has received some criticism. One limitation of Hymer's model, which Dunning seeks to address, is the lack of consideration of geographic location advantages. However, Dunning's paradigm has also been criticized for its applicability to dynamic and changing markets. Although the paradigm provides a useful framework for understanding internationalization decisions, relying solely on available resources can be reductive in a highly competitive and rapidly changing global market environment.

To sum up, John Dunning's Eclectic Paradigm is a significant contribution to understanding the internationalization processes of firms. By integrating the advantages of ownership, internalization and localization, the paradigm offers a comprehensive view of the motivations and choices of firms expanding across national borders. Despite some limitations, Dunning's model remains a cornerstone in the internationalization literature, offering a solid foundation for further research and practical applications.

2.4 Theory of Internationalization

In the 1970s Buckley and Casson[21] confirmed that multinationals benefit from internalization only in the presence of market imperfections: if the market is a perfect system, however, there is no reason to adopt a more centralized form to which higher costs are attached. They therefore identify five types of imperfections in the presence of which it is preferable to incorporate the activity into one's value chain. The first cause is delays present in contractual relationships between independent parties, and so the market needs to have short- and long-term contracts,

[20] Dunning, J., (2001), *The Eclectic (OLI) Paradigm of International Production: Past, Present and Future.* International Journal of the Economics of Business, 8 (2), 173-190.
[21] Buckley, P. J., & Casson, M. C. (1976). The future of of the multinational enterprise. Holmes & Meier, 32-65

but may lack the futures market. Second, a monopolist has incentive to integrate activities to implement price discrimination by increasing its profit. Third, there are costs related to trading, uncertainty and information asymmetry (fourth type). Finally, a fifth reason concerns the ad valorem taxation and tariffs that states might levy on external transactions. In later studies, however, due to greater volatility in global markets, Buckley and Casson (2010) favor more dynamic models based on the need for flexibility, cooperation, and expertise. In particular, flexibility is key, as it is the ability to reallocate resources quickly and fluently in response to increasing changes. Also with flexibility in mind, as opposed to previous models, they discourage vertical integration but prefer contractual horizontal growth. This is also to encourage innovation, technology and research and development. As the latter are growing phenomena, they quickly become obsolete, therefore, their constant financing is prohibitive, but becomes bearable through alliances. Costs also rise because of frequent changes in strategies, and that is why being flexible is an important factor, which again results in preferences for licensing rather than risky internalizations. In fact, the scholars recognize greater flexibility to FDI in high-growth situations because they are able to receive information earlier and bear lower costs of expansion than those who decide to evolve into FDI later; while they recognize greater flexibility to exports in case of decline. Therefore, the optimal situation according to their studies would be 50-50 partnership with a host company so that they can buy it in cases of strong growth, but at the same time share the risk with it. However, this implies trust between the parties and this is a disadvantage. For the two scholars, the winning choice is to combine such an ownership strategy with a location strategy that involves creating a distribution center involving multiple neighboring nations so as not to increase transportation costs excessively, but at the same time be flexible to change markets if others are declining[22].

2.5 Uppsala Model

The Uppsala Model is one of the most influential theories explaining the internationalization process of firms. Developed by Swedish researchers in the 1970s, it proposes that companies typically internationalize gradually, starting with exporting to nearby markets and then incrementally increasing their commitment as they gain experience and knowledge of foreign

[22] Buckley, P., & Casson, M. (2010). The multinational enterprise revisited: The essential Buckley and Casson. Palgrave Macmillan. pp. 68-95, 147-176.

markets. The model is based on four key concepts: market knowledge, market commitment, commitment decisions, and current activities. It assumes that lack of knowledge is the major obstacle to internationalization, so firms should enter new markets cautiously and increase their commitment in stages as they acquire experiential knowledge. The Uppsala Model has been influential in international business research, but has also been critiqued and updated over the years as the global business environment has evolved[23].

In the 1970s, new studies were based on a behavioral approach in which the protagonists were the enterprise as a rational entity and its evolutionary path in incremental and successive stages characterized by an increasing level of commitment and experience. This theory was developed by researchers at Sweden's Uppsala University from a study of a number of Swedish manufacturing firms that expanded their operating boundaries in small steps rather than through a single foreign investment[24]. Lack of knowledge of markets, lack of resources and uncertainty are the obstacles underlying the decision-making process in internationalization operations. Knowledge and perceived risk are inversely correlated: as knowledge and thus experience (learning by doing) increases, the perception of risk decreases with the consequent increase in firm involvement. The incremental decision is chosen if the existing market risk is less than the maximum risk tolerable by the firm. Since the existing market risk situation results from the product between existing market commitment and existing market uncertainty, it is evident that experience, by reducing the perception of risk, is able to change the incremental decision[25].

The process occurs slowly and sequentially, starting with fairly similar markets and moving to markets with greater physical distance once the necessary knowledge has been acquired. The stages are identified by Johanson and Wiedersheim-Paul, who specifically distinguish four stages by calling the whole process the "establishment chain"[26]. Of course, not all enterprises

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[23] Johanson, J., & Vahlne, J. E. (2006). Commitment and opportunity development in the internationalization process: A note on the Uppsala internationalization process model. *Management International Review*, *46*, 165-178.
[24] Forsgren, M. (2002). The concept of learning in the Uppsala internationalization process model: a critical review. *International business review*, *11*(3), 257-277.
[25] Johanson, J., & Vahlne, J. (1977). The Internationalization Process of the Firm: A Model of Knowledge Development and Increasing Foreign Market Commitments. Journal of International Business Studies, 8(1), 23–32.
[26] Johanson, J., & Wiedersheim-Paul, F. (1975). The internationalization of the firm - four Swedish cases. Journal of Management Studies, 12(3), 305-323.

follow it faithfully: some skip stages, others are not large enough to complete it. The four stages thus identified are:

1. The presence of irregular exports;
2. Exports through independent agents, from which market information is obtained;
3. Sales branches, which are sources of controlled information;
4. New production locations on which factors related to transportation rates and physical distance affect.

This analysis is deepened by the later studies of Johanson and Vahlne who define “U-model” based on the process of experience; in particular, they distinguish between interrelated state and motion variables[27]. The core of their theory is market knowledge, that is, knowledge of opportunities, target market information, and evaluation of alternatives. Especially, experiential knowledge is the most important type, but it is not easy to develop and transmit as it is learned through personal experience. Indispensable for the purpose of internationalization are general knowledge of the context that can be transferred from one nation to another, and specific knowledge of the target market that is developed through on-the-ground experience and thus cannot be transferred.

However, this model requires further investigation since technology plays an important role in different markets. In addition, another variable to consider is the subjectivity of market risk: excessive risk in one market may be offset by less risk in another market or delegated to those working in the market in cases where decisions do not require additional resources from the firm[28]. Among other limitations, learning and knowledge are constrained by the path dependence of the firm. Moreover, the existence of “born global” firms is a phenomenon that seems to disregard experience as a determinant of competitiveness since these firms, in addition to having a strong technological orientation, are globally competitive from the moment of their founding[29]. Although most theories are based on price or factor endowment, while this one focuses only on process, this theory is useful in leveraging the importance of experience.

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[27] Op. Cit. Johanson and Vahlne (1977)
[28] Op. Cit. Johanson and Vahlne, 1977
[29] Peña-Vinces, J., Acedo, F., & Roldán, J. (2014). Model of the international competitiveness of SMNEs for Latin American developing countries. European Business Review, 26(6), 552-567.

3.Internationalization strategy

When a company makes the important decision to proceed through the process of internationalization it will have to work on a strategy by implementing it through a significant commitment of resources and reorganizational capabilities of its structures. When we speak of internationalization strategy, we mean “a series of choices and actions that enable the company to simultaneously and dynamically achieve and maintain a positioning in the outlet market, in its various input supply markets and with respect to its main interlocutors such as to ensure it a defensible competitive advantage and consequently the achievement of the three orders of equilibrium that ensure the company's survival and development: economic, financial and capital equilibrium”[30] .

Therefore, it will be of paramount importance to choose the strategy that the enterprise wishes to follow given that it will be facing competitors within a dynamic market, whose internal external conditions are constantly changing and evolving ever more rapidly[31]. The enterprise will have to carry out careful planning; it will be necessary to carefully identify the country concerned and gather a great deal of information about the market in which it wants to intervene.

In the first stage a general screening of the country concerned will then be done, studying its general macroeconomic and environmental characteristics that indicate the general attractiveness of the sector. What are the main variables to be taken into account?

First, the spatial variables: communication and transportation systems present in the country of interest, commercial infrastructure including banks, financial institutions and distribution channels.

Second are demographic variables: population growth rate, degree of urbanization, annual migration rate, economic variables such as GDP, cost of living, unemployment rate, purchasing power or per capita income, etc.

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[30] Piergiorgio V. (2016), *Internazionalizzazione Dell'Impresa E Gestione Dei Mercati Esteri*, Wolters Kluwer
[31] Fontana F, Caroli M. (2017), “*Economia e gestione delle imprese*”, quinta edizione, McGrawHill Education. Cap. 6.3.2

After this process is finished, an even more detailed screening will take place with the aim of verifying the specific resources and capabilities in the enterprise and will enable it to operate efficiently in the foreign country.

This analysis will be primarily aimed at understanding the market growth rate, the size of the foreign market, the distribution of demand, and the political and economic stability of the country concerned. Other particularly important aspects will be to understand the intensity of competition present, barriers to entry, the bargaining power of suppliers and customers, and the pressure of possible substitute products. The so-called "country risk" will also be studied, that is, the set of all those possible risks one faces when deciding to make investments abroad because one has to take into account that one is going to intervene in a country with completely different customs and language is culture, and the company will have to be particularly adept at adapting and implementing a new winning business formula. Once the degree of accessibility of the country has been assessed, it will also be important to focus on an internal analysis of the enterprise itself in order to have a clear idea of the strengths but also weaknesses against which it intends to organize its foreign expansion.

Once a company has gathered sufficient information and analyzed the potential risks and opportunities, it must decide on the mode of entry into the foreign market. The options range from exporting, licensing, and franchising to more complex forms such as joint ventures, strategic alliances, and wholly owned subsidiaries. Each mode carries different levels of risk, control, and investment. For example, exporting might be less risky and require less investment but offer less control over market operations, while establishing a wholly owned subsidiary provides maximum control but involves higher costs and risks. The choice of entry mode will depend on factors such as the company's strategic objectives, the nature of the product or service, the market conditions, and the level of commitment the company is willing to make.

3.1 Entry Strategy

In the context of internationalization, entry strategies refer to the methods employed by a business to enter into a new foreign market. Here are three commonly utilized entry strategies[32]:

[32] Cavusgil, S. T., Knight, G., Riesenberger, J. R., Rammal, H. G., & Rose, E. L. (2014). *International business*. Pearson Australia. 331-340

Exports: Exports, both direct and indirect, represent a straightforward method to expand the product/market scope. They require minimal financial and organizational efforts and establish a relatively low presence in the foreign market. Direct exporting involves the company establishing a commercial structure within the foreign market and making direct contact with foreign buyers. This strategy can help in retaining more control over the brand and customer relationship. On the other hand, indirect exporting uses intermediaries in the home country to reach foreign markets, eliminating the need for a local presence but also reducing the level of control over market operations[33].

Strategic Alliances: Different from mergers and acquisitions (M&A), strategic alliances can be equity-based or non-equity-based, such as contractual agreements. These alliances could involve minority or majority stakes, where risk and control are proportionally shared based on the agreements. Joint ventures are a specific type of strategic alliance where companies own equal shares, leading to shared leadership but also the potential for decision-making deadlock in complex situations. Strategic partnerships typically demand lower financial and organizational investment than joint ventures, M&As, or foreign direct investments (FDIs). Meanwhile, M&As involve the consolidation of companies or major assets, with the acquired company's management coming under the control of the acquirer, and the associated risks depending on the owner's decisions[34].

Foreign Direct Investment (FDI): This is the most intensive form of international market entry, demanding substantial managerial focus and investment. FDIs require the company to invest directly in new facilities or acquire existing operations in the target country. There are two types of FDI: greenfield investments, where a company builds its operations from scratch in the foreign country, and brownfield investments, where a company purchases or leases existing facilities. FDIs allow for a high degree of control and the potential for significant profit margins but also come with increased risks and the requirement for a deeper understanding of the local market[35].

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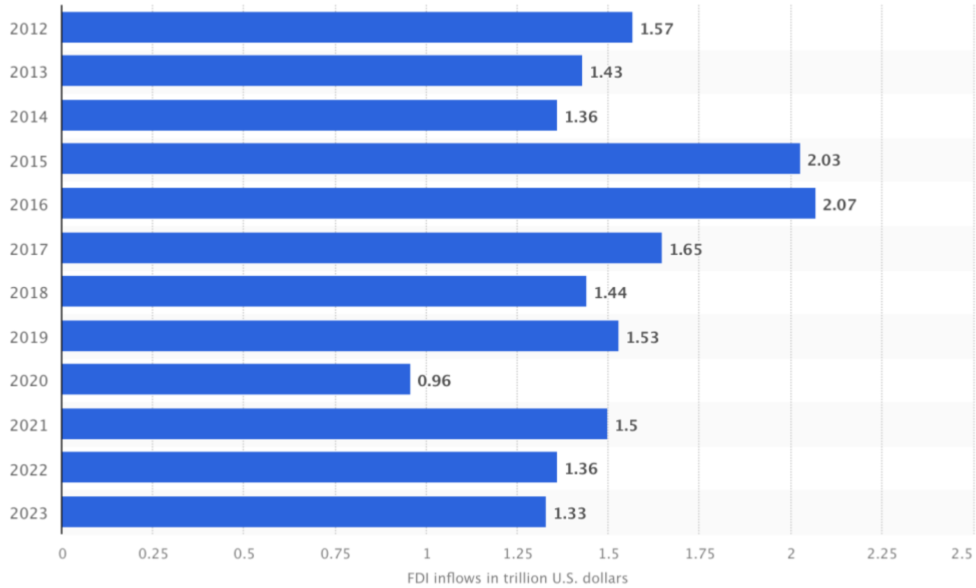
[33] Sadaghiani, J. S., Dehghan, N. A., & Zand, K. N. (2011). Impact of international market entry strategy on export performance. The Journal of Mathematics and Computer Science, 3(1), 53-70.

[34] Kang, N. and K. Sakai (2000), "International Strategic Alliances: Their Role in Industrial Globalisation", *OECD Science, Technology and Industry Working Papers*, No. 2000/05, OECD Publishing, Paris

[35] Chung, H. F., & Enderwick, P. (2001). An investigation of market entry strategy selection: Exporting vs foreign direct investment modes—a home-host country scenario. *Asia Pacific Journal of Management*, *18*, 443-460.

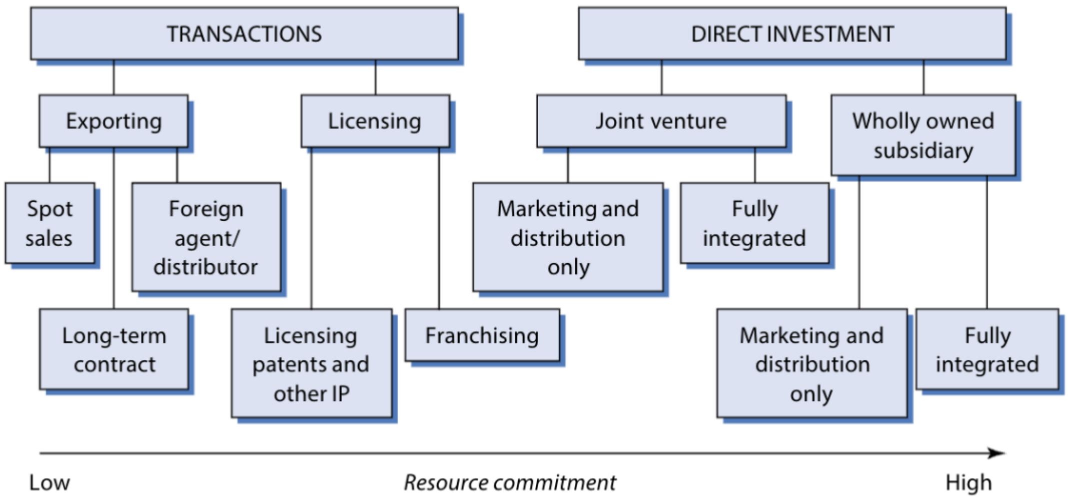


Value of foreign direct investment inflows worldwide from 2012 to 2023, retrived from Statista

For a company to effectively project its competitive advantage into a new market, it is crucial to understand how to leverage and adapt its successful resources and capabilities from the home market. Assessing the potential to create value and gain a competitive edge in a foreign market is key, especially if there are gaps that competitors have not yet exploited. It involves a careful balance between the factors that have driven success domestically and the new opportunities and challenges of the foreign market[36].

The right internationalization strategy for a company will depend on its objectives, resources, readiness to manage cross-border operations, and the nature of the target market[37]. The chosen strategy should align with the company's broader goals and strategic vision while also being adaptable to the unique dynamics of international markets.

[36] Bonifacio R. (2024) Navigating Global Growth: A Guide to Internationalization for Businesses. Shiftbase https://www.shiftbase.com/glossary/internationalization (last seen on Apr 29 2024)
[37] Sui, S., & Baum, M. (2014). Internationalization strategy, firm resources and the survival of SMEs in the export market. *Journal of International Business Studies*, *45*, 821-841.



Retrived from: Grant, R. M. (2021). *Contemporary Strategy Analysis* (11th ed.). Wiley. [Figure 11.5 Alternative modes of overseas market entry].

3.2 Stages in the development of the internationalization process

From the literature, four phases emerge that a company must go through during its international growth[38]. These are not necessarily sequential; indeed, depending on the geographical and business area in which the company will internationalize, the timing can be quite different. The factors influencing the four phases are: competition and market leader choices; characteristics of the target market: development, geographic size, population, etc.; features of the marketed product; regulations and public policies; distribution structure in the foreign market.

Let's now analyze the four phases of an internationalization process[39] mentioned above:

Entry into the Foreign Market: In this phase, the geographical area the company wants to enter, the goals to achieve, and the methodology to reach them are outlined. Additionally, the company engages in a thorough analysis of the available and employable resources for achieving the set objectives, verifying their compatibility with the prepared strategy.

Consolidation of Presence in the Foreign Market: Here, the company begins to develop routines and starts to analyze the strategic, organizational, and economic impact. Typically, this

[38] Tasel, F. (2020). The importance of timing of internationalization: a literature review. *Journal of Management Marketing and Logistics*, *7*(4), 202-209.
[39] C. Demattè, F. Peretti, E. Marafioti, (2013), Egea, Strategie di Internazionalizzazione

phase involves medium-term strategic planning concerning resource allocation, and potential modifications to the organizational structure and development mechanisms to strengthen acquired competencies are defined.

Development of Competitive Position in the Foreign Market: This is a critical phase as the company undergoes a new innovative drive, leading to a significant increase in the importance of the international market that sometimes exceeds that of the origin market. Relations with actors operating in the foreign country also play a primary role, achieving strong intensity both in terms of strategic relevance and the flow of knowledge exchanged.

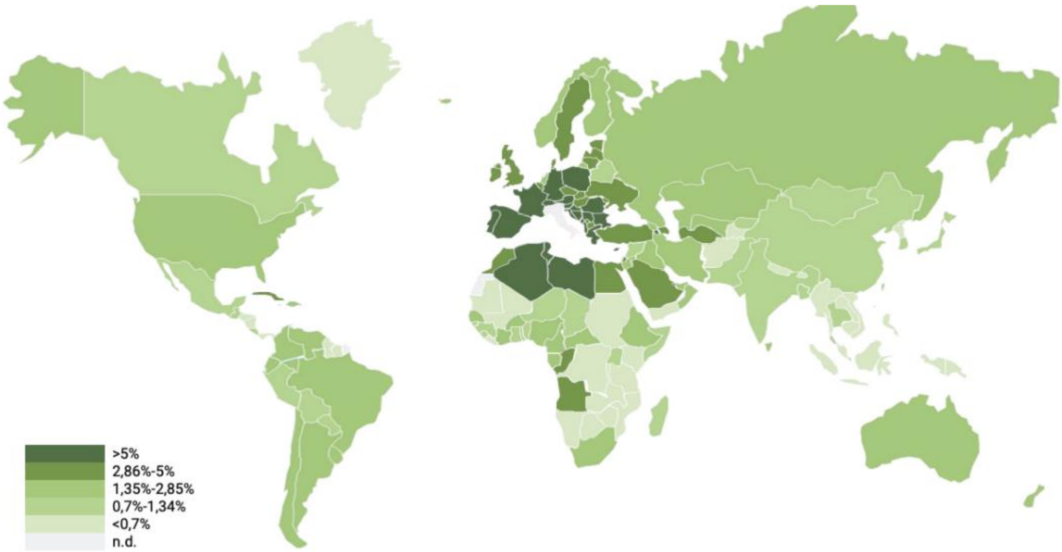
Rationalization of the International Position: This phase involves the rationalization of the company's productive and commercial position in the foreign areas of interest. The relationships between subsidiaries and the parent company become increasingly important, and it is necessary to establish a structure at the level of internal relations that is coherent with the achieved international presence.

Thus, an "internal network" of the international enterprise is outlined, where the nodes are the parent company and the subsidiaries in foreign countries. As mentioned earlier, although companies intent on internationalizing their business face different timing dynamics, there are still four common trade-offs that each will have to manage. Firstly, from a strategic point of view, the balance between expansion into different countries to achieve greater integration capability in various geographical contexts and to exploit the advantages derived from the global dimension is of fundamental importance. This includes leveraging privileged access to distinctive resources. The second trade-off concerns the organizational viewpoint. There must be a fundamental balance between the autonomy granted to the controlled companies, aimed at increasing their flexibility and proactive response capacity to changes in the geographical context, and the unity of the group, which also translates into the parent company's ability to maintain an adequate level of governance. The third trade-off relates to competitive advantage; indeed, greater global productive efficiency and a high differentiation of the offer should be one of the strengths of the international enterprise. Lastly, the final trade-off concerns risk. As a mode of diversification, an internationalization strategy entails risk reduction, but at the same time, it increases the total risk borne by the company since the most significant opportunities are present in geographical areas characterized by a high-risk environmental context.

4.Internationalization of Italian enterprises

The ICE 2023-2024 report provides a detailed picture of the internationalization of Italian enterprises, showing significant growth in export activities. In 2023, more than 48,800 manufacturing enterprises were continuously involved in exporting, accounting for 81 percent of total exporting manufacturing enterprises in Italy and nearly 99 percent of the sector's total export value[40].

Italian exports showed significant regional variations: while exports to the European Union declined slightly from 54.4 percent to 53.3 percent between 2021 and 2023, exports to the United States increased significantly from 9.9 percent in 2021 to 11.4 percent in 2023[41]. This increase is largely driven by large enterprises, which have increased their share of exports to the United States from 10.8 percent to 12.8 percent[42].



Market shares of Italian exports in major markets in 2023

Retrived from: ICE Agency elaborations on IMF-DOTS data.

[40] ICE - Agenzia per la promozione all'estero e l'internazionalizzazione delle imprese italiane. (2023). *Rapporto ICE 2023-2024*. ICE. P.96

[41] ICE - Agenzia per la promozione all'estero e l'internazionalizzazione delle imprese italiane. (2023). *Rapporto ICE 2023-2024*. ICE. P.19

[42] ICE - Agenzia per la promozione all'estero e l'internazionalizzazione delle imprese italiane. (2023). *Sintesi e Appendice - Digitale*. ICE. P.36

Overall, between 2021 and 2023, the number of products exported per company grew by 6 percent, indicating a trend toward greater diversification of product lines among Italian exporters. Micro enterprises saw a 19.7 percent increase in exports by value, while large enterprises saw a 20.3 percent growth[43].

In addition, the share of Italian exports realized by foreign-controlled multinationals increased from 30.5 percent to 31.5 percent[44], highlighting the crucial role of these enterprises in the expansion of Italian exports. These dynamics underscore the vitality of the Italian export system, which not only includes large enterprises and multinationals, but also small and medium-sized enterprises that are making significant efforts to meet the challenges posed by the unstable global environment.

These data highlight the importance of strategic planning and market analysis for Italian companies wishing to capitalize on international opportunities, thereby contributing to their long-term competitiveness and resilience in the global marketplace.

[43] ICE - Agenzia per la promozione all'estero e l'internazionalizzazione delle imprese italiane. (2023). *Sintesi e Appendice - Digitale*. ICE. P.73

[44] ICE - Agenzia per la promozione all'estero e l'internazionalizzazione delle imprese italiane. (2023). *Rapporto ICE 2023-2024*. ICE. P.147

CHAPTER II

Telcos: context and analysis of the Brazilian market

The telecommunications market in Brazil represents one of the most dynamic and strategic sectors of the country's economy. With a population of more than 210 million and a growing demand for digital services, the telecommunications sector plays a crucial role in supporting Brazil's economic and social development[45]. Telecommunications not only facilitate personal and business communication, but are also critical for access to information, education, and health services, contributing substantially to the quality of life.

The Brazilian telecommunications market is poised for significant growth, with its market size expected to increase from $30.26 billion in 2023 to $40.82 billion by 2028. Brazil ranks as the fifth-largest digital population globally, with around 181.8 million internet users in 2023, a number that is expected to rise to nearly 190 million by 2027. The market expansion is driven by advancements in 5G technology, which is projected to have a substantial economic impact, enhancing various sectors such as AI, IoT, and data services[46].

In recent decades, Brazil has witnessed a rapid expansion of its telecommunications infrastructure, with a significant increase in the penetration of mobile and fixed-line telephone services, as well as growing broadband deployment. This development has been fueled by both private investment and government initiatives to improve access and quality of telecommunications services in urban and rural areas[47]. The introduction of advanced technologies such as 4G and 5G has further revolutionized the industry, offering higher connection speeds and a better user experience.

Market liberalization and privatization of state-owned enterprises in the 1990s paved the way for a competitive environment, encouraging the entry of international and local operators. Today, the Brazilian telecommunications market is characterized by intense competition among a few major operators, including TIM Brasil, Vivo, Claro, and Oi, who compete for market leadership through technological innovation and expansion of service offerings. Competition

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[45] Szapiro, M., & Cassiolato, J. (2013). The telecommunications system of innovation in Brazil ten years later.
[46] U.S. Department of Commerce. (n.d.). *Brazil - ICT - Information and Communications Technologies, and Telecommunication*. Trade.gov. Retrieved August 30, 2024, from https://www.trade.gov/country-commercial-guides/brazil-ict-information-and-communications-technologies-and
[47] International Trade Administration. (2023). Brazil market overview. Retrieved from https://www.trade.gov/knowledge-product/brazil-market-overview Last seen: 25/06/2024

among these operators has led to a constant evolution of services, with increasingly diversified and customer-oriented offerings, as well as lower costs for end consumers.

In this context, key challenges include the need for coverage in rural areas, adoption of new technologies, and dealing with government regulations[48]. In addition, businesses must address the growing demand for cybersecurity and data protection in an increasingly complex digital landscape.

This analysis aims to provide a clear and detailed view of the forces shaping the telecommunications market in Brazil, highlighting the opportunities and challenges that will define the future of the sector.

The telecommunications market in Brazil, as mentioned above, is one of the most dynamic and regulated sectors in the country, characterized by rapid technological evolution and intense competition among major operators. The sector is regulated by ANATEL (National Telecommunications Agency), which oversees and ensures competition among the various operators, maintaining a competitive environment and fostering innovation. ANATEL is responsible for licensing, spectrum management, and tariff regulation, among other functions.

Brazil has a well-structured system that divides telecommunications services into various segments, including Serviço Telefônico Fixo Comutado (STFC) for fixed telephony, Serviço de Acesso Condicionado (SeAC) for cable TV, Serviço de Comunicação Multimídia (SCM) for fixed broadband connections, and Serviço Móvel Pessoal (SMP) for mobile communication. Each segment has its own regulatory specifications and technical requirements, which help ensure broad coverage and adoption of international standards.

1.Market analysis according to Porter's 5 forces

In the current context, the telecommunications industry in Brazil is a sector of great economic and social importance. To better understand the competitive dynamics of this market, it is useful to conduct an analysis based on Porter's 5 Forces model. This model, developed by Professor

[48] Hobday, M. (2023). *Telecommunications in developing countries: the challenge from Brazil*. Taylor & Francis.

Michael E. Porter of Harvard Business School, is a fundamental tool for the strategic analysis of industries[49]. It makes it possible to assess the level of competition within an industry and to identify the strategic levers that influence competitiveness.

Porter's 5 Forces model examines five key factors that determine the intensity of competition and the potential profitability of a market[50]:

Threat of new entrants	It analyzes the ease with which new firms can enter the market. High barriers to entry, such as high upfront costs or stringent regulations, can protect incumbent firms from new entrants.
Supplier bargaining power	It refers to the ability of suppliers to influence prices and supply conditions. A limited number of powerful suppliers can reduce the profit margin of companies in the industry.
Customers' bargaining power	This factor assesses the power customers have to influence the prices and quality of products or services offered. Well-informed customers with many alternatives available can push companies to compete more on price.
The threat of substitute products or services	It analyzes the risk that alternative products or services may meet the same consumer needs, thereby reducing demand for current market offerings.
Rivalry among existing competitors	This strength examines the degree of competition among companies currently operating in the industry. High competitive

[49] Porter, M. E. (2008). The five competitive forces that shape strategy. *Harvard business review*, *86*(1), 78.
[50] Goyal, A. (2020). A critical analysis of Porter's 5 forces model of competitive advantage. *Goyal, A.(2021). A Critical Analysis of Porter's*, *5*.

intensity can erode profit margins and make the market less attractive.

Porter's 5 Forces analysis is useful because it provides a comprehensive view of the competitive pressures within a market and allows for the development of strategies that improve a firm's competitive position. In the specific case of the telecommunications market in Brazil, this analysis will provide important insights into industry dynamics, helping to identify opportunities and threats, as well as to formulate effective strategies to address competitive challenges.

With this in mind, will be explored, in detail, each of Porter's 5 Forces applied to the telecommunications market in Brazil in order to provide an in-depth and strategically relevant assessment of this crucial sector.

1.1The threat of new entrants

The telecommunications market in Brazil has many significant challenges and barriers that pose threats to new entrants. One of the main threats is high capital costs. Entering this sector requires a large initial investment in infrastructure, advanced technologies and licenses. The costs of building communications networks, purchasing spectrum, and maintaining infrastructure can be prohibitive for new companies.

Another significant threat is stringent regulations and standards. The telecommunications industry is highly regulated in Brazil, and new companies must obtain specific licenses and permits, comply with strict government regulations, and ensure that quality of service standards are met. This process can be complex, expensive and time-consuming.

Economies of scale pose an additional threat. Companies already established in the market benefit from economies of scale that allow them to operate at lower costs. New companies, which start with a small customer base, may not be able to achieve the same operational efficiency, finding themselves at a competitive disadvantage.

Customer loyalty and brand recognition are two other significant barriers. The major telecom operators in Brazil have strong brand recognition and a loyal customer base. New companies must invest heavily in marketing and promotions to gain consumer trust and build their brand, while facing the risk of high customer acquisition costs.

Establishing effective distribution channels can be a significant challenge for new entrants[51]. Existing companies already have established relationships with distributors and retailers, making it difficult for new companies to enter the market and reach consumers. In addition, the telecommunications market is constantly evolving technologically. New entrants must not only invest in current technologies but also be prepared to adapt quickly to future changes and innovations, posing additional financial and operational risk.

The Brazilian telecommunications market is highly competitive, with a few large dominant players. These companies have significant resources to defend their market share through price wars, technological innovations, and service improvements. New entrants therefore face aggressive competition from the outset[52].

Finally, exiting the telecommunications market can entail high costs due to significant investments in infrastructure and technology that may not be easily recouped. This additional risk may discourage the entry of new companies.

In sum, these threats combine to make the telecommunications market in Brazil a highly competitive and complex environment for new entrants. Companies wishing to enter this market must be prepared to invest significant resources, face complex regulations, and compete with established players to succeed.

An example of the threat of new entrants in the Brazilian market can be observed in the cosmetics industry. The Brazilian cosmetics market is experiencing significant growth, projected to increase by USD 5 billion with a compound annual growth rate (CAGR)

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[52] International Trade Administration. (n.d.). Brazil - ICT (Information and Communications Technologies) and digital economy. Retrieved from https://www.trade.gov/country-commercial-guides/brazil-ict-information-and-communications-technologies-and last seen: 25/06/2024

of 6.96% between 2023 and 2028. This growth is driven by several factors, including the rise of e-commerce channels and the increasing participation of working women[53].

However, the market presents challenges, including a complex regulatory environment and the prevalence of counterfeit products, which complicate brand protection efforts. Companies must also contend with established brands that dominate the market, making it essential to develop strong branding and marketing strategies to differentiate themselves. The presence of over 3,130 companies in the cosmetics sector adds to the competitive landscape, with significant activity concentrated in the Southeast region of Brazil.

1.2The bargaining power of suppliers

The bargaining power of suppliers in Brazil's telecommunications market is a significant factor affecting the competitiveness and profitability of companies operating in the sector. This power depends on several factors that determine the ability of suppliers to influence prices, quality and supply conditions of raw materials and technologies needed to operate telecommunications networks.

First, the limited number of specialized suppliers is a major reason for their high bargaining power[54]. Telecommunications companies in Brazil depend on a small circle of suppliers to obtain advanced technologies, hardware components, network management software, and supporting infrastructure. These suppliers, being few in number and highly specialized, can impose advantageous contract terms for themselves, affecting the operating costs of telecommunications companies.

In addition, the differentiation of the products supplied is another element that increases the power of suppliers. Many technology components and solutions are unique and specific to certain applications, which reduces the ability of telecommunications companies to find

[53] Flanders Investment & Trade. (2022). *Cosmetic Brazil 2022*. Retrieved from https://www.flandersinvestmentandtrade.com/export/sites/trade/files/market_studies/Cosmetic%20Brazil%202022_Final.pdf.
[54] Hobday, M. (2023). *Telecommunications in developing countries: the challenge from Brazil*. Taylor & Francis.

equivalent alternatives. This scarcity of technological substitutes forces companies to accept the terms imposed by suppliers to ensure the continuity and quality of their services.

The ability of suppliers to vertically integrate poses an additional threat. Some suppliers may decide to enter the telecommunications market directly, competing with their own customers. This potential vertical integration increases their bargaining power, as telecommunications companies must consider not only the risk of price increases, but also the possibility of suppliers becoming direct competitors.

The globalization of the telecommunications market has partially mitigated the bargaining power of suppliers, as it has increased the number of potential international suppliers. However, the specific technical and regulatory requirements of the Brazilian market limit the possibility of sourcing from foreign suppliers, keeping the influence of local and regional suppliers high.

Finally, dependence on constant technological innovations is another powerhouse for suppliers[55]. Telecommunications companies must continually upgrade their infrastructure and services to remain competitive, making them vulnerable to conditions imposed by advanced technology providers.

Thus, the bargaining power of suppliers in Brazil's telecommunications market is significant and complex, influenced by the scarcity of specialized suppliers, product differentiation, the possibility of vertical integration, the constraints of globalization, and the continuous need for technological innovation. This power requires telecommunications companies to adopt effective strategies to manage supplier relationships and maintain their competitiveness in the market.

An example of the bargaining power of suppliers in the Brazilian market can be observed in the automotive sector. Automotive manufacturers in Brazil heavily rely on specialized suppliers for components and advanced technologies, especially during the transition to electric and autonomous vehicles. The limited number of suppliers capable of providing advanced equipment increases their bargaining power, forcing automotive companies to negotiate

[55] Regli, B. J. (2020). Wireless: strategically liberalizing the telecommunications market. Routledge.

favorable terms and maintain strong relationships with these suppliers[56]. Additionally, local content requirements in Brazil can give an advantage to certain domestic suppliers, further enhancing their bargaining power. This dynamic necessitates that automotive manufacturers adopt effective strategies to manage supplier relationships and maintain their competitiveness in the market. For instance, Fiat and Volkswagen, which have manufacturing plants in Brazil, must carefully negotiate with local suppliers to ensure reliable supplies and competitive pricing.

1.3The bargaining power of customers

The bargaining power of customers in the telecommunications market in Brazil is a crucial factor that influences the pricing strategies, service quality, and innovation of companies operating in the sector. This power is determined by several elements that allow customers to influence market conditions in their favor.

First, the wide range of choices available to Brazilian customers increases their bargaining power. The telecommunications market in Brazil is highly competitive, with numerous operators offering similar services. This competition provides customers with a wide selection of providers to choose from, allowing them to negotiate better price and service terms[57]. In addition, the ability to easily compare offers through online platforms and price comparison tools makes customers more informed and therefore more demanding.

Another relevant aspect is the increasing sophistication of consumers. Brazilian customers are increasingly informed and aware of their rights and options. They demand high quality services, competitive prices and constant innovations. This increase in expectations forces telecommunications companies to continuously improve their offerings to meet customer needs, or else lose market share to more attentive competitors.

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[56] Sarti, F., & Borghi, R. A. (2017). Evolution and challenges of the automotive industry in Brazil. *The automotive sector in emerging economies: industrial policies, market dynamics and trade unions. Trends & perspectives in Brazil, China, India, Mexico and Russia*, 41-64.
[57] Moreira, S. V., Noam, E., & Mutter, P. (2016). 20 Media Ownership and Concentration in Brazil

The ease of switching providers is another element that increases customers' bargaining power. Number portability policies, which allow customers to keep their phone number when switching providers, reduce barriers to switching. This means that customers can easily switch to another provider if they are dissatisfied with the service or price, forcing companies to maintain high standards of quality and competitiveness.

In addition, large corporate and institutional customers have particularly high bargaining power. These customers represent a significant source of revenue for telecommunications companies and, as a result, have the ability to negotiate customized contracts with advantageous terms. Companies must often offer discounts, additional services, and dedicated technical support to retain and attract these strategic customers.

Technological evolution and the spread of Internet communication applications pose another challenge for telecommunications companies[58]. Instant messaging services, VoIP calls, and video conferencing platforms offer low-cost or free alternatives to traditional telecommunications services. This indirect competition pushes companies to innovate and offer integrated service packages that include advanced digital solutions to maintain their customer base.

Telecommunications companies employ various pricing strategies to attract new customers. Here are some examples:

1. **Penetration Pricing**: Many telcos adopt penetration pricing, setting initial prices low to attract customers and gain market share quickly. For instance, a new mobile operator might offer significantly lower rates for calls and data compared to established players to entice customers to switch[59].
2. **Bundled Services**: Telecom companies often bundle services such as internet, television, and mobile plans at a discounted rate. This strategy enhances perceived value and encourages customers to consolidate their services with a single provider. For example, a telco might offer a package that includes high-speed internet, cable TV, and

[58] Lee, K., Mani, S., & Mu, Q. (2012). Explaining divergent stories of catch-up in the telecommunication equipment industry in Brazil, China, India and Korea. In *Economic development as a learning process*. Edward Elgar Publishing.
[59] Zong, C., Chen, W., Yuan, N., & Feng, H. (2024). Mobile Telecommunication Companies' Investment and Pricing Strategies for Content Service. *Journal of Management Science and Engineering*.

mobile service for a lower combined price than if each service were purchased separately.

3. **Promotional Discounts**: Telcos frequently use limited-time promotional discounts to attract new customers. These can include reduced rates for the first few months of service or special offers for signing a long-term contract. For instance, a company might advertise a promotion where new customers receive a 50% discount on their first three months of service.
4. **Loyalty Programs**: Some telcos implement loyalty programs that reward customers for staying with the company. These programs can include discounts on future bills, exclusive offers, or rewards points that can be redeemed for products or services. This strategy not only attracts new customers but also helps retain existing ones.
5. **Loss-Leader Pricing**: Some companies may offer certain services at a loss to attract customers, hoping to upsell additional services later. For example, a telco might offer a basic mobile plan at a very low price to get customers in the door, with the expectation that they will eventually purchase more expensive add-ons or upgrades[60].

By leveraging these pricing strategies, telecommunications companies can effectively attract new customers in a highly competitive market.

Finally, regulation of the industry by Brazilian authorities plays an important role in strengthening the bargaining power of customers. Regulations that promote transparency, service quality, and consumer protection provide customers with additional tools to exercise their bargaining power and demand better terms from telecom providers.

Therefore, customer bargaining power in Brazil's telecommunications market is high and influenced by intense competition, consumer sophistication, ease of switching providers, the power of large corporate customers, technological innovation, and the regulatory framework. Telecommunications companies must continuously adapt and improve to meet customer needs and maintain their competitive position in the market.

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[60] Zakaria, A. F., Lim, S. C. J., & Aamir, M. (2024). A pricing optimization modelling for assisted decision making in telecommunication product-service bundling. *International Journal of Information Management Data Insights*, *4*(1), 100212.

1.4The threat of substitute products or services

The telecommunications market in Brazil faces a significant threat from substitute products or services, which can meet the same consumer needs in different ways or at lower costs. This threat profoundly influences the competitiveness of telecommunications companies and requires effective strategies to remain relevant and competitive.

One of the main factors contributing to the threat of substitute products is the spread of Internet communication technologies. Instant messaging applications like WhatsApp, Telegram, and Signal, along with VoIP calling services like Skype and Zoom, offer free or low-cost alternatives to traditional messaging and calling services of telecommunications companies[61]. These services are easily accessible via mobile devices and computers, making communication cheaper and often more convenient for users.

Video and music streaming platforms, such as Netflix, Amazon Prime Video, Spotify, and YouTube, represent another category of substitutes that threaten traditional telecommunications services. The growing consumer preference for on-demand content has reduced the demand for cable and satellite TV services offered by telecommunications operators. Additionally, many of these streaming platforms offer exclusive and personalized content that attracts a broad and diverse audience.

The widespread adoption of cloud services for data storage and sharing is another threat to traditional telecommunications hosting and data center services. Companies like Google Drive, Dropbox, and Microsoft OneDrive offer flexible and scalable solutions that can be more convenient and easier to use than services offered by telecommunications operators. This pushes companies to continuously innovate and improve their offerings to retain their customer base.

Furthermore, the evolution of mobile networks and the introduction of 5G increase the opportunities for substitute services to thrive. 5G networks, with their high speed and low latency, promote the use of advanced augmented and virtual reality applications, which can

[61] Hobday, M. (2023). *Telecommunications in developing countries: the challenge from Brazil*. Taylor & Francis.

replace some traditional telecommunications offerings. For example, telemedicine, distance learning, and remote work are growing sectors that heavily utilize 5G network capabilities, reducing dependence on traditional telecommunications services.

The increase in competition between telecommunications operators and global tech companies makes the landscape even more competitive. Companies like Google, Amazon, and Facebook are increasingly entering the telecommunications sector, offering integrated services and leveraging their existing platforms to attract consumers. These companies have significant financial resources and a vast user base, allowing them to compete effectively and offer valid alternatives to traditional telecommunications services.

Finally, the relatively low switching costs for consumers in adopting these substitute products increase the threat. Internet-based applications and services are often free or offer free trials, making it easy for consumers to test and adopt them without a significant financial commitment[62]. This ease of transition encourages consumers to explore and adopt alternatives to traditional telecommunications services.

Thus, the threat of substitute products or services in the telecommunications market in Brazil is high and complex. Telecommunications companies must face competition not only from their peers but also from technological innovations that offer cheaper and more convenient alternative solutions. To remain competitive, companies must invest in innovation, continuously improve their services, and quickly adapt to changing consumer needs.

1.5The rivalry among existing competitors

The telecommunications market in Brazil is characterized by strong rivalry among existing competitors, influenced by several factors that make competition particularly intense and dynamic. This rivalry has a significant impact on strategy, pricing, service quality, and innovation in the sector.

[62] Cassiolato, J. E., Szapiro, M. H., & Lastres, H. M. (2002). Local system of innovation under strain: the impacts of structural change in the telecommunications cluster of Campinas, Brazil. *International Journal of Technology Management*, *24*(7-8), 680-704.

One of the main factors contributing to the rivalry is the high number of operators competing for the same customer base. The Brazilian telecommunications market sees the presence of large companies like Vivo, Claro, TIM, and Oi, each striving to increase its market share[63]. This competition is manifested through aggressive marketing campaigns, promotional offers, and increasingly attractive service packages for consumers.

The low differentiation of services offered is another element that intensifies the rivalry. Telecommunications offers, such as mobile phone plans, broadband Internet connections, and cable TV services, tend to be very similar among various operators. Consequently, companies must compete mainly on price and service quality to attract and retain customers. This lack of differentiation increases customers' price sensitivity and encourages them to switch operators easily for better conditions.

The relatively stable growth rate of the market further contributes to the rivalry. In a mature market, where the growth of new users is limited, companies must focus their efforts on winning customers from competitors. This leads to even fiercer competition for every percentage point of market share, pushing companies to invest heavily in promotions and service improvements.

High exit barriers represent another factor that intensifies rivalry among existing competitors. Significant investments in infrastructure and technology, along with long-term contracts with suppliers and customers, make it difficult and costly for companies to exit the market. Consequently, companies are forced to stay and compete, even in conditions of low profitability, rather than leave the sector.

Continuous technological innovation and the introduction of new services represent both a challenge and an opportunity for competitors. Companies must constantly invest in new technologies, such as 5G and fiber optics, to remain competitive. These investments are necessary to improve service quality and offer new features, but they also increase pressure on

[63] Pedrosa, N., Montoni, L., Martens, C. D. P., Silva, L. F. D., & Cunha, J. C. D. (2022). Absorptive capacity in information technology projects: a multiple case study in the telecommunication industry. International Journal of Project Organisation and Management, 14(1), 36-64.

profit margins. Companies that fail to keep up with innovation risk losing customers to more technologically advanced competitors.

Government regulation plays an important role in the telecommunications market in Brazil. Regulations set by Anatel (National Telecommunications Agency) influence competitive dynamics, determining licensing conditions, tariffs, and service quality standards. While these regulations can protect consumers, they can also add complexity and costs for operators, further increasing rivalry.

In summary, the rivalry among existing competitors in the telecommunications market in Brazil is intense and multifactorial. The high number of operators, low service differentiation, market stability, high exit barriers, continuous technological innovation, and government regulations contribute to creating a highly competitive environment. Telecommunications companies must adopt effective strategies to differentiate themselves, continuously improve their services, and manage costs to maintain their market position and attract consumers.

Going into more detail, here is a brief description of the main players in the telecommunications market in Brazil:

Telefônica Brasil (Vivo) – Commonly known as Vivo, is one of the leading telecommunications operators in Brazil. Part of the Spanish Telefónica group, Vivo offers a wide range of services including mobile telephony, fixed telephony, broadband Internet, and digital television. Vivo is the market leader in mobile telephony in Brazil, with about 33 percent market share and more than 75 million mobile subscribers (2023 data). Its 4G coverage reaches 98 percent of Brazil's population and has begun offering 5G services in the country's major cities. The company is known for its quality of service and technological innovation, with significant investments in 4G and 5G technologies. Vivo is also committed to social responsibility initiatives, focusing on education, digital inclusion and environmental sustainability. In 2022, Vivo reported revenues of about 45 billion reais[64].

[64] Telefónica Brasil S.A. (2024). Corporate profile. Retrieved from https://ri.telefonica.com.br/en/the-company/corporate-

Claro – Is part of the Mexican América Móvil group and is one of the leading telecommunications companies in Brazil. It offers a wide range of services, including mobile telephony, fixed telephony, broadband Internet, and digital television. Claro has about 27 percent of the mobile market share in Brazil and has more than 70 million mobile subscribers (2023 data). Claro's 4G coverage reaches 96 percent of Brazil's population, and the company has launched 5G services in several cities across the country. The company is praised for the speed of its network and the variety of services it offers. Claro is also committed to social responsibility initiatives, with a focus on digital inclusion and technological development. In 2022, Claro reported revenues of approximately 35 billion reais[65].

TIM Brasil – part of the Italian Telecom Italia group, is another major telecommunications operator in the country. TIM offers mobile phone and broadband Internet services, with a strong presence in urban areas. TIM has about 23 percent of the mobile market share in Brazil and has more than 60 million mobile subscribers (2023 data). Its 4G coverage reaches 95% of Brazil's population, and the company has begun the rollout of 5G in major cities. The company is recognized for its competitive offers and a wide range of tariff plans. TIM is also active in social responsibility projects, promoting sustai nability and digital inclusion. In 2022, TIM reported revenues of about 18 billion reais[66].

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profile/#:~:text=We%20are%20Telef%C3%B4nica%20Brasil%20S.A.,the%20mobile%20and%20fixed%20operation

[65] Oliveira, MD (2012). Analisi degli indicatori di performance operativa e della loro influenza sui risultati economico-finanziari del settore della telefonia mobile in Brasile: Claro, Oi, Tim e Vivo.

[66] Gruppo TIM. (2024). TIM's Board of Directors examines and approves the interim report on operations at 31 March 2024. Retrieved from https://www.gruppotim.it/en/press-archive/corporate/2024/PR-BoD-1Q-29-05-2024.html

Oi[67] – Is an independent Brazilian company offering mobile, fixed-line, and broadband Internet services. Despite going through periods of financial difficulty, Oi maintains a significant presence in the telecommunications market in Brazil, with about 16 percent of the mobile market share and about 35 million mobile subscribers (2023 figures). Oi's 4G coverage reaches 90 percent of the Brazilian population, and the company is currently investing to improve its 4G networks and expand 5G. Oi has nationwide coverage that includes both urban and rural areas. The company is known for its financial challenges, but it is also committed to sustainability and social inclusion initiatives, seeking to improve the quality of life in the communities in which it operates. In 2022, Oi reported revenues of about 20 billion reais[68].

Tab 2.1: Main prlayers in the telecommunication manrket in brazil

	Tim	**Vivo**	**Claro**	**Oi**
Revenue (Billion)	R$6.303	R$19.2	R$12	R$5.2
Empolyees	10.000	30.000	12.000	10.000
Presence in the territory	TIM has a significant presence in Brazil, providing services in over 353 cities, with a strong focus on expanding its 5G network	It has a robust presence throughout Brazil, offering services in virtually all states and major cities	It has a widespread presence across Brazil, serving millions of customers in both urban and rural areas	It has a significant presence in Brazil, particularly in the northern and northeastern regions
Main services	It offers mobile and fixed telephony, broadband internet (including FTTH), and various value-added services. Its main product lines include TIM UltraFibra and	It offers mobile and fixed telephony, broadband internet, and pay TV services, along with various digital solutions for both residential	provides mobile and fixed-line telecommunications services, broadband internet, pay television, and a variety of digital services, including Claro Música and Claro Video	provides fixed-line and mobile telecommunications services, broadband internet, and pay TV.

[67] Oi was acquired by a consortium consisting of TIM, Vivo, and Claro in a transaction that was finalized on April 20, 2022. More ditailed information will be given in Chapter 3.
[68] Oi S.A. (2023). Investor relations. Retrieved from https://ri.oi.com.br/en/

	mobile plans with 5G capabilities	and business customers

2.Regulatory Evolution

The telecommunications market in Brazil has undergone a significant transformation since the 1990s, moving from a state monopoly to an environment of free competition. This change has been driven by a series of regulatory and institutional reforms that have had a profound impact on the sector.

The main turning point in the Brazilian telecommunications market came with Constitutional Amendment No. 8 of 1995, which paved the way for privatization of the sector[69]. Prior to this amendment, the telecommunications sector was entirely controlled by the state through the Telebras system.

In 1997, with the enactment of the General Telecommunications Law (LGT, Law No. 9,472/1997), ANATEL, the first regulatory agency in the sector, was established. The LGT stipulated that ANATEL would have "administrative independence, financial autonomy and absence of hierarchical subordination." This allowed the agency to operate with some autonomy from the government, with the goal of ensuring fair regulation and promoting competition in the market.

The creation of ANATEL marked the beginning of a new era of regulation in the telecommunications market. The agency was tasked with overseeing the privatization process, regulating the sector and ensuring that rules were followed. A crucial aspect of regulation was the concept of the "revolving door," which describes the phenomenon of mobility between the public and private sectors, and which can lead to potential conflicts of interest and regulatory capture[70].

[69] Mattos, C., & Coutinho, P. (2005). The Brazilian model of telecommunications reform. *Telecommunications Policy*, *29*(5-6), 449-466.
[70] Façanha, L. O., & Resende, M. (2004). Price cap regulation, incentives and quality:: The case of Brazilian telecommunications. *International Journal of Production Economics*, *92*(2), 133-144.

ANATEL implemented a series of regulations to govern the market, including spectrum management and the organization of auctions for frequency allocation[71]. These auctions have been instrumental in the introduction of 3G, 4G and, more recently, 5G technologies, which have helped improve access and quality of telecommunications services across the country.

In the 2000s, public policy attention shifted to broadband expansion. The first major step was the launch of the National Broadband Plan (NBLP) in 2010, which aimed to improve Internet access throughout the country. Telebras, a public company, was reactivated to play a key role in expanding the broadband network, especially in underserved areas.

However, PNBL has encountered various obstacles and has not achieved all its goals. To address these challenges, the National Connectivity Plan (PNC) was introduced in 2016, which aimed to review and improve existing broadband policies, emphasizing the importance of connectivity for Brazil's economic and social development.

The most recent regulatory changes were introduced with Law No. 13,879/2019, which made significant changes to the LGT[72]. This law reinforced the privatization of the sector, keeping only fixed telephony under public regulation. The changes also addressed the expiration of fixed-line telephony concessions and the subsequent management of assets used to provide the service.

The evolution of regulation in the Brazilian telecommunications market has had significant direct impacts on major market players like Claro, TIM, and Vivo. These companies are required to continually adapt to new regulatory requirements, which can affect their market and pricing strategies. Policies aimed at increasing competition, such as mobile number portability and infrastructure sharing, have reduced the traditional competitive advantages of incumbent operators, compelling them to invest in innovation and service enhancements to maintain market share. Additionally, compliance with data privacy and security regulations necessitates substantial investment in technology and compliance procedures, increasing operational costs.

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[71] Agência Nacional de Telecomunicações. Legislação. Retrieved from https://informacoes.anatel.gov.br/legislacao/

[72] Ángel Mayorga-Bohórquez, M., Paola Estupiñán-Cuesta, E., & Carlos Martínez-Quintero, J. (2021). Diagnostic of the current situation of 5G technology: South America. *Visión Electrónica*, *15*(2).

This environment forces the leading players to balance regulatory compliance with the need to remain competitive and profitable in an increasingly dynamic and regulated market[73].

A major challenge for the future will be balancing the need for further investment in infrastructure with maintaining a competitive and affordable environment. ANATEL will need to continue to play a crucial role in regulating and promoting a fair market, ensuring that new technologies such as 5G are implemented effectively and that broadband access is expanded, especially in rural and underserved areas[74].

The regulatory evolution of the telecommunications market in Brazil has led to significant improvements in the quality and availability of services. However, challenges remain, especially in terms of ensuring fair competition and universal access to telecommunications services. ANATEL will continue to be a key player in this process, tasked with balancing public and private interests and promoting innovation in the sector.

3.Technology and Innovation

The telecommunications market in Brazil is characterized by continuous technological evolution. Operators are investing heavily in 5G, which promises to revolutionize the industry with much faster connection speeds and reduced latency. TIM, for example, has launched Latin America's first 5G port in Santos and is working on industrial automation projects with the 5G network. Vivo and Claro have also launched 5G network trials and deployments in several Brazilian cities.

The evolution of mobile phone networks in Brazil has followed a similar path as in developed countries, with the implementation of 2G, 3G, 4G and, more recently, 5G technologies[75].

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[73] Portella, A. G. (2018). *The impact of Economic Adjustment on the Brazilian Telecommunications Market: The mobile phone Segment*. Revista Científica Multidisciplinar Núcleo do Conhecimento, 3(6), 80-107. https://doi.org/10.32749/nucleodoconhecimento.com.br/business-administration/telecommunications-market
[74] Dantas, G. D. A., de Castro, N. J., Dias, L., Antunes, C. H., Vardiero, P., Brandão, R., ... & Zamboni, L. (2018). Public policies for smart grids in Brazil. *Renewable and Sustainable Energy Reviews*, *92*, 501-512.
[75] Szapiro, M., & Cassiolato, J. (2013). The telecommunications system of innovation in Brazil ten years later.

2G and 3G: 2G technology introduced digital communication and text messaging services in the 1990s, followed by 3G technology in the early 2000s, which enabled mobile Internet access and significantly improved the quality of voice and data communications. The launch of 3G marked the beginning of an era of more advanced mobile connectivity, paving the way for services such as mobile Internet access and video calling.

4G: The introduction of 4G in 2012 further revolutionized the market, offering much faster connection speeds and reduced latency. This has enabled better enjoyment of multimedia content, adoption of more advanced applications, and supported the growth of e-commerce and streaming services.

5G: It represents the latest technological innovation in the Brazilian telecommunications sector. Auctions for the allocation of 5G frequencies were conducted by ANATEL in 2021, generating total commitments of BRL 47.2 billion (approximately USD 8.5 billion). This technology promises even faster connection speeds, ultra-low latency, and an ability to support a much greater number of simultaneously connected devices. As of September 2023, Claro had deployed 5,690 5G cell sites, while Vivo and TIM had 3,542 and 7,590 sites, respectively. 5G is seen as an enabler for the development of advanced applications such as the Internet of Things (IoT), smart cities, and industrial automation.

Broadband expansion in Brazil has been a top priority to improve connectivity and support economic growth. Fixed broadband, particularly through fiber optics, has been identified as a key solution to provide high-speed connectivity[76].

Optic Fiber: Fiber optic technology has revolutionized connectivity in Brazil, enabling much higher connection speeds than traditional copper networks. The deployment of fiber optics has been accelerated in recent years, with significant investment by telecommunications operators and regional Internet Service Providers (ISPs). This has increased the Internet penetration rate and improved the quality of services offered.

[76] Hobday, M. (2023). *Telecommunications in developing countries: the challenge from Brazil*. Taylor & Francis.

Regional ISPs: Regional ISPs have played a crucial role in expanding connectivity, especially in areas underserved by large national operators. These regional providers have helped bridge the digital divide, offering broadband services in rural and remote communities where the large companies' infrastructure was absent or inadequate.

The Brazilian government, through ANATEL and other institutions, has implemented various initiatives and policies to support technological innovation in the telecommunications sector.

Frequency Auctions: ANATEL has conducted numerous auctions for the allocation of frequencies needed to implement new technologies, such as 4G and 5G. These auctions were key to ensuring that operators had access to the spectrum needed to offer high-quality services.

National Plans: The National Broadband Plan (PNBL) and the National Connectivity Plan (NCCP) were two of the government's major initiatives to expand Internet access and improve the quality of connectivity. These plans included incentives for infrastructure investment, favorable regulations, and digital inclusion programs to ensure that even the most remote communities could benefit from broadband connectivity.

Incentives for Research and Development: The Brazilian government also promoted investment in research and development to support innovation in the telecommunications sector. This has included tax incentives for companies investing in new technologies and collaborative programs between the private sector and academic institutions to develop advanced solutions.

The deployment of fixed broadband, particularly through fiber optics, is another significant trend. Regional ISPs are growing rapidly, providing connectivity in areas not served by large operators. This has significantly increased the country's internet penetration rate to 90 percent of households by 2021. Fiber-optic technology offers much higher connection speeds than traditional copper networks, improving the user experience and enabling new applications such as telemedicine and distance education.

4.Challenges and opportunities

The telecommunications sector in Brazil faces several challenges, including the need to expand coverage in rural areas, improve service quality, and maintain competitive prices. Regulation plays a crucial role in ensuring that these challenges are addressed effectively, promoting innovation and competition. One critical area is the expansion of 4G and 5G coverage in less densely populated areas, where operators face high costs and low profitability.

Opportunities for operators include the expansion of digital services, the implementation of new technologies such as 5G, and the possibility of developing new business models through strategic partnerships. For example, TIM has developed a partnership with Banco C6 to promote digital financial services, demonstrating how the integration of telecommunications and financial services can open up new growth opportunities. Other areas of opportunity include Internet of Things (IoT), smart city technology, and cloud computing services.

A major challenge is the expansion of telecommunications coverage in rural and remote areas. Operators often find it unprofitable to invest in these areas due to high costs and low population density. In addition, the lack of basic infrastructure, such as stable electricity and adequate roads, further complicates the installation and maintenance of telecommunications networks.

The government can incentivize investment in rural areas through subsidies, tax breaks and public-private partnership programs. In addition, the development of innovative technologies, such as mesh networks and satellite solutions, could provide cheaper and more practical alternatives for improving connectivity in remote regions[77].

Maintaining a competitive environment is essential to foster innovation and improve service delivery. However, market concentration among a few large players can limit competition, reducing the incentive to innovate and keep prices affordable for consumers.

ANATEL can implement policies that incentivize new players to enter the market and promote transparency in business practices. In addition, supporting technology startups and small and

[77] U.S. Department of Commerce. (n.d.). Brazil - Market challenges. Privacy Shield. Retrieved July 5, 2024, from https://www.privacyshield.gov/ps/article?id=Brazil-Market-Challenges

medium-sized enterprises (SMEs) in the telecommunications sector can further stimulate innovation.

The growing demand for connectivity also leads to increased energy and resource consumption, posing significant challenges in terms of environmental sustainability. Telecommunications infrastructure must be designed to withstand extreme environmental conditions, such as storms and flooding, which can be frequent in some regions of Brazil.

Operators can invest in green technologies and resilient infrastructure, such as solar power and battery backup, to reduce environmental impacts and ensure continuity of services. In addition, adopting sustainable practices can attract investment and improve companies' image.

Ensuring that telecommunications services are affordable to all segments of the population is another significant challenge. Economic disparities in Brazil can limit access to the Internet and telecommunications services for low-income populations.

Government policies may include subsidies for low-income households and incentives for operators to offer subsidized rates. In addition, the development of innovative business models, such as flexible payment plans and prepaid offerings, can help make telecommunications services more affordable for all.

The implementation of 5G technology offers enormous opportunities for the telecommunications market in Brazil. Not only will 5G improve the speed and quality of connections, it will also enable a wide range of innovative applications, such as the Internet of Things (IoT), smart cities, and industrial automation[78].

However, the implementation of 5G requires significant investment in new infrastructure and the acquisition of the necessary frequencies. Cooperation between government, regulators, and the private sector will be essential to overcome these challenges and fully exploit the potential of 5G.

[78] International Trade Administration. (n.d.). Brazil - Market challenges. Country Commercial Guides. Retrieved July 5, 2024, from https://www.trade.gov/country-commercial-guides/brazil-market-challenges

Tab 2.2: Challenges and opportunities in the brazilian telecommunication sector

Challenges	**Opportunities**
Expanding Coverage in Rural Areas	Expansion of Digital Services
Improving Service Quality	Strategic Partnerships
Maintaining Competitive Prices	Innovation in IoT and Smart Cities
Environmental Sustainability	Cloud Computing
Affordability	Government Support

CHAPTER III

Case study: Telecom Italia

Telecom Italia's roots go back to 1925, with the founding of *Società Idroelettrica Piemontese* (SIP). Initially, SIP was a company focused primarily on the production and distribution of electricity, a booming sector in Italy during that period. However, as time went on, SIP began to diversify its activities, gradually entering the telecommunications sector, which was then still in its infancy.

The real turning point for SIP came with the second half of the 20th century, when the Italian government began to centralize and nationalize telecommunications-related activities. This process culminated in 1964 with the creation of SIP - Società Italiana per l'Esercizio Telefonico, born from the merger of several regional telephone companies. This new entity became the main telecommunications operator in Italy, managing the national telephone service. SIP assumed control of almost all of Italy's telephone infrastructure, thus becoming a fundamental pillar of the country's communications network.

During the 1970s, SIP consolidated its monopoly position in Italy's telecommunications sector. During this period, the company continued to expand and improve the national telephone network, meeting the challenge of connecting the entire country, including rural and less developed areas. This decade was also marked by major technological innovations, including the introduction of new telephone exchanges and the expansion of automatic telephone networks, which gradually replaced the old manual networks.

With the beginning of the 1980s, Italy, like many other European nations, began to come under pressure from the European Economic Community (EEC) to liberalize the telecommunications market[79]. This marked the beginning of a radical change in the structure and management of SIP. The company, until then a state monopoly, prepared to compete in a more open and competitive market.

In 1985, the Italian government began the process of partially privatizing SIP, transforming it from a wholly public entity into a mixed capital company, with part of its shares offered to the public[80]. This move was aimed at improving SIP's efficiency and competitiveness, making it

[79] Kornelakis, A. (2015). European market integration and the political economy of corporate adjustment: OTE and Telecom Italia, 1949–2009. Business History, 57(6), 885-902.

[80] Ottaviano, C. (2011). L'Archivio storico Telecom Italia. *Economia della Cultura*, *21*(3), 321-326.

more similar to other large European companies and preparing it for the challenges of the global market.
1994 was a crucial year in the company's history, with the transformation of SIP into Telecom Italia. This name change reflected the company's desire to modernize and establish itself as a leader in the telecommunications industry, not only in Italy but also internationally. Telecom Italia inherited all of SIP's infrastructure, contracts and customer base, but with a new strategic vision focused on innovation and expansion into new markets.
The transformation to Telecom Italia came at a time of great change for the telecommunications industry globally, with the spread of new technologies such as mobile networks and the beginning of the Internet revolution. Telecom Italia had to navigate a rapidly changing environment, where competition was increasing and consumer needs were changing rapidly.
In 1995, Telecom Italia decided to create a subsidiary dedicated exclusively to mobile telephony: Telecom Italia Mobile (TIM)[81]. The birth of TIM was in response to the growing demand for mobile services, which was transforming the way people communicated. TIM quickly became the market leader in mobile telephony in Italy, taking advantage of the expansion of the GSM network and the increased adoption of cell phones.
TIM stood out for its ability to innovate, introducing cutting-edge services and promoting the use of cell phones at a time when this tool was becoming accessible to an increasingly wide audience. TIM's growth was rapid and sustained, fueled by continued network expansion and the introduction of new services such as SMS and, later, mobile Internet access.
In 1997, TIM went public in a deal that marked another step forward in its growth. TIM's initial public offering (IPO) was a success, demonstrating investor interest in the mobile telecommunications industry and the company's growth potential[82]. The IPO enabled TIM to raise significant capital, which was reinvested in network expansion and the development of new services.
TIM's IPO also represented an important milestone in Telecom Italia's strategy of internationalizing and diversifying its business. With the funds raised, Telecom Italia began to

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[81] Gruppo TIM. (n.d.). *1994: Nasce Telecom Italia - una lunga storia*. Archivio Storico Gruppo TIM. Retrieved August 4, 2024, from https://archiviostorico.gruppotim.it/it/1994-nasce-telecom-italia-lunga-storia
[82] Ministero dell'Economia e delle Finanze. (18/10/1997). *FISSATO IN LIRE 11.200 PER AZIONE ORDINARIA IL PREZZO MASSIMO DELL'OPV TELECOM ITALIA DESTINATA AL PUBBLICO INDISTINTO IN ITALIA*. Press release.

explore opportunities for expansion abroad, recognizing that the future of corporate growth lay largely in international markets.

In the context of increasing liberalization of telecommunications markets, Telecom Italia began to expand its operations abroad. The company identified Latin America as a key region for its expansion, given the rapid economic growth and growing demand for telecommunications services in those countries. The acquisition of stakes in various local telecommunications companies was part of a broader strategy to become a global player.

One of Telecom Italia's most significant investments in this region was the acquisition of a significant stake in *Telecomunicações Brasileiras S.A.* (Telebras), a Brazilian holding company of telecommunications companies that had recently been privatized by the Brazilian government. This acquisition paved the way for Telecom Italia's entry into the Brazilian market, one of the largest and most promising in the world.

In 1999, TIM Brasil was officially established as a subsidiary of Telecom Italia[83]. The goal was to consolidate and manage mobile phone operations in Brazil, using the resources and infrastructure acquired through the stake in Telebras. TIM Brasil inherited a significant portion of the existing infrastructure and customer base, quickly launching nationwide operations.

The birth of TIM Brasil took place against a background of strong growth in Brazil's telecommunications market. The country was going through a phase of economic modernization, with an increasing middle class and growing demand for mobile services. TIM Brasil took advantage of this dynamic, investing heavily in network expansion and improved services, with

In the early 2000s, TIM Brasil quickly established itself as a major player in the mobile market in Brazil. The company was able to compete effectively with other operators in the market, thanks to an aggressive strategy of network expansion, improved service quality and competitive offerings for consumers.

TIM Brasil's expansion was accompanied by a series of technological and marketing innovations. The company was among the first to introduce advanced services such as international roaming, mobile Internet access and a range of value-added services that became popular with Brazilian consumers. TIM Brasil also invested in advertising and promotional campaigns that increased the brand's visibility and appeal.

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[83] TIM. (n.d.). *Grupo TIM*. TIM RI. Retrieved August 4, 2024, from https://web.archive.org/web/20211006190228/https://ri.tim.com.br/sobre-a-tim/grupo-tim/

1.Methodology

In this study, Single Case Analysis has been used, a methodology that allows a single case study to be investigated in detail, providing a comprehensive and multifaceted view of all the dynamics involved. This methodology is particularly useful when analyzing complex phenomena, such as a company's expansion into a new market[84].

In the Single Case Analysis, qualitative and quantitative data are collected on the specific case, in this case TIM Brasil, to understand the strategies adopted, the challenges faced and the results achieved. This analysis highlights both internal factors (such as governance and strategic decisions) and external factors (such as the regulatory environment and market competition), providing a solid basis for drawing generalizable conclusions in similar contexts.

Studying the case of TIM Brasil's internationalization is useful and relevant for several reasons. As one of the leading players in the South American telecommunications market, particularly in 4G and 5G coverage, TIM Brasil provides valuable insights into how a major telecommunications company navigates complex market dynamics and regulatory environments. Understanding its internationalization strategies can highlight best practices and challenges faced by companies in similar sectors.

TIM Brasil is at the forefront of technological advancements in telecommunications, including the deployment of 5G networks. Analyzing its approach to adopting and implementing new technologies can shed light on how telecommunications companies can innovate and remain competitive in a rapidly evolving landscape.

Moreover, the telecommunications sector is crucial for economic growth and development in Brazil. By studying TIM's strategies, we can better understand how telecommunications companies contribute to digital transformation, enhance connectivity, and support various sectors of the economy, including small and medium-sized enterprises (SMEs).

The telecommunications sector in Brazil is especially relevant due to the growing demand for connectivity, driven by increased internet usage and mobile phone penetration. This sector

[84] Yin, R. K. (2009). *Case study research: Design and methods* (Vol. 5). sage

plays a vital role in meeting connectivity demands, making it essential to study companies like TIM that are leading the charge.

Additionally, the Brazilian government, through agencies like ANATEL, is actively promoting the expansion of telecommunications infrastructure, particularly in underserved areas. Understanding how TIM interacts with government policies and initiatives can provide insights into the regulatory landscape and its impact on business operations.

Furthermore, the telecommunications sector is a key enabler of digital transformation across various industries. TIM's efforts in providing cloud services, IoT solutions, and cybersecurity are indicative of broader trends in the sector, highlighting its relevance in driving innovation and efficiency.

Lastly, TIM Brasil's commitment to sustainability and social initiatives, such as becoming carbon neutral by 2030, reflects the growing importance of corporate responsibility in the telecommunications sector. This aspect is increasingly relevant for consumers and investors alike, making it a critical area of study.

Thus, studying TIM Brasil's internationalization offers valuable insights into market strategies, technological innovation, and the broader economic impact of the telecommunications sector in Brazil. Understanding these dynamics is crucial for stakeholders, including businesses, policymakers, and researchers, as they navigate the complexities of this vital industry.

To frame the study, the theories of internationalization and the specific dynamics of the Brazilian telecommunications market were thoroughly analyzed. These theoretical foundations are essential for understanding the strategic decisions of TIM and their implications. Theories such as Dunning's Eclectic Paradigm, Uppsala Model and Porter’s five forces were considered to comprehend TIM’s market entry strategies and how the company adapted to the complex regulatory environment of Brazil. Additionally, the examination of market-specific theories highlighted the challenges and opportunities in the Brazilian telecommunications sector, such as regulatory frameworks, competition dynamics, and technological advancements. This theoretical analysis forms the basis for understanding TIM's strategic choices and provides a comprehensive framework for analyzing their impact.

1.1Data collection

Data collection was meticulously designed to ensure a comprehensive and multi-faceted understanding of TIM’s operations, strategies, and the broader telecommunications market in Brazil. Various sources were utilized:

Company documents such as TIM's annual reports, financial statements, meeting reports, historic archives, and strategic planning documents were analyzed. Examples include the TIM Annual Reports from 2002, 2005, 2006, 2010, and the TIM Relatório ESG 2023. These documents provided direct insights into TIM’s financial health, strategic priorities, market positioning, and responses to regulatory changes, which were crucial for understanding TIM's strategic evolution over time.

External reports and industry publications from regulatory bodies like ANATEL, industry analysts, and consultancy firms were examined to understand the regulatory landscape, market trends, and TIM’s competitive positioning. Publications from sources such as the International Telecommunication Union (ITU) and documents from the Italian and American chambers of commerce provided global context, while Brazilian telecom industry journals offered local insights.

Several media sources were utilized to gather insights on market dynamics and track developments in the telecommunications industry. ANSA provided news articles detailing TIM’s financial performance and strategic initiatives, such as increases in revenue and EBITDA. Corriere Comunicazioni covered significant transactions and executive changes, including the acquisition of Oi and the resignation of TIM Brasil's CEO. Il Sole 24 Ore offered updates on strategic partnerships, highlighting joint offers between TIM and Telefonica. Reuters and La Stampa reported on scandals, corporate governance issues, and TIM Brasil’s financial performance.

Press articles and media reports from major news outlets and specialized telecom publications were used to track ongoing developments, public statements from TIM’s executives, and industry reactions. This helped capture TIM’s media presence and understand external perspectives on the company’s actions.

Finally, TIM’s corporate website and press releases from the early 2000s to the present day were reviewed regularly to track announcements, new product launches, and partnership agreements. This provided real-time information on the company’s strategic initiatives and market activities, offering a detailed view of TIM’s current and past operations.

This comprehensive data collection approach provided a well-rounded perspective on TIM's role in the Brazilian telecommunications sector, essential for a detailed and accurate analysis of its market strategies.

1.2 Data Analysis

The data analysis for this thesis was conducted using content analysis, a qualitative research method that enables systematic examination of textual information to identify patterns, themes, and meanings. This approach was chosen for its effectiveness in handling diverse sources of data, ensuring a thorough understanding of the complex environment in which TIM operates.

The collected data were systematically coded to categorize information into relevant themes such as market entry strategies, regulatory impact, technological innovation, and competitive dynamics. Coding provided a structured framework for organizing and analyzing qualitative data.

By identifying recurring themes and patterns, thematic analysis facilitated a deeper understanding of TIM’s strategic initiatives and market behaviors. Themes such as regulatory compliance, customer engagement, and technological advancements were central to the analysis.

Comparative analysis involved examining TIM's strategies relative to other key players in the telecommunications market. This helped in understanding TIM's competitive positioning and market differentiation.

To ensure the reliability and validity of the findings, triangulation was used. Data from multiple sources, such as corporate reports and media articles, were cross-referenced to confirm consistency and accuracy. This process reduced the potential for bias and strengthened the credibility of the conclusions drawn.

The data were interpreted in the context of the broader economic, regulatory, and technological environment in Brazil. This contextual analysis provided insights into how external factors influence TIM's strategic decisions and operations, offering a comprehensive view of the market dynamics.

The insights gained from content analysis were integrated with established theories of internationalization and telecommunications. This ensured that the analysis was not only grounded in empirical data but also aligned with relevant academic frameworks, enhancing the overall depth and rigor of the study.

This generalized approach to data analysis allowed for a nuanced understanding of TIM’s operations and strategies, providing valuable contributions to the study of international business in the telecommunications sector.

2.TIM's internationalization policy in Brazil and its Governance

Tim's launch in Brazil represents an interesting case of a business Italian multinational company, a leader in its target market, which faces with success a country belonging to the so-called developing markets with a "newcomer" strategy. While in Italy Tim successfully faces, in the position of incumbent leader, a difficult struggle with other competitors also with reference to the new third-generation technologies (3G-UMTS), at the same time, drawing on its portfolio of available technologies, Tim enters Brazil with GSM and builds a position as second player in the market.
Tim, in this regard, enters the Brazilian telecommunications market using the foreign direct investment mode[85], thus acquiring licenses and companies already present in the national (Brazilian) territory. In connection with this choice, the company begins to provide service as a Mobile Radio Operator in Brazil in 1996, through the acquisition of two licenses, AMPS (Advanced Mobile Phone System) and TDMA (equivalent to TACS), in the states of Bahia and Minas Gerais. Following the privatization of Telebras (a holding company composed of all the Public Operators of telephony), Tim continues its internationalization process by acquiring

[85] Lessa, W. G. (2015). Análise de comportamento competitivo de uma revenda de telefones celulares autorizada TIM (Doctoral dissertation, [sn]).

of companies operating in an additional nine states, in the South, Southeast and Northeast regions, thus giving rise to the so-called Overlay (OVLY) companies. In 2001 Tim Brasil continued by acquiring the PCS licenses (in the 900 and 1800 MHz bands) necessary to operate throughout the country, and, during October 2002 it launched GSM service (Tim was the first Operator to launch such service in the federal capital and throughout the central-west area of Brazil).

The motivations behind this internationalization process are multiple. First, the company's management decided to extend its service business to Brazil as well because, a state with a population of more than 180 million inhabitants, a land area (divided into 26 states and one district federal) nearly thirty times the size of Italy and in an economic growth phase that is not indifferent, it represents a highly profitable target market with prospects equally interesting futures. Second, the company was able to take advantage of its Technological and managerial "know-how" in managing the "new" business in a previously unknown territory[86]. Finally, through this process of internationalization, the full Telecom Group has been able to diversify its investment portfolio, thereby reducing, and thus improving, its exposure to the European mobile phone market, which is certainly not in crisis but is definitely saturated and highly competitive.

During this internationalization process, Tim encountered significant difficulties. The main issue facing the company is definitely related to the country's geographic conformation and the regulations in place for the sector in question. In fact, the process of liberalization of the telecommunications market in the late 1990s led to the subdivision of Brazil into three regions for fixed telephone services, one region for long-distance services, and eight regions for mobile activities managed by the companies that emerged from the subdivision of Telebras and Embratel; the mobile sector was then opened to competition with the allocation of licenses for cellular services[87]. In recent years, the mobile market has been further articulated with the presence of four frequency bands assigned under concession to the various Operators in each of the ten areas, and in addition, the availability of the frequency band differs from region to region, as do the local competitors and the access technologies they use. In addition, the Telecommunications Regulatory Authorities assign Operators a frequency band, leaving

[86] Hobday, M. (2023). *Telecommunications in developing countries: the challenge from Brazil*. Taylor & Francis.
[87] Fleury, A., & Fleury, M. T. (2003). The evolution of strategies and organizational competencies in the telecommunications industry. *International Journal of Information Technology & Decision Making*, *2*(04), 577-596.

freedom on the technology to be used on that band: this approach (known as "technology neutral") has the advantage of pushing competition among the various Operators and, in theory, selecting the best technology and, consequently, providing a better service to users[88]. Finally, the Telecommunications Authority in Brazil itself places different constraints on the allocation of frequency bands, taking into account, for example, the past situation and the actual possibilities of opening the market to new players and new technologies. In such a very complicated context, Tim Brasil represents the only Brazilian Mobile Operator present in all the states of the country, with a customer base of about 26 million (end of 2006), thus coming to be the second largest Mobile Operator in the country with a market share of 25 percent[89], after Vivo (whose reference shareholders are Telefonica Moviles and Portugal Telecom) and ahead of Claro Of Mexico's America Movil. To better understand the organization of Tim Brasil, it is useful to refer to the figure below:

Telecom Italia has focused on Tim rather than Telecom, thus on mobile rather than fixed telephony for its internationalization process, since extensive coverage of the Brazilian territory is practically impossible, in addition to not being economically viable, considering the

88 Bastos, M. I. (1995). *Telecommunication Industry in Brazil: Public-Private Relationship and Technology Development* (No. 9503). United Nations University, Institute of Technologies.
89 Telecom Italia. (2003). *Risultati del terzo trimestre 2003*. Gruppo TIM. Retrieved August 5, 2024, from https://www.gruppotim.it/content/dam/telecomitalia/it/archivio/documenti/Investitori/Trimestrali/2003/TI-2003-terzo-trimestre.pdf

enormous size of the country. Telecom Italia, through Tim Brasil, has developed the access network in the territory providing GSM/GPRS/EDGE coverage nationwide: this coverage is achieved through the installation of nearly 9000 SRBs (Radio Base Station) and more than 130 BSCs (Base Station Controllers) with particular concentration in Sao Paulo, where about 30 percent of the total network traffic is disposed of. The figure below illustrates the distribution of radio base stations within the Brazilian territory:

Like any company, Tim Brasil has its own corporate mission and vision[90]. The company's mission can be summarized and outlined in a few points:

- Maintenance and defense of Tim Brasil's assets and properties in Brazil;
- Support and help for start-ups and existing companies, with the aim of bringing
- To complete the set goals;
- Provision of support services to operators;
- Role as an agent to foster the materialization of synergies between different operators;
- Consistent definition of policies, processes, and procedures at the level National;
- Leading business development and defining strategies at the level of country.

[90] Telecom Italia. (n.d.). *I nostri valori*. Gruppo TIM. Retrieved August 5, 2024, from https://www.gruppotim.it/it/lavora-con-noi/i-nostri-valori.html

As far as vision is concerned, the situation is different, as the company is working hard to become in the future:

- Brazil's first GSM operator with a national mold;
- The most innovative service provider of all;
- The most responsive and flexible "pure" mobile operator;
- The provider with the best costs;
- Technology leader;
- The "employer" for top talent;
- The creator of the greatest value generated.

3.Company's performance in early years

Tim Brasil began to gain market share through an aggressive expansion strategy. By 2002, the company had consolidated itself as a national company, becoming the first mobile operator to operate in all states in Brazil. During this period, Tim Brasil's market share was around 15 percent[91].

Between 2003 and 2005, Tim Brasil continued to expand its customer base and improve services. The company introduced new technologies, such as GSM, and launched competitive tariff plans that attracted a growing number of users. In 2005, Tim Brasil achieved a 20 percent market share[92], thanks to an effective marketing strategy and significant investment in infrastructure. During these years, the company experienced steady growth in the number of customers, increasing its base to about 30 million users.

In the following years, Tim Brasil further strengthened its position in the market. In 2006, the company launched the 3G network, which revolutionized mobile data access[93]. This innovation led to increased demand for mobile Internet services and helped grow the customer base. In 2010, Tim Brasil achieved a 26 percent market share, consolidating its position as a leader in

[91] Telecom Italia. (2002). Annual report 2002. Gruppo TIM. Retrieved August 6, 2024, from https://www.gruppotim.it/content/dam/telecomitalia/en/archive/documents/investors/Annual_Reports/2002/TI-2002-annual-report.pdf

[92] Telecom Italia. (2005). *Annual report 2005* [Annual report]. Gruppo TIM. Retrieved August 6, 2024, from https://www.gruppotim.it/content/dam/telecomitalia/en/archive/documents/investors/Annual_Reports/2005/TI-2005-annual-report.pdf

[93] Telecom Italia. (2006). *Annual report 2006* [Annual report]. Gruppo TIM. Retrieved August 6, 2024, from https://www.gruppotim.it/content/dam/telecomitalia/en/archive/documents/investors/Annual_Reports/2006/2006_ANNUAL_REPORT.pdf

the Brazilian telecommunications industry. During this period, the operator also launched innovative tariff plans, such as the "Infinity" plans, which further attracted customers.

In 2010, Tim Brasil had about 51 million customers and, according to Anatel data, its market share had increased from 20 percent in 2005 to 26 percent in 2010. This increase was supported by increased investment in infrastructure, which reached about 4.5 billion reais in 2010. In addition, in 2010, Tim Brasil surpassed its traditional competitors in the long-haul market, becoming the leading operator in this segment[94].

Between 2011 and 2012, Tim Brasil maintained its market share around 25-26%. The company continued to invest in infrastructure and improve services as it faced increasing competition in the market. During this period, Tim Brasil also began to explore consolidation opportunities, as evidenced by interest in acquiring Oi's mobile business.

4.Service issues and corporate restoration

In 2012, TIM Brasil, was involved in a significant scandal regarding the quality and reliability of its mobile services. The scandal originated from a series of technical problems that plagued TIM Brasil's network, causing frequent call interruptions and unsatisfactory quality of service[95]. These problems led to numerous complaints from users, with reports of calls interrupted without warning, low signal quality and unstable connections even in densely populated urban areas. Complaints piled up on social media and discussion forums, creating growing public dissatisfaction.

The Agência Nacional de Telecomunicações (ANATEL), Brazil's telecommunications regulator, launched an in-depth investigation into the quality of service offered by TIM Brasil. ANATEL conducted detailed monitoring of TIM Brasil's network, collecting data on actual service performance. Significant discrepancies were discovered between TIM Brasil's official reports and the actual conditions reported by customers.

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[94] Telecom Italia. (2010). *Annual report 2010* [Annual report]. Gruppo TIM. Retrieved August 6, 2024, from https://www.gruppotim.it/content/dam/telecomitalia/en/archive/documents/investors/Annual_Reports/2010/AnnualReport2010.pdf

[95] Reuters. (2012). *Escándalo por tarjetas SIM fuerza renuncia de jefe TIM Brasil*. Reuters. Retrieved August 6, 2024, from https://www.reuters.com/article/world/americas/escndalo-por-tarjetas-sim-fuerza-renuncia-de-jefe-tim-brasil-idUSSIE84400Q

Investigations brought to light allegations that TIM Brasil manipulated its network quality data to hide actual poor performance and avoid penalties from regulators[96]. Some reports suggested that TIM Brasil manipulated performance data to appear to comply with regulatory standards, failing to report persistent problems to avoid regulatory intervention. The company allegedly deliberately failed to report persistent problems to avoid regulatory intervention. Rapid subscriber growth was not accompanied by adequate investment in network infrastructure, causing frequent overloads and systematic failures.

As a result of the investigation, ANATEL imposed severe sanctions on TIM Brasil[97]. The company was forced to significantly improve its network infrastructure and submit detailed plans to ensure greater service reliability. TIM Brasil faced several negative consequences. ANATEL imposed significant fines on the company for failing to meet quality standards, and operating restrictions were applied that temporarily prohibited the sale of new lines in some states until it improved its infrastructure[98].

The scandal had a negative impact on TIM Brasil's reputation, causing a significant loss of dissatisfied customers. Many customers switched operators because of the loss of confidence in TIM Brasil's ability to provide reliable service. The company's reputation was severely damaged, negatively affecting brand perception. Economic penalties and costs associated with the investments needed to improve infrastructure negatively affected the company's finances. This led to reduced profits in the short term, affecting stock value[99].

In response to the scandal, there were significant changes in TIM Brasil's management[100]. Several executives were replaced with the goal of restoring trust and improving internal

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[96] Gazeta do Povo. (2012). *Ministro cobra investigação da Anatel no caso TIM*. Gazeta do Povo. Retrieved August 6, 2024, from https://www.gazetadopovo.com.br/economia/ministro-cobra-investigacao-da-anatel-no-caso-tim-2awa3vzdwy4ec1uk22v9tn6tq/

[97] JusBrasil. (n.d.). *Justiça estadual condena TIM Celular por dano moral coletivo*. JusBrasil. Retrieved August 12, 2024, from https://www.jusbrasil.com.br/noticias/justica-estadual-condena-tim-celular-por-dano-moral-coletivo/100048433

[98] ConJur. (2013). *Anatel eleva punições para operadoras de telefonia que não cumprem regras*. ConJur. Retrieved August 6, 2024, from https://www.conjur.com.br/2013-fev-26/anatel-eleva-punicoes-operadoras-telefonia-nao-cumprem-regras/

[99] Telecom Italia. (2012). *Verbale Assemblea Ordinaria Maggio 2012* [Verbale di assemblea]. Gruppo TIM. Retrieved August 12, 2024, from https://www.gruppotim.it/content/dam/telecomitalia/it/archivio/documenti/governance/verbali_atti_relazioni/2012/Verbale-Assemblea-Ordinaria-Maggio-2012.pdf

[100] Corriere Comunicazioni. (2012). *Tim Brasil: Ufficiali le dimissioni di Luciani*. https://www.corrierecomunicazioni.it/digital-economy/tim-brasil-ufficiali-le-dimissioni-di-luciani/

management. New management strategies focused on transparency and operational efficiency were implemented.

TIM Brasil increased investment in network infrastructure to improve service quality and reduce call drop rates. The company took steps to improve transparency in communications with customers and regulators by implementing more rigorous and transparent monitoring systems. Independent monitoring systems were established to ensure the accuracy of network performance data.

To regain customer trust, TIM Brasil launched awareness campaigns and improved customer service, seeking to respond more effectively to user complaints and feedback. The company improved transparency in communications with customers, providing regular updates on service quality and infrastructure progress. Loyalty programs were introduced to regain the trust of lost customers and reward the loyalty of existing customers.

The 2012 scandal represented a critical moment for TIM Brasil, highlighting the challenges associated with managing a rapidly expanding telecommunications network. The short-term negative consequences were significant, but the corrective measures taken led to improvements in service quality and management of the company. This case underscores the importance of transparency, service quality, and quick and effective crisis response to maintain the trust of customers and regulators. The main lesson is that telecommunications companies must balance growth with appropriate investment in infrastructure, maintaining high standards of service quality, and proactively managing relationships with customers and regulators.

5.Acquisition of Oi

The deal was announced in 2020, when Tim Brasil, Vivo, and Claro submitted a joint bid to buy Oi's mobile business, a process that was part of the company's restructuring as it struggled financially. The bid was declared the successful bidder in the competitive sale process, with a total value of about 16.5 billion reais (about 2.7 billion euros)[101]. Completion of the acquisition was subject to approval by Brazilian authorities. On February 1, 2022, Anatel (the national

[101] Corriere Comunicazioni. (2022, January 18). *TIM Brasil si compra Oi con Vivo e Claro: Deal da 2,7 miliardi*. https://www.corrierecomunicazioni.it/telco/tim-brasil-si-compra-oi-con-vivo-e-claro-deal-da-27-miliardi/

telecommunications agency) gave the go-ahead for the transfer of control of Oi's mobile business. Subsequently, on April 10, 2022, CADE (the antitrust authority) approved the transaction, confirming that it would maintain a high level of competition in the telecommunications market[102].

After obtaining the necessary approvals, the final closing of the acquisition took place on April 20, 2022[103]. This marked the end of a long process involving the restructuring of Oi's mobile business and the division of assets among the three operators.

The total value of the acquisition was approximately 16.5 billion reais (2.7 billion euros). Added to this figure was a consideration of 819 million reais (134 million euros) as net present value (NPV) for "Take-or-Pay" data transmission capacity contracts.

Tim Brasil participated in the transaction with an investment of approximately 7.3 billion reais (1.2 billion euros), to be paid at closing, plus 476 million reais related to its share in the net present value of the contracts.

The purchase plan provided for the distribution of Oi's mobile assets among the three operators, specifically:

- Customers: approximately 14.5 million customers have been assigned to Tim Brasil, accounting for 40 percent of Oi's total customer base
- Radio frequencies: Tim Brasil obtained about 54% of Oi's radio frequencies, meeting the spectrum limits set by Anatel
- Mobile access sites: Tim Brasil was awarded about 7.2 thousand sites, or 49% of the total

Asset allocation has followed criteria that promote competition among players in the Brazilian market[104].

Given the low debt and favorable market conditions, Tim said it plans to finance the acquisition using cash and the local debt market. However, in the event of any changes in market conditions, Tim made it clear that it would evaluate all available options

[102] Gruppo TIM. (2022, November 15). *TIM: via libera dal CADE a TIM Brasil per l'acquisizione delle attivita' mobili di Oi*. https://www.gruppotim.it/it/archivio-stampa/corporate/2022/CS-TIM-SA.html

[103] Gruppo TIM. (2022, April 20). *TIM closes the acquisition of Oi's mobile business unit*. https://www.gruppotim.it/en/press-archive/corporate/2022/PR-Closing-Oi.html

[104] Gruppo TIM. (2023). *Annual Report 2022*. https://www.gruppotim.it/content/dam/gt/investitori/doc---report-finanziari/2022/Annual-report-2022.pdf

5.1.Rationale for acquisition

The acquisition of Oi's mobile business by Tim Brasil, along with Telefônica Brasil (Vivo) and Claro, was motivated by several strategic and market factors.

The transaction was seen as an opportunity to create value for both Tim Brasil and its shareholders[105]. The acquisition will accelerate growth and increase operational efficiency through significant synergies, improving the capacity for investment and innovation in the telecommunications sector in Brazil.

By acquiring Oi, Tim Brasil and its partners aimed to consolidate their position in the market, creating a new infrastructure balance. This is crucial in an environment where competition is key to ensuring quality services and competitive prices for consumers.

The operation is expected to bring significant improvements in user experience and quality of services offered. With an increased customer base (14.5 million), the benefits are expected to be directly reflected in consumers through a more robust and diversified offering.

The acquisition was also motivated by the need to ensure adequate investment in the development of the country's telecommunications infrastructure and digitization. Brazilian authorities approved the transaction with the belief that it would help maintain a high level of competition in the market.

Finally, the acquisition was a response to Oi's crisis situation as it sought buyers for its mobile business. Tim Brasil, together with its partners, seized the opportunity to acquire strategic assets amid the restructuring of the telecommunications market in Brazil.

In summary, the acquisition of Oi's mobile business by Tim Brasil and its partners was driven by objectives of growth, operational efficiency, improved competitiveness and customer benefits, as well as a strategic response to changing market dynamics[106].

[105] Il Sole 24 Ore. (2020, September 8). *Tim e Telefonica: Offerta congiunta in Brasile per l'operatore Oi*. https://www.ilsole24ore.com/art/tim-e-telefonica-offerta-congiunta-brasile-l-operatore-oi-AD9q3UC

[106] de Araujo Jr, J. T. (2021). Análise Econômica da Aquisição da Oi pelo Consórcio TTC.

5.2.Synergies and operational benefits

The integration of Oi's mobile assets has created significant synergies for TIM Brasil, estimated to be worth up to $3.96 billion[107]. These synergies come mainly from optimizing infrastructure and integrating operations across operators.

Infrastructure Synergies

One of the main synergies comes from infrastructure optimization[108]. With the acquisition, the three operators have the opportunity to share resources and reduce costs associated with network management. Specifically:

- *Sharing of Towers and Sites:* By sharing transmission towers and access sites, maintenance and operational costs are significantly reduced. This approach not only lowers expenses but also improves network efficiency.
- *Network Integration:* Integration of network infrastructures makes it possible to improve coverage and service quality, increasing responsiveness to customer needs.

Commercial Synergies

Business synergies are manifested through an expanded customer base and improved service offerings:

- *Customer Base Expansion*: With the acquisition of approximately 14.5 million Oi customers, Tim Brasil and its partners stand to benefit from a significant increase in customer base, enabling them to diversify their offerings and improve loyalty.
- *Improved User Experience*: Integration of services and technology platforms enables a smoother and higher quality user experience, increasing customer satisfaction.

Financial Synergies

Financial synergies result from an improved economic position and the ability to attract investment:

[107] MarketScreener. (2022, April 22). *Tim Brasile prevede sinergie di fino a 3,96 mld da deal Oi Mobile*. https://it.marketscreener.com/quotazioni/azione/AMERICA-M-VIL-S-A-B-DE-C--6492980/attualita/Tim-Brasile-prevede-sinergie-di-fino-a-3-96-mld-da-deal-Oi-Mobile-40141073/
[108] Corriere Comunicazioni. (2022, January 18). *TIM Brasil si compra Oi con Vivo e Claro: Deal da 2,7 miliardi*. https://www.corrierecomunicazioni.it/telco/tim-brasil-si-compra-oi-con-vivo-e-claro-deal-da-27-miliardi/

- *Reduction in Operating Costs:* Streamlining operations and sharing resources will lead to a significant reduction in operating costs, increasing the profit margin.
- *Greater Capacity to Invest:* With a larger customer base and reduced operating costs, Tim Brasil will have greater financial flexibility to invest in new technologies and infrastructure, contributing to the country's digitization.

Tim Brasil expects about 45 percent of the estimated synergies to be realized by 2030[109]. This indicates a long-term commitment to maximize the benefits from the acquisition and to ensure a sustainable return on investment over time.In summary, the synergies created by the acquisition of Oi's mobile business represent a strategic opportunity for Tim Brasil and its partners, helping to improve operational efficiency, enhance competitiveness, and ensure a more robust future for the telecommunications market in Brazil.

5.3.Intrduction of new technologies

Since acquiring the mobile business of the Oi Group, TIM Brasil has introduced several new technologies and improvements to its service offering, helping to strengthen its position in the Brazilian telecommunications market[110]. Here are some of the main technological innovations implemented:

5G Network Expansion: TIM Brasil has accelerated the implementation of 5G technology, becoming one of the leaders in the field. Through the acquisition, the company has been able to expand its network infrastructure, improving coverage and capacity. This has enabled it to offer advanced connectivity services and high speeds, improving the user experience and attracting new customers.

Fiber Optic Network: The acquisition enabled TIM to enhance its fixed broadband service offering, with a focus on fiber optic network expansion. TIM Brasil handled about 16 million fixed accesses, with more than 72 percent in ultra broadband (UBB) technologies, providing superior connection speed and quality.

Improvements in User Experience: Thanks to the synergies created by the integration of Oi's assets, TIM Brasil has been able to improve the quality of services offered. This includes

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[109] Gruppo TIM. (2022, April 20). *TIM chiude l'acquisizione dell'unità mobile di Oi*. https://www.gruppotim.it/it/archivio-stampa/corporate/2022/CS-Closing-Oi-1.html
[110] Gruppo TIM. (2023). *Interactive Financial Report 2023*. https://www.gruppotim.it/sites/2023/ixbrl-viewer.htm

a 45 percent reduction in the churn rate compared to the same period in the previous year, demonstrating the effectiveness of customer retention and management strategies.

TIMVISION and Digital Content: TIM has continued to develop its TIMVISION streaming platform, offering on-demand content, movies, TV series, and sports. Integration has enabled the expansion of offerings, creating combined packages with other streaming services.

IoT and Cloud Solutions: TIM Brasil has expanded its offering of solutions for the corporate sector, introducing connectivity services, cloud computing and IoT (Internet of Things) solutions. These technologies support the needs of businesses in an increasingly digital market, improving operational efficiency and competitiveness.

Security and Data Protection: The company has introduced services such as TIM Protect, which offers security solutions for mobile devices, providing greater data protection for customers.

These new technologies and improvements have enabled TIM Brasil to consolidate its position in the market, improve service quality, and respond effectively to growing customer needs in the telecommunications sector[111]. The acquisition has created a new infrastructural balance in the market, fostering competitiveness and investment in the telecommunications sector in Brazil.

5.4Improving competitiveness and growth strategies

After acquiring Oi's mobile assets, TIM Brasil implemented several organic growth strategies to consolidate its position in the telecommunications market. Here are the main approaches taken[112]:

Customer Base Integration and Stabilization: TIM Brasil worked to integrate the 14.5 million customers acquired from Oi, aiming to stabilize and improve their experience. In the first quarter of 2023, the reduction in churn was significant, with a 45 percent decrease

[111] Gruppo TIM. (2018). *La trasformazione digitale*. https://www.gruppotim.it/content/dam/telecomitalia/it/archivio/documenti/Innovazione/MnisitoNotiziario/2018/1-2018/capitolo1/la-trasformazione-digitale.pdf

[112] Gruppo TIM. (2023, February 14). *TIM presents 2023-2025 industrial plan*. https://www.gruppotim.it/en/press-archive/corporate/2023/PR-Industrial-Plan-2023.html

compared to the same period in the previous year. This demonstrated the effectiveness of customer retention and management strategies.

Growth in Revenues and EBITDA: TIM Brasil reported 19.3 percent year-on-year growth in total and service revenues in the first quarter of 2023, along with a 21.8 percent increase in EBITDA. These results were supported by solid organic performance and the contribution of acquired assets.

Focus on 5G: TIM Brasil has continued to invest in 5G technology, becoming a leader [113]in 5G coverage in Brazil. This has attracted new customers and improved service offerings, contributing to greater competitiveness in the market.

Re-Pricing Strategy: The company implemented re-pricing actions to optimize revenues from its customer base. This strategy led to an increase in ARPU (Average Revenue Per User) in both the mobile and fixed segments, helping to improve profit margins.

Fixed Network Expansion: TIM Brasil also focused on growth in the fixed network segment, operating about 16 million fixed accesses and increasing coverage in ultra broadband (UBB) technologies. This has allowed it to diversify its offerings and attract new customer segments.

Operational Efficiency: The company has continued to work on improving operational efficiency through cost rationalization and resource optimization. This has contributed to more robust operational cash generation and better expense management.

These organic growth strategies have enabled TIM Brasil to consolidate its position in the market, improve the quality of services offered, and increase customer satisfaction after the acquisition of Oi's assets.

5.5Post-acquisition market position

Since the acquisition of the mobile business of the Oi Group, TIM Brasil has seen a significant change in its market share in the Brazilian telecommunications sector. Currently, TIM Brasil holds about 32 percent of the mobile market, an increase from 23 percent prior to the acquisition. This increase has been accompanied by a consolidation of TIM's position as a major player in the market, along with Vivo and Claro.

[113] Gruppo TIM. (2023, May 10). *TIM: Approvati i risultati del primo trimestre 2023*. https://www.gruppotim.it/it/archivio-stampa/corporate/2023/CS-TIM-CdA-1Q-10-05-2023.html

The telecommunications market in Brazil is characterized by fierce competition among three main operators: TIM Brasil, Vivo (Telefônica Brasil) and Claro.

- Vivo increased its market share from 33% to 37%.
- Claro saw an increase from 26% to 29%.

This dynamic has created a new infrastructural balance in the market, with the three major players actively competing to attract customers and invest in technological innovations.

Position of TIM Brasil in the Market

1. **Revenue Growth**: TIM Brasil reported positive financial results, with revenues exceeding €1 billion in the second quarter of 2024, marking a year-on-year increase of 7.2%. EBITDA grew by 8.2 percent, exceeding €500 million[114].
2. **Leadership in 5G**: TIM Brasil has established itself as a leader in the 5G market, activating nearly one new city per day and improving the customer experience. This has helped it gain additional market share, consolidating its competitive position[115].
3. **Customer Base Stability**: The company saw a **45 percent** reduction in churn rate compared to the same period in the previous year, demonstrating the effectiveness of customer retention and management strategies.
4. **Network Expansion**: Through the acquisition, TIM Brasil was able to expand its network, improving service quality and increasing connectivity capacity, which further attracted new customers.

In conclusion, the acquisition of Oi Group's mobile business by TIM Brasil, along with Vivo and Claro, represents a turning point in the company's internationalization and growth process. This €2.7 billion deal, finalized in 2022, has enabled TIM Brasil to significantly expand its customer base, infrastructure, and competitiveness in the Brazilian telecommunications market.TIM Brasil has acquired approximately 14.5 million customers, representing 40 percent of Oi's total customer base, becoming one of the country's leading operators with a 32 percent

[114] ANSA. (2024, July 31). *TIM in Brasile: salgono ricavi (+7,2%) ed EBITDA (+8,2%)*. https://www.ansa.it/sito/notizie/economia/2024/07/31/tim-in-brasile-salgono-ricavi-72-ed-ebitda-82_d1451d1c-e3a9-4025-a3fc-a08fdf4f1463.html

[115] TIM S.A. (2023). *Relatório ESG 2023*. https://tim.com.br/sites/default/files/pdf/relatorio-esg/tim-report-egs-2023.pdf

market share. The company also obtained about 49 MHz of spectrum and 7,200 mobile access sites, improving network coverage and capacity.Post-acquisition financial results show significant growth, with total and service revenues up 19.3 percent and EBITDA up 21.8 percent in the first quarter of 2023[116]. In addition, the customer churn rate decreased by 45 percent, demonstrating the effectiveness of retention strategies.The acquisition also enabled TIM Brasil to accelerate the implementation of 5G technology, becoming an industry leader and further improving the quality of services offered. The company has also expanded its service offering, introducing fixed fiber broadband solutions, digital content and business services.In conclusion, the acquisition of Oi represents an important step forward in TIM Brasil's internationalization process, consolidating its market position, improving competitiveness and opening up new growth opportunities for the future. The company is well positioned to meet market challenges and continue to innovate in the telecommunications sector in Brazil.

6.Parnerships

TIM has entered into two significant strategic partnerships, both aimed at strengthening its internationalization process and play a crucial role in consolidating the company's presence in Brazil, helping to strengthen its position in the telecommunications market and diversify its service offering

The partnership with Banco C6 allows TIM to enter the digital financial services sector, a fast-growing area in Brazil. This partnership allows TIM to offer its customers a range of banking services, such as mobile payments and finance management, leveraging its large user base. The integration of financial services with telecommunications not only increases customer loyalty, but also allows TIM to attract new users, thereby expanding its market and improving competitiveness. This alliance aims to provide exclusive benefits to TIM customers, helping to create synergies between the two companies and improve the overall customer experience.

[116] La Stampa. (2024, February 7). *TIM Brasil: EBITDA e ricavi in crescita a doppia cifra*. https://finanza.lastampa.it/News/2024/02/07/tim-brasil-+ebitda-e-ricavi-in-crescita-a+doppia-cifra/NDFfMjAyNC0wMi0wN19UTEI

On the other hand, the partnership with Nokia is focused on 5G network expansion in Brazil. TIM is investing significantly in the deployment of 5G infrastructure, recognizing the importance of providing fast and reliable connectivity to meet the growing demand for digital services. The agreement with Nokia, which provides advanced technologies such as the 5G AirScale system, allows TIM to improve the quality of its services and position itself as a leader in the telecommunications market. This expansion not only improves connectivity for consumers, but also provides opportunities for businesses, contributing to digitization and innovation in the country.

In summary, the partnerships with Banco C6 and Nokia not only strengthen TIM’s position in the Brazilian market, but also foster a more effective internationalization process, allowing the company to diversify its offerings, improve the customer experience, and adapt to the needs of a changing market. These strategic alliances are key to TIM’s future in Brazil, helping to ensure sustainable growth and increased competitiveness in the telecommunications sector.

6.1Banco C6

TIM entered into a strategic partnership with Banco C6 for several reasons, all geared toward improving its service offering and responding to the needs of an evolving market. This partnership marks TIM's entry into the financial services sector, a strategic step to diversify its offering[117]. With the increase in digitization and demand for online banking services, TIM saw an opportunity to integrate telecommunications with financial services, reaching a wider audience.

The partnership, formalized in March 2020, offers an opportunity to attract not only existing customers, but also new users, thanks to TIM's customer base of about 55 million users[118]. This approach aims to provide special benefits and combined services, increasing customer loyalty and market penetration. The integration of financial services with telecommunications creates significant synergies, optimizing sales channels and reducing operating costs. The collaboration involves the development of combined offerings that include special benefits for

[117] LatamList. (2023, April 14). TIM partners with C6 Bank to offer financial and telecommunication services. LatamList. https://latamlist.com/tim-partners-with-c6-bank-to-offer-financial-and-telecommunication-services/
[118] TIM. (2022). Our history. TIM Investor Relations. https://ri.tim.com.br/en/our-tim/history/

customers of both companies, creating a unique proposition that combines telecommunications and finance[119].

The growing popularity of fintech platforms in Brazil has prompted TIM to enter this growing market. By partnering with Banco C6, TIM can leverage the expertise of an established neobank, which already offers a range of innovative financial services, such as commission-free accounts and instant money transfers. In addition, the partnership aims to improve the overall customer experience by offering more integrated and personalized services. With the growing adoption of smartphones and digital services, TIM aims to meet consumer expectations for easier and more direct access to services.

Both companies share a commitment to innovation and sustainability. TIM has adopted sustainable business practices and aims to become carbon neutral by 2030, a goal that aligns with global trends and consumer expectations[120]. The partnership with Banco C6 not only allows TIM to diversify its offerings and access a broader customer base, but also represents a strategic response to the challenges and opportunities of a rapidly evolving market[121]. With the integration of financial and telecommunications services, TIM is positioned to meet future challenges in Brazil's telecommunications and finance sector, contributing to sustainable growth and increased competitiveness.

6.2Nokia

TIM has entered into a strategic partnership with Nokia for 5G network expansion in Brazil, a decision motivated by several key factors. This partnership, which will take effect in January

[119] C6 Bank. (n.d.). Parceria TIM: Ofertas exclusivas para clientes TIM e C6 Bank. C6 Bank. https://www.c6bank.com.br/parceria-tim/
[120] TIM. (2023, February 27). TIM launches Open Gateway at MWC 2023. TIM Group. https://www.gruppotim.it/en/press-archive/market/2023/TIM-lancia-Open-Gateway-al-MWC-eng.html
[121] Corriere Comunicazioni. (2023, April 18). TIM-Banco C6, in Brasile si testa l’alleanza telco-finance. Corriere Comunicazioni. https://www.corrierecomunicazioni.it/finance/tim-banco-c6-in-brasile-si-testa-lalleanza-telco-finance/

2025[122], aims to improve connectivity in 15 Brazilian states, bringing significant benefits to both consumers and businesses.

One of the main motivations behind the partnership is the need to expand TIM's 5G network in Brazil. As demand for fast and reliable connectivity increased, TIM recognized the importance of investing in advanced infrastructure to meet customer expectations and improve access to technology. Increasing digitization and the adoption of emerging technologies require a robust, high-performance network capable of supporting applications such as the Internet of Things (IoT) and smart cities.

Nokia will provide TIM with a range of state-of-the-art equipment, including the 5G AirScale system, which includes solutions such as Massive MIMO and Remote Radio Head. These technologies are designed to provide superior coverage and capacity, essential to support 5G deployment in a rapidly evolving market. The use of Nokia's ReefShark System-on-Chip technology, known for its power efficiency, is an added benefit, helping to reduce operational costs and improve network performance.

The partnership is not limited to network expansion; it also includes the implementation of Nokia's MantaRay network management system, which uses artificial intelligence to improve network monitoring and management[123]. This innovative approach is key to optimizing operations and ensuring high-quality service. The ability to monitor and manage the network in real time allows TIM to respond quickly to any problems and ensure continuity of service.

The agreement is seen as an opportunity to stimulate economic growth in the regions served, contributing to the digitization of local businesses and improving access to connectivity for the population. The partnership is thus in line with TIM's goals of promoting a more connected and innovative future. The expansion of the 5G network not only improves the quality of life for citizens, but also gives local businesses the opportunity to innovate and compete in an increasingly global market[124].

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122 Nokia. (2024, August 19). Nokia and TIM partner to expand 5G coverage in Brazil in 2025. Nokia. https://www.nokia.com/about-us/news/releases/2024/08/19/nokia-and-tim-partner-to-expand-5g-coverage-in-brazil-in-2025/

123 Telecoms.com. (2024, August 19). Nokia and TIM sign a deal to expand 5G coverage in Brazil. Telecoms.com. https://www.telecoms.com/5g-6g/nokia-and-tim-sign-a-deal-to-expand-5g-coverage-in-brazil

124 Il Sole 24 Ore. (2024, August 19). 5G, TIM sceglie Nokia per la sua rete in Brasile. Il Sole 24 Ore. https://www.ilsole24ore.com/art/5g-tim-sceglie-nokia-la-sua-rete-brasile-AFddClRD

Both companies share a commitment to sustainable practices. The integration of energy-efficient technologies not only improves network performance, but also contributes to TIM's sustainability goals, which aim to become carbon neutral by 2030. This commitment not only meets the expectations of consumers, who are increasingly aware of environmental issues, but also strengthens TIM's reputation as a responsible company.

7.Tim’s future prospects in Brasil

TIM’s future prospects in Brazil appear promising, driven by several key factors and strategic initiatives. Here are some of the major elements shaping TIM’s growth and outlook in the Brazilian market:

One of TIM’s primary opportunities for growth lies in the continued expansion of its 5G network in Brazil. As one of the largest telecommunications companies in the country, TIM is heavily investing in the deployment of 5G infrastructure. With increasing demand for faster and more reliable mobile internet, 5G will play a critical role in improving connectivity for consumers and businesses alike[125]. TIM's partnership with companies like Nokia to roll out 5G services positions it as a leading player in this field, allowing it to offer innovative services in sectors like IoT (Internet of Things), smart cities, and cloud computing.

Brazil has a growing middle class and increasing penetration of smartphones, which is driving higher demand for mobile data and telecommunications services[126]. TIM, with its strong market position and focus on network improvement, is well-placed to capitalize on this trend. The company’s focus on improving its mobile data packages and expanding coverage in both urban and rural areas aligns with this growing consumer demand.

[125] TIM. (2023, February 27). TIM launches Open Gateway at MWC 2023. TIM Group. https://www.gruppotim.it/en/press-archive/market/2023/TIM-lancia-Open-Gateway-al-MWC-eng.html

[126] TIM. (n.d.). International visitors: Mobile services for visitors in Brazil. TIM Brasil. https://www.tim.com.br/para-voce/atendimento/international-visitors

TIM's acquisition of assets from Oi, one of its competitors, is expected to strengthen its market position. This acquisition allows TIM to gain a larger customer base and enhance its network capabilities. The consolidation in the telecommunications market, from four major operators to three, also provides TIM with a competitive advantage by reducing market fragmentation. This move is expected to improve operational efficiency and increase market share, positioning TIM as a more dominant player in Brazil's telecommunications sector.

TIM's strategic partnership with Banco C6, a digital bank in Brazil, demonstrates its ambition to diversify its service offerings. This collaboration enables TIM to expand into the digital financial services sector, leveraging its existing customer base to offer mobile banking, payments, and other fintech services. As Brazil's financial services market continues to evolve, particularly with the growth of digital banking, TIM's integration into this space provides additional revenue streams and enhances customer loyalty.

The Brazilian government has implemented several policies aimed at promoting the expansion of digital infrastructure and telecommunications in underserved regions. These incentives, such as tax benefits and support for expanding connectivity in rural areas, align well with TIM's strategy to improve internet access across the country[127]. By participating in government-backed initiatives, TIM can further strengthen its presence in Brazil and benefit from public sector support in expanding its network.

In addition to its consumer-focused operations, TIM has significant growth potential in the B2B market, particularly in offering enterprise solutions, cloud services, and IoT. As businesses in Brazil increasingly adopt digital transformation strategies, TIM can leverage its 5G capabilities and partnerships to offer customized solutions for corporations[128]. The increasing demand for cybersecurity, cloud computing, and connectivity solutions presents a key growth area for TIM in the Brazilian corporate sector.

Sustainability is becoming a more prominent focus for telecommunications companies globally, and TIM is no exception. By adopting environmentally friendly technologies and

[127] TIM. (2023, February 10). TIM e ASTM insieme per sviluppare soluzioni innovative per la mobilità connessa. Gruppo TIM. https://www.gruppotim.it/it/archivio-stampa/corporate/2023/CS-TIM-e-ASTM-Group-10-02-23-ita.html

[128] TIM. (2023, February 27). TIM launches Open Gateway at MWC 2023. TIM Group. https://www.gruppotim.it/en/press-archive/market/2023/TIM-lancia-Open-Gateway-al-MWC-eng.html

investing in energy-efficient infrastructure, TIM aligns itself with the global shift towards sustainability. Green initiatives, such as reducing carbon emissions and promoting sustainable business practices, can enhance TIM's corporate reputation and attract investors who prioritize environmental, social, and governance (ESG) factors.

While TIM's prospects in Brazil are strong, it faces several challenges. Economic volatility, including inflation and currency fluctuations, could affect profitability. Regulatory changes are another potential risk, as the Brazilian telecommunications market is subject to government policies that could impact pricing, competition, and expansion plans. Additionally, intense competition from other telecom operators, such as Claro and Vivo, requires TIM to continuously innovate and improve its service offerings to maintain its market position.

TIM's focus on improving customer experience through investments in digital platforms, customer service, and innovative products will be crucial for maintaining its competitive edge[129]. By offering seamless digital experiences and improving service reliability, TIM can continue to attract and retain customers in an increasingly competitive market.

TIM's future in Brazil is marked by several growth drivers, including its 5G expansion, acquisition of Oi assets, digital financial services, and corporate partnerships. By capitalizing on these opportunities and navigating potential risks, TIM is well-positioned to maintain and expand its role as a leader in Brazil's telecommunications market. The company's ability to adapt to market conditions and leverage technological advancements will be key to its long-term success in the region.

[129] Microsoft. (2023, August 14). TIM is the first carrier in Brazil to migrate 100% of its datacenters to the cloud. Microsoft News. https://news.microsoft.com/es-xl/tim-is-the-first-carrier-in-brazil-to-migrate-100-of-its-datacenters-to-the-cloud/

CHAPTER IV

1.How regulatory developments affect the internationalization strategies of companies in emerging countries

The evolution of regulatory frameworks plays a pivotal role in shaping the internationalization strategies of companies, especially in emerging markets. Regulatory changes can either facilitate or hinder a company's ability to expand internationally. The regulatory environment in a host country impacts not only the entry strategies of multinational enterprises (MNEs) but also their operational effectiveness and long-term sustainability.

One of the primary ways that regulatory evolution influences internationalization is through the policies governing market entry. For example, stringent regulations can impose barriers such as high tariffs, complex licensing procedures, and restrictive foreign ownership laws. These barriers can discourage foreign companies from entering the market or lead them to adopt alternative entry strategies such as joint ventures or strategic alliances with local firms[130]. On the other hand, liberalization of trade policies and investment regulations can attract foreign direct investment (FDI), making it easier for companies to establish subsidiaries or branches.

Once a company decides to enter a foreign market, adapting to local regulatory requirements becomes crucial. This adaptation often involves compliance with various regulations related to labor, environmental standards, and consumer protection. Companies may need to modify their products or services to meet local standards, which can impact their overall strategy and cost structure.

Regulatory changes also influence the governance structures of international companies. In emerging markets, where the regulatory environment may be less stable and predictable, companies need robust governance mechanisms to manage risks associated with regulatory compliance[131]. Effective governance helps companies navigate the complexities of operating

[130] Gammeltoft, P., & Panibratov, A. (2024). Emerging market multinationals and the politics of internationalization. *International Business Review*, *33*(3), 102278.
[131] Hennart, J. F. (2012). Emerging market multinationals and the theory of the multinational enterprise. *Global Strategy Journal*, *2*(3), 168-187.

in multiple regulatory environments, ensuring that they adhere to local laws while maintaining global standards.

To successfully internationalize, companies must exhibit strategic flexibility, adjusting their business models and strategies in response to evolving regulatory landscapes. This flexibility allows companies to manage risks associated with sudden regulatory shifts, such as changes in tax laws, import restrictions, or environmental regulations. By proactively monitoring regulatory developments and engaging with local stakeholders, companies can anticipate changes and adapt their strategies accordingly.

Therefore, the evolution of regulatory frameworks significantly influences the internationalization strategies of companies in emerging markets. Companies must navigate complex regulatory landscapes, adapt to local requirements, and maintain effective governance to ensure successful international expansion. By understanding and strategically responding to regulatory changes, companies can better position themselves for sustainable growth in global markets[132].

In Brazil, the evolution of telecommunications regulation has significantly impacted how companies like TIM expand their operations and strategize their market presence. Regulatory bodies, such as ANATEL, establish the framework within which companies must operate, influencing market entry strategies, competitive behavior, and technological adoption.

Historically, Brazil's shift from a state-controlled monopoly to a liberalized telecommunications market enabled companies to explore more diverse and expansive strategies. The privatization efforts, combined with laws such as the General Telecommunications Law (LGT) of 1997, opened the sector to foreign investments, allowing companies like TIM to enter and establish a strong presence.

This regulatory evolution has facilitated access to new markets by lowering entry barriers and creating a competitive environment conducive to innovation. Companies can leverage strategic partnerships, joint ventures, and acquisitions, as seen in TIM's acquisition of Oi, to expand their market reach. Moreover, regulatory frameworks often demand compliance with local

[132] Gaur, A. S., Kumar, V., & Singh, D. (2014). Institutions, resources, and internationalization of emerging economy firms. *Journal of World Business*, *49*(1), 12-20.

standards, which can influence the type of technologies deployed and the business models adopted.

In emerging markets, regulatory bodies also focus on promoting fair competition and consumer protection. These regulations encourage companies to innovate and improve service quality to maintain market share, thus influencing their strategic decisions. The need for compliance can lead to increased costs and complexity, but it also provides a structured environment that can enhance long-term market stability[133].

The importance of understanding and adapting to regulatory environments cannot be overstated for companies operating internationally. Successful internationalization strategies in emerging markets like Brazil require a deep understanding of regulatory dynamics, which can dictate market access, competitive strategies, and operational adjustments. For companies like TIM, regulatory evolution is both a challenge and an opportunity, shaping how they compete, innovate, and expand in a complex global market.

2.Drivers and risks for internationalization

Through an inductive analysis of the TIM case in Brazil, we can observe how regulatory dimensions have significantly shaped the company’s expansion and consolidation strategies. In the Brazilian context, the regulations imposed by ANATEL (Agência Nacional de Telecomunicações) played a key role in influencing TIM’s strategic choices, making it an exemplary case for understanding the link between regulation and business strategy.

TIM's acquisition of Oi in 2021 serves as a concrete example of how regulation can create opportunities for strategic growth. At the time, the Brazilian telecommunications sector was experiencing a push towards consolidation, supported by ANATEL’s policies aimed at making the market more competitive and efficient. The acquisition of Oi’s assets, valued at 16.5 billion reais (approximately 3.5 billion euros), allowed TIM to capture 45% of Oi’s mobile market, significantly enhancing its competitive position and expanding its customer base. This move

[133] ICE. (2023). Corporate risk management and internationalization: Strategies and case studies. ICE Agency. https://train2markets.ice.it/ice/blog/index.php?entryid=29

aligned with ANATEL’s objective of strengthening competition by reducing the number of operators and improving services for end users.

In addition to consolidation, regulations had a direct impact on TIM's technological investments. TIM’s participation in the 5G auction in 2021 illustrates how regulation drives corporate strategy. The auction, which generated commitments worth approximately 47.2 billion reais (8.5 billion USD), enabled TIM to acquire key frequency blocks for its 5G network implementation. ANATEL’s conditions for frequency use, including the obligation to cover underserved and rural areas, directed TIM’s investments towards infrastructure development in these regions, promoting greater digital inclusion and deeper market penetration.

ANATEL’s regulations on infrastructure sharing, introduced to promote efficiency and reduce operational costs, compelled TIM to revisit its resource management strategies. These regulations encouraged TIM to form strategic partnerships with other operators to share infrastructure like transmission towers, improving operational efficiency and reducing costs. This policy fostered a more rational use of resources, enabling TIM to expand its coverage without duplicating existing investments.

From the TIM case analysis, it is clear how regulatory dimensions profoundly influence corporate strategies. The Brazilian regulatory environment created a framework in which TIM had to adapt its decisions, leveraging regulations as opportunities to expand its business, enhance technological infrastructure, and develop strategic synergies. The acquisition of Oi, the rollout of 5G, and the optimization of infrastructure are tangible examples of how companies can capitalize on regulatory policies to improve their competitiveness.

Overall, a company who decides to internationalize in emerging countries, it faces both opportunities (drivers) and risks. The theories presented in Chapter 1 can provide strategic guidance to effectively address these challenges.

2.1Risks

Political Instability: Emerging markets are often characterized by unstable political environments, which can lead to policy changes, corruption, or conflicts. Hymer’s Theory emphasizes that internationalization occurs to overcome market imperfections, including political instability. In the case of TIM in Brazil, the company faced political uncertainties and adapted by developing strategies to build relationships with local authorities and comply with government regulations. This allowed TIM to mitigate political risks and maintain operational stability.

Regulatory and Legal Challenges: Regulatory environments in emerging countries can be unpredictable, with rapidly changing laws and unclear enforcement mechanisms. Transaction Cost Theory (Coase and Williamson) suggests that in the presence of such market imperfections, companies may choose to internalize operations to reduce risks associated with fluctuating regulations. TIM applied this theory by closely working with ANATEL, Brazil's telecommunications regulatory body, to manage licenses and ensure compliance with local laws, thus minimizing the impact of regulatory challenges.

Economic Volatility: Emerging economies often experience high inflation rates, currency fluctuations, and economic instability. Vernon's Product Life Cycle Model suggests that companies might begin by exporting products to new markets during early stages of economic development, establishing local production only once the economy stabilizes. TIM followed a similar approach by initially investing cautiously in Brazil and gradually increasing its presence as the economy became more stable, thus avoiding excessive exposure to financial risks.

Infrastructure Deficiencies: Many emerging markets lack developed infrastructure, such as transportation and energy systems. Buckley and Casson's Theory of Internationalization suggests that companies should consider organizational flexibility, favoring partnerships or joint ventures to overcome infrastructural shortcomings. TIM invested significantly in Brazil's infrastructure, partnering with local entities to improve telecommunications networks and successfully expanding its coverage into rural areas.

Cultural and Language Barriers: Differences in consumer behavior and business practices can create inefficiencies. According to Hymer, companies with specific advantages, such as technological expertise or resource control, can leverage these to overcome cultural barriers and compete effectively in different cultural contexts. TIM addressed cultural barriers in Brazil by adapting its services and marketing strategies to local preferences, including the use of Portuguese and offering customized pricing plans for the Brazilian market.

Market Saturation or Competition: While many emerging markets present growth opportunities, competition can be fierce. Dunning’s Eclectic Paradigm suggests that companies should carefully select markets based on location advantages, such as lower production costs or regulatory incentives, to gain a competitive edge. TIM selected Brazil for its high growth potential in the telecommunications sector, but faced strong competition from local operators like Vivo and Claro. However, through technology investments and early adoption of 4G and 5G, TIM managed to capture a significant market share.

Supply Chain and Operational Risks: Logistical challenges, such as unreliable suppliers or transportation delays, can disrupt production. Internalization Theory suggests that companies should internalize key operations to better control quality and delivery, reducing dependence on external parties. TIM internalized many aspects of its infrastructure in Brazil, ensuring greater control over service quality and operational management.

Corruption and Ethical Issues: In some emerging markets, companies might face pressure to engage in corrupt practices. Dunning’s Eclectic Paradigm advises firms to carefully assess location advantages related to transparent regulations, selecting countries with solid legal systems to minimize exposure to corruption. TIM adopted strict compliance and anti-corruption policies to ensure transparency in its operations in Brazil, thereby protecting its reputation.

Access to Skilled Labor: A shortage of skilled labor in some emerging markets can limit a company’s ability to scale efficiently. Hymer’s Theory shows that firms with strong proprietary advantages, such as technology or know-how, can import these capabilities and train the local workforce to overcome this barrier. TIM invested in training Brazilian workers, importing technology and expertise from Italy and developing local capabilities to support its expanding operations.

2.2Drivers

Brazil represented a large and growing market, with over 213 million inhabitants and a growing demand for telecommunications services, represented a significant market growth potential.

From the analysis of the TIM case, it is clear that the prospect of serving such an expanding customer base motivated TIM to invest, recognizing the potential for substantial growth and an opportunity to increase its market share by reaching new customer segments. This aligns with Vernon’s Product Life Cycle Model, which suggests that companies like TIM could take advantage of the growth phase by expanding into emerging markets.

Deregulation and liberalization also emerge as key drivers in TIM’s internationalization strategy. In the 1990s, the Brazilian government initiated a process of privatization and liberalization of the telecommunications sector, removing barriers to entry and opening the market to private and foreign operators. This shift allowed TIM to compete on an equal footing with local players, further strengthening its strategic position. This is consistent with the Internationalization Theory, which indicates that firms often expand to diversify their revenue streams and reduce dependence on their domestic market. TIM's entry into Brazil helped reduce its reliance on the Italian market, mitigating risks and increasing its operational flexibility.

A crucial component of TIM’s strategy was its strategic acquisition of Oi’s assets, valued at approximately 7 billion reais. This move not only allowed TIM to consolidate its market position but also to expand its customer base and improve operational efficiency. The reduction in the number of operators—from four to three—further incentivized TIM’s investment, enhancing its growth potential. Acquisitions like these align with the Eclectic Paradigm of Dunning, where firms capitalize on location advantages such as cost efficiencies and resource access in new markets.

Another significant factor for TIM was the lower production costs in Brazil compared to developed markets. The Brazilian market offers more competitive labor costs, which made expansion even more attractive. This allowed TIM to provide services at competitive prices while improving profitability and enabling flexible pricing strategies. Dunning’s Eclectic Paradigm supports this notion, as lower labor and operational costs in emerging markets are key location advantages that drive firms to internationalize.

In terms of technological innovation, the expansion of the 5G network presented a strategic opportunity for TIM. The company’s investment in advanced technologies, including its agreement with Nokia for the deployment of the 5G network, allowed it to enhance service quality and meet the growing demand for connectivity in Brazil. Hymer's Theory of internationalization supports this, indicating that firms gain competitive advantages by being first movers and introducing advanced technologies that outpace local competitors.

Government incentives also played a role in TIM’s internationalization strategy. Brazil offered incentives to encourage innovation and connectivity expansion, particularly in rural areas. TIM leveraged these incentives to invest in infrastructure and contribute to the digitalization of small and medium-sized enterprises (SMEs), which in turn increased internet penetration across the country. This echoes Vernon’s idea that favorable public policies in emerging markets can incentivize foreign direct investment by offering attractive conditions.

TIM's strategic partnerships, such as the alliance with Banco C6, further highlight how firms can collaborate with local entities to diversify their offerings and enter new markets. In this case, TIM diversified into digital financial services, responding to Brazil’s regulatory environment that encourages financial inclusion. Internationalization Theory supports such partnerships, which help firms navigate regulatory challenges and build local expertise.

Lastly, TIM’s geographic diversification into Brazil reduced its reliance on the domestic Italian market. This diversification allowed TIM to balance risk and spread its investments more effectively, thereby increasing its resilience to market fluctuations. This approach aligns with the broader Internationalization Theory, which explains how geographic diversification can reduce overall firm risk by entering new, promising markets.

Tab 4.1 Risks and drivers for companies entering an emerging market

Risks	**Drivers**
Political Instability	Market Growth Potential
Regulatory and Legal Challenges	Deregulation and Liberalization
Economic Volatility	Strategic Acquisitions
Infrastructure Deficiencies	Lower Production Costs
Operational Risks	Technological Innovation
Competition	Government Incentives
Corruption and Ethical Issues	Strategic Partnerships
Access to Skilled Labor	Geographic Diversification

Source: personal elaboration

2.3. New insights from the TIM experience: innovations and challenges compared to traditional theory

Overall, TIM's experience in Brazil provides new insights from established theory on business internationalization, highlighting how some dynamics can evolve or be reinterpreted in specific contexts, particularly in emerging markets.

First, compared to traditional theories such as Vernon's Product Life Cycle Model, which suggests a standard sequence of export and subsequent foreign direct investment, TIM took a faster and more aggressive approach, investing immediately in local infrastructure and acquisitions. This demonstrates that in highly regulated and rapidly changing markets, the export phase can be bypassed in favor of an immediate direct presence to seize the opportunities presented by market liberalization.

Second, Hymer's Internalization Theory emphasizes how firms internationalize to manage resources more efficiently and reduce market inefficiencies. TIM's experience goes beyond this paradigm, showing that not only economic efficiency, but also the ability to adapt quickly to regulatory changes and form strategic partnerships with local players, such as Banco C6, can be a crucial factor for success. These partnerships are not only a means to reduce costs or mitigate risks, but become critical to access emerging market segments, such as digital financial services.

Moreover, Porter's Theory of Competitive Advantage, which emphasizes the importance of differentiation and cost leadership, finds confirmation and enrichment in the case of TIM. The company has exploited not only the competitive costs of the Brazilian market, but also technological innovation, such as its investment in the 5G network, to consolidate a dominant position. This shows how, in emerging markets, technological leadership can be a key differentiator, even before the market is fully mature.

Finally, TIM's experience in Brazil highlights that geographic diversification is not just about reducing risk, as traditional theory suggests. In TIM's case, entry into Brazil represented not only a risk mitigation strategy with respect to the Italian domestic market, but also a lever to strengthen the company's overall resilience and increase global operational capabilities.

In sum, TIM's experience introduces new perspectives to established theory, demonstrating that quick adaptation to regulations, building strategic alliances, investing in advanced technological innovations, and diversifying not only geographically, but also by sector, are key elements for success in emerging and dynamic market environments.

3. Managerial Implications for the internationalization strategies of companies in Brazil

The internationalization of TIM in Brazil, as highlighted in the case study, offers valuable insights for companies aiming to expand into emerging markets. The primary managerial implications emphasize the need to adapt strategies to local conditions, manage risks effectively, and leverage market opportunities.

A critical aspect of TIM's success was adapting to the local regulatory environment. Companies expanding into foreign markets, especially emerging economies, must prioritize regulatory compliance. In Brazil, TIM successfully navigated the regulatory landscape shaped by ANATEL (the national telecommunications regulator), utilizing government incentives to support its infrastructure investments. Managers should ensure a thorough understanding of local regulations and adjust operational strategies accordingly to minimize risks and capitalize on opportunities.

The acquisition of Oi's assets for approximately 7 billion reais highlights the importance of strategic acquisitions in consolidating market positions. This move enabled TIM to increase its market share while benefiting from synergies and operational efficiencies. For other companies, acquisitions can serve as a key driver for international expansion, particularly in markets where consolidation is encouraged by regulatory frameworks.

TIM's focus on technological advancements, such as its investment in the 5G network, provided a significant competitive edge in the Brazilian market. Managers should prioritize cutting-edge technologies when entering emerging markets, as these innovations can differentiate a company from local competitors and meet the growing demand for advanced services.

Strategic partnerships were another essential element of TIM's approach. Collaborating with local firms, such as its partnership with Banco C6 to promote digital financial services, allowed TIM to diversify its offerings and tap into new sectors. Managers should seek local partnerships to enhance market knowledge and mitigate risks associated with entering new markets.

Cost management and competitive pricing also played a crucial role in TIM's success. The Brazilian market offered TIM lower labor and operational costs, allowing the company to offer competitive pricing. For other companies, emerging markets may provide opportunities to optimize costs and increase profit margins by taking advantage of favorable local production conditions.

Additionally, TIM's expansion into Brazil allowed the company to diversify its geographic portfolio, reducing reliance on the Italian market and spreading risks across multiple regions. For multinational enterprises, diversification into new markets is a key strategy to mitigate risks associated with economic downturns in any single market.

Lastly, managers seeking to internationalize in emerging markets can learn from TIM's strategic approach, which involved adapting to regulatory conditions, executing strategic acquisitions, investing in technology, forming local partnerships, and managing costs effectively. These practices not only improve competitive positioning but also enhance long-term growth prospects in dynamic and evolving markets.

Conclusions

The primary objective of this thesis was to examine the internationalization process of TIM in the Brazilian telecommunications market, with a focus on how the company navigated the complexities of expanding into an emerging economy. The theoretical framework was based on Hymer's Internationalization Theory, which explains that firms internationalize to exploit competitive advantages in foreign markets and to overcome market imperfections, alongside Dunning's Eclectic Paradigm, which integrates ownership, location, and internalization advantages to explain international business strategy. The research adopted a Single Case Study methodology, providing an in-depth analysis of TIM's strategic decisions, challenges, and innovations in Brazil.

The analysis of TIM's internationalization process offers several key findings that highlight the company's strategic adaptability, risk management, and innovation.

One of the most crucial factors in TIM's success was its strategic flexibility. As Brazil's market is characterized by a highly volatile regulatory and economic environment, TIM's ability to continuously adapt to local conditions became essential. By actively engaging with ANATEL, the national telecommunications regulatory agency, TIM ensured it could navigate complex regulations while minimizing disruptions to its operations. This proactive regulatory approach allowed the company to comply with the evolving policies and maintain a strong position in a market that is less predictable compared to others.

TIM also faced significant economic and infrastructural challenges, with Brazil's volatile currency and underdeveloped telecommunications infrastructure. Instead of overwhelming the market with large upfront investments, TIM adopted a phased investment strategy, focusing initially on stabilizing its operations before scaling up. Its investments in 5G technology and cloud migration demonstrated the company's long-term vision to bridge the digital divide in Brazil. These strategic investments were instrumental in extending telecommunications services to underserved regions and positioning TIM as a leader in digital infrastructure.

The formation of strategic partnerships further underpinned TIM's success. The collaboration with C6 Bank, for example, allowed the company to combine telecommunications with financial services, creating a unique value proposition that resonated strongly with Brazilian consumers. This partnership enabled TIM to enhance customer loyalty and diversify its revenue streams by providing bundled services that catered to the evolving needs of the market. Through this partnership, TIM was able to tap into the local knowledge and expertise needed to overcome entry barriers and gain a competitive edge.

Technological innovation played a vital role in ensuring TIM's competitive advantage. By heavily investing in cutting-edge technologies such as 5G, TIM secured its position as a pioneer in the Brazilian market. This technological investment was not just about maintaining relevance but also about addressing Brazil's growing demand for faster and more reliable internet. Additionally, TIM's cloud migration enabled greater operational efficiency, helping the company offer more flexible services to meet the dynamic needs of its customer base.

Finally, TIM's ability to manage risks, both political and economic, was a significant factor in its success. Brazil's economic landscape, with its currency fluctuations and political uncertainties, required TIM to adopt a comprehensive risk management strategy. The company implemented financial hedging strategies to mitigate the effects of currency volatility, ensuring stable returns despite the fluctuations of the Brazilian real. By phasing its investments and maintaining a diverse approach to risk, TIM was able to navigate these uncertainties without overexposing itself to economic downturns.

These findings underscore several key lessons for companies considering internationalization into emerging markets. First, local market dynamics must be thoroughly understood, as success cannot be achieved by applying a one-size-fits-all approach. TIM's ability to adapt its strategy to the specific regulatory, economic, and infrastructural conditions of Brazil was essential to its success. Second, strategic partnerships are invaluable in emerging markets, where local knowledge and expertise are critical for navigating regulatory complexities and understanding consumer behavior. TIM's partnerships allowed it to leverage local expertise and drive innovation in its product offerings, ultimately increasing customer satisfaction and loyalty. Third, technological investment is crucial in emerging markets, where infrastructure is still developing, and consumer needs are rapidly evolving. Companies that invest in cutting-edge technologies such as 5G early on are better positioned to capture market share and build long-term brand loyalty. Finally, comprehensive risk management frameworks are essential for navigating the economic and political uncertainties that often characterize emerging markets.

TIM's ability to manage currency volatility, political instability, and regulatory risk through proactive strategies was key to its operational success.

In conclusion, TIM's internationalization into Brazil serves as a compelling example of how companies can successfully navigate the complexities of expanding into an emerging market. Strategic flexibility, technological innovation, risk management, and partnerships were the four pillars that supported TIM's success in Brazil. These strategies allowed TIM to capitalize on the opportunities presented by Brazil's growing telecommunications market while effectively addressing the challenges posed by regulatory, economic, and infrastructural constraints. The lessons from TIM's experience offer a valuable roadmap for other companies looking to expand internationally, demonstrating that success in global markets requires not only seizing opportunities but also having the foresight and adaptability to overcome the challenges that come with them.

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