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SMEs Internationalisation in Digital Healthcare Sector: VirtualCare Case-Study

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Internship report
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Disclaimer

This internship report was prepared as part of the Master's in Business Economics and Strategy at the Faculty of Economics of the University of Porto. It documents a curricular internship undertaken at VirtualCare, Lda.

Some of the information contained herein is based on internal documents, meetings, and activities carried out during the internship and is subject to professional confidentiality and non-disclosure obligations.

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Abstract

The present work was developed as part of an academic internship at VirtualCare, Lda., a Portuguese SME (Small and Medium Enterprise) specialising in digital health solutions, in fulfilment of the Master's in Economics of Business and Strategy at the University of Porto. The identified research problem revolves around the challenges faced by SMEs in the digital health sector when internationalising niche products, particularly VirtualCare's flagship electronic health record (EHR) system, Obscare®, in the Brazilian market. Despite its success in Portugal, covering 38% of national market, VirtualCare encountered barriers such as regulatory complexities, cultural adaptation, and competition from global and local players during its initial expansion attempts.

A comprehensive analysis was conducted, combining theoretical frameworks on SME internationalisation with empirical insights from VirtualCare's pilot projects in Brazil. The study employed qualitative methodologies, including case study analysis, SWOT frameworks, and comparative evaluations of entry modes. Market conditions were assessed through PESTEL and Porter's Five Forces analyses, while financial projections were developed to evaluate the economic viability of each strategy. Data sources included internal company documents, market reports, and firsthand internship experiences.

The findings highlight the niche specialization in global markets as a critical challenge for digital health SMEs, emphasizing the need for localized adaptations beyond language adaptation. The joint venture strategy emerged as the most viable approach, offering risk mitigation, faster market penetration, and access to local expertise, despite lower profit margins compared to independent expansion. The study underscores the importance of strategic partnerships for SMEs navigating regulated, competitive markets.

This research contributes to the academic discourse on SME internationalisation by addressing gaps in sector-specific literature, particularly for digital health. For practitioners, it provides actionable insights into balancing scalability with specialisation in global markets. Future studies could explore alternative entry modes or track VirtualCare's long term outcomes in Brazil to refine these recommendations further.

Keywords: SMEs internationalisation, Digital Health, Entry Modes, Brazil, VirtualCare, Obscare®.

Resumo

O presente trabalho foi desenvolvido no âmbito de um estágio curricular na VirtualCare, Lda., uma PME (Pequena e Média Empresa) portuguesa especializada em soluções de saúde do Mestrado em Economia da Empresa e Estratégia da Universidade do Porto. O problema de investigação centra-se nos desafios enfrentados pelas PME do setor da saúde digital na internacionalização de produtos, em particular o sistema de registo de saúde eletrónico (EHR) Obscare®, da VirtualCare, no mercado brasileiro. Apesar do sucesso em Portugal (38% mercado nacional), a empresa encontrou barreiras como complexidades regulatórias, adaptação cultural e concorrência de *players* globais e locais durante as primeiras tentativas de expansão.

Realizou-se uma análise abrangente, combinando enquadramentos teóricos sobre internacionalização de PME com dados empíricos dos projetos piloto da VirtualCare no Brasil. O estudo adotou metodologias qualitativas, incluindo análise de case studies, matrizes SWOT e avaliação comparativa de modos de entrada. As condições de mercado foram avaliadas através das análises PESTEL e das Cinco Forças de Porter, enquanto projeções financeiras avaliaram a viabilidade económica de cada estratégia. Utilizaram-se documentos internos, relatórios de mercado e experiências do estágio.

Os resultados destacam o nicho de mercado como um desafio crítico para as PME de saúde digital, sublinhando a necessidade de adaptações para além da língua. A estratégia de joint venture surgiu como a mais viável, oferecendo mitigação de riscos, penetração rápida no mercado e acesso a conhecimento local, apesar de margens de lucro inferiores face a uma expansão independente. O estudo reforça a importância de parcerias estratégicas para PMEs em mercados regulados e competitivos.

Esta investigação contribui para a literatura académica sobre internacionalização de PMEs, abordando lacunas setoriais, nomeadamente em saúde digital. Para profissionais, oferece insights práticos sobre como equilibrar escalabilidade e especialização em mercados globais. Estudos futuros poderão explorar modos de entrada alternativos ou acompanhar os resultados da VirtualCare no Brasil para refinar recomendações.

Palavras-chave: Internacionalização de PMEs, Saúde Digital, Modos de Entrada, Brasil, VirtualCare, Obscare®.

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Abbreviations

AI – Artificial Intelligence

ANVISA – Agência Nacional de Vigilância Sanitária (Brazilian Health Regulatory Agency)

ANS – Agência Nacional de Saúde Suplementar (Brazilian National Health Agency)

API – Application Programming Interface

B2B – Business to Business

BRL – Brazilian Real (Currency)

CAGR – Compound Annual Growth Rate

EHR – Electronic Health Record

EU – European Union

FDI – Foreign Direct Investment

GDP – Gross Domestic Product

GDPR – General Data Protection Regulation (EU)

IP – Intellectual Property

IT – Information Technology

JV – Joint Venture

LGPD – Lei Geral de Proteção de Dados (Brazilian General Data Protection Law)

PME – Pequena e Média Empresa

R&D – Research and Development

SaaS – Software as a Service

SME – Small and Medium Enterprise

SNS – Serviço Nacional de Saúde (Portuguese National Health Service)

SUS – Sistema Único de Saúde (Brazilian Unified Health System)

ULS – Unidade Local de Saúde (Local Health Unit, Portugal)

VC – VirtualCare

1. Introduction

The internationalisation of businesses has become a cornerstone of modern economic strategy, particularly for small and medium-sized enterprises (SMEs) as a way of growing and reducing the risk of sticking to the domestic market (Fahy, 2002). In an era marked by rapid technological advancements and globalisation, companies can no longer afford to confine themselves to local markets. Instead, they must embrace global opportunities to remain competitive and sustainable (Oviatt & McDougall, 1997). This shift is especially evident in niche sectors like digital health, where innovation and scalability are critical for success.

VirtualCare, Lda, a Portuguese SME specialising in digital health solutions, exemplifies this trend. Founded in 2012 as a spin-off from the University of Porto, the company focuses on developing advanced healthcare technologies, including electronic medical systems and clinical management tools. Its flagship product, Obscare®, is an electronic health record (EHR) system designed for obstetric care, offering AI-driven capabilities to improve healthcare delivery and management. With Obscare® already covering 38% of national market in Portugal, VirtualCare has demonstrated its potential domestically. However, to sustain growth and leverage its technological edge, the company is now exploring international expansion, particularly in the Brazilian market.

This internship report examines VirtualCare's internationalisation journey, analysing the challenges and opportunities faced by SMEs in the digital health sector. The report is structured around three key pillars: firstly, a theoretical framework on SME internationalisation, secondly an in-depth case study of VirtualCare's expansion strategy, and lastly, a comparative analysis of entry modes for the Brazilian market. The research draws on firsthand experience gained during my internship at VirtualCare, where I supported the Business Development team in market analysis, partnership development, and strategic planning for Obscare®'s international rollout.

The study addresses a critical gap in the literature: while existing theories provide robust frameworks for SME internationalisation, few focus on the unique challenges faced by digital health SMEs. VirtualCare's case highlights the niche specialization in global markets as a critical challenge for digital health SMEs, the difficulty of scaling specialised, high value products in foreign markets. For instance, adapting Obscare® to Brazil's regulatory

landscape and clinical workflows required more than language translation; it demanded cultural and operational adjustments that generic internationalisation models fail to address.

The report's methodology combines qualitative research, including case study analysis and SWOT frameworks, with empirical data from VirtualCare's pilot projects in Brazil. By comparing the "Go Alone" and "Joint Venture" entry modes, the analysis reveals that partnerships offer a balanced approach for SMEs like VirtualCare, mitigating risks while accelerating market penetration. Financial projections further underscore the viability of joint ventures, particularly in complex markets like Brazil, where local expertise and established networks are invaluable.

The findings of this report contribute to both academic discourse and practical business strategy. For academic, it extends SME internationalisation theory into the digital health domain, emphasizing the interplay between technological differentiation and market--specific barriers. For practitioners, it offers actionable insights for SMEs navigating regulated, competitive markets, demonstrating how strategic alliances can bridge resource gaps and enhance scalability.

Ultimately, this internship report underscores the transformative potential of internationalisation for SMEs in the digital health sector. By aligning theoretical frameworks with real world challenges, it provides a roadmap for companies like VirtualCare to achieve global success while maintaining their innovative edge. The lessons learned from VirtualCare's journey are not only relevant to the digital health industry but also to any SME aspiring to turn niche expertise into international opportunity.

2. The Internship at VirtualCare, Lda.

The curricular internship took place at VirtualCare, Lda from February to June 2025, forming an integral part of the Master's in Economics of Business and Strategy program at the University of Porto. As a Portuguese SME specialising in digital health solutions, VirtualCare provided a dynamic environment to analyse the challenges and opportunities of internationalising innovative healthcare technologies, particularly their flagship product, Obscare®, an electronic health record (EHR) system for obstetric care.

Integrated into the Business Development team, my work focused on supporting VirtualCare's international expansion strategy, with an emphasis on the Brazilian market. The internship activities were structured around three key pillars: market analysis, including competitor benchmarking and regulatory landscape assessment; partnership development, engaging with Brazilian hospitals, distributors, and complementary technology providers; and strategic planning, refining entry modes and localization strategies for Obscare® (one of their software products).

A significant part of the internship involved direct collaboration with VirtualCare's Brazil-collaborators, participating in meetings to establish local partnerships and adapt to ANVISA regulations and Brazilian healthcare workflows. Additionally, I contributed to market research initiatives, analysing commissioned studies on digital health adoption trends and competitor positioning. These insights informed the development of tailored webinar campaigns (Annex 1) targeting Brazilian obstetric professionals, which served dual purposes: promoting Obscare®'s AI capabilities and gathering feedback to guide product adaptations.

The internship also included evaluating international healthcare fairs (Annex 2) as potential platforms for networking and brand positioning. By assessing participant profiles and engagement strategies, I helped outline a roadmap for VirtualCare's future event participation, emphasizing lead generation and partnership cultivation.

This hands-on experience provided a deep understanding of how SMEs in niche sectors like digital health navigate internationalisation barriers, from regulatory hurdles to resource constraints, while leveraging their technological differentiation. The insights gained during the internship not only supported VirtualCare's strategic decisions but also laid the groundwork for the theoretical and practical connections explored in the subsequent literature review.

3. Research Problem

While existing literature provides robust frameworks for SME internationalisation (Dunning & Lundan, 2008; Pan & Tse, 2000), there remains a significant gap in studies addressing the unique challenges faced by digital health SMEs, particularly those specialising in niche clinical solutions like obstetric EHR systems. This gap is critical, as the global digital health market, projected to grow at 16.3% CAGR (Health Cluster Portugal, 2025), demands tailored strategies that account for sector-specific regulatory, technological, and cultural barriers.

VirtualCare's case exemplifies this underexplored intersection. Despite Obscare®'s success in Portugal, its international expansion, notably in Brazil, revealed challenges inadequately covered by conventional SME internationalisation theories. The product's need for localization beyond language translation (adapting to ANVISA regulations, aligning with Brazil clinical workflows) and competition with both global players (Siemens' Obstetrix & Astraia) and cost-focused local solutions highlight a research void: How can digital health SMEs with specialised, high value products overcome the "liability of niche-ness" when internationalising?

This question gains urgency from two trends:

Market demand: The post pandemic surge in telehealth adoption (Wu et al., 2022) has intensified competition, pushing SMEs to internationalise faster despite resource constraints.

Policy shifts: The EU's Health Data Space initiative and Brazil's LGPD laws create complexities that generic internationalisation models fail to address.

The internship's hands-on work, from analysing Obscare®'s pilot failures in Brazilian maternity hospitals to designing partnership strategies, provided empirical evidence of this gap. For instance, while Pan & Tse's (2000) entry mode hierarchy recommends joint ventures for regulated markets, VirtualCare's experience showed that healthcare SMEs also require clinical credibility; modular product design to accommodate local reimbursement policies and data governance frameworks that satisfy divergent privacy regimes.

By examining these challenges through VirtualCare's lens, this study aims to extend SME internationalisation theory into the digital health domain while offering actionable insights for similar firms. The findings will contribute to a broader academic discourse on how niche innovators can balance scalability with specialisation in global markets.

4. Literature Review

The following literature review will cover the main concepts, methods, factors and theories related to internationalisation, particularly considering the size of the Virtual Care, a small and medium-sized Enterprise (SME) from the digital health sector.

4.1. Internationalisation Concept

The globalisation and expansion of companies that we have witnessed during this 21st century as has brought extreme relevance to the concept of internationalisation and so, in addition to the traditional exchange of goods and services or labour flows between nations, new opportunities are emerging associated with the possibility of geographically relocating production chains or the free movement of capital and information.

For this reason, internationalization has emerged as a major focus of theoretical discussion in recent years, with various authors proposing key frameworks that have shaped our understanding of its different dimensions.

Welch and Luostarinen (1988) define internationalisation as the process in which organisations increase their participation in international operations, while Calof and Beamish (1995) consider it to be a process in which companies adapt (strategy, structure, resources, etc.) to international environments.

A more recent and focused on SMEs definition by Hollensen (2011) says that internationalisation occurs when the company expands its research and development, production, development, production, sales and other business activities in foreign markets, being this process relatively discrete in the case of small and medium-sized enterprises (SMEs), where it is up to their management to consider each international business as distinct and individual.

There is also growing concern about the current geopolitical situation in the world, which could interfere with the trend towards globalisation and internationalisation. In fact, the internationalisation process approach which is stressed in one important strain of research on companies' international operations is of particular interest as it provides an explanation of some of the driving forces which help to move the company forward internationally over time (Johanson/Vahlne 1977, 1990, Luostarinen 1979). The obvious question that arises is: do these forces operate in reverse, perpetuating a withdrawal process? While de-

internationalisation has been recognized in this research, it has received scant treatment (Welch/Luostarinen 1988, Benito/Welch 1994). One might expect that the learning by doing stressed in this case as one of the keys to understanding the ability of firms to succeed and adapt in today's world with the threat of de-globalisation.

4.2. Motivations to Internationalise

Having already understood the concept of internationalisation let's now focus on the reasons firms internationalise. In this context, the literature highlights various reasons for a company to start its internationalisation process, which are related to different characteristics of the of the decision-makers, company-specific factors and the environment (Katsikeas and Piercy, 1993). Bearing in mind that companies face different stimulus, both internal and external, which have a major influence in the internationalisation decisions. (Tamer Cavusgil and Godiwalla, 1982), Dunning and Lundan (2008) point out that internationalisation can be aimed at market, resource, efficiency and strategic asset seeking as you can see in the following table.

Resource-Seeking	The business seeks access to resources, including raw materials and natural resources, that are either unavailable on its home market or that are only available at a higher cost, like labour. To benefit from the lower costs of manufacturing factors, the conventional goal in these situations is to localize at least a part of the value chain abroad.
Market-Seeking	Companies expand their activities abroad to attract and broaden their customer base. In the context of classic international trade theories, for example, internationalisation based on this motivation can be an attempt to avoid transport costs.
Efficiency-Seeking	The company internationalises to take advantage of differences between countries in terms of the cost or availability of production factors, as well as consumer tastes, and to benefit from economies of scale and scope. In this case, there is a certain analogy with the search for resources, in that the company divides up production across several

	markets to take advantage, for example, of reduced labour costs in less developed countries.
Strategic-Asset-seeking	Companies undertake and invest in internationalisation to acquire new skills and resources, or dynamic capabilities, rather than simply exploiting the assets they already have. During the search for strategic resources, the intention is not to exploit current competitive advantages, but rather to develop new ones.

Table 1: *Motivations for internationalisation, according to Dunning and Lundan (2008)*
Source: *Adapted from Dunning e Lundan (2008)*

These motivations are usually linked to the method of entry into foreign markets and, to a certain extent, to the very selection of foreign countries to enter, and it is possible for different strategic action alternatives to have the same motivation behind them.

Springer and Czinkota (1999) also point to a set of eleven factors as the main motivations for internationalisation. These are divided into **proactive motivations**, which include advantages in terms of technology, unique products, exclusive information, management commitment, tax benefits and savings economies of scale, and **reactive motivations**, which include competition pressures, excess production capacity, saturation of the domestic market and ports of disembarkation.

On the other hand, Simões (1997) identified a distinct set of potential reasons that drive companies to operate internationally, as outlined in Table 2.

Motivations for Internationalisation	**Genesis**
Internal	- Reduced company growth. - Exploiting the productive capacity available. - Economies of scale. - Risk diversification.
Market characteristics	- Domestic market limitations. - Perceived dynamism of foreign markets.
Relational	- Response to competitors.

	- Accompanying clients in their internationalisation. - Approaches from foreign companies.
Access to resources abroad	- Prices applied to production abroad - Access to technological know-how
Incentives from the government	- Government aid (country of origin or destination)

Table 2: *Motivations for internationalisation, according to Simões (1997)*
Source: *Simões (1997)*

As we can see, there are several perspectives on the motivations for internationalisation. Regardless of the factors and the way they are described, the nature of the company and the environment in which it operates are extremely important in triggering this internationalisation process.

Another point of view regarding the SMEs was made by Freeman et al. (2006) that identified additional factors that influence the internationalisation process. Among the key drivers the highlighted are the limited size of the domestic market, the possession of unique knowledge or technology (which may be the case of VirtualCare), and the establishment of various types of relationships and alliances.

4.3. Barriers to Internationalisation

Internationalisation is a complex process that presents several challenges for companies. These barriers can significantly impact the success of international expansion if not properly addressed. According to the literature, these obstacles can be grouped into three main categories (Fletcher, 2001):

Management Characteristics - This includes a lack of knowledge in international business, limited experience in cross-border transactions, and the absence of a strategic or planned approach to internationalisation.

Organisational Factors - Challenges such as reluctance to adapt products for foreign markets, insufficient technological advantages, and inadequate market research capabilities can hinder expansion efforts.

External Barriers - These encompass competitive pressures in foreign markets, high entry costs, regulatory complexities, lack of government support, and limited access to export training (Fletcher, 2001).

Additionally, Welch and Luostarinen (1988) emphasize that SMEs often struggle with a lack of knowledge about foreign markets and limited international experience. Suárez-Ortega (2003) further identifies key obstacles, including insufficient technical assistance, unfamiliarity with target markets, and a shortage of qualified personnel.

The intensity of these barriers varies depending on the firm's level of international experience (Katsikeas & Morgan, 1994). However, proactive measures can mitigate these challenges. Leonidou (2004) suggests that SMEs should conduct thorough market research and business intelligence to anticipate potential issues, categorize and prioritize barriers based on their persistence and impact and implement corrective actions and continuously monitor the resolution process.

For Virtual Care, as a digital health SME, these barriers are particularly relevant. The company must navigate regulatory differences in healthcare markets, adapt its technology to local needs, and overcome resource constraints. Addressing these challenges through strategic planning and partnerships will be crucial for successful internationalisation.

4.4. Entry Modes

Internationalisation is a process full of uncertainties and requires persistence and continuous learning throughout the process until results emerge (Sapienza et al., 2006). When expanding internationally, companies follow a hierarchical perspective when defining the entry mode to be adopted. At the first level of the hierarchy, companies decide whether to enter with capital investment or without capital investment (Pan & Tse, 2000). Only after this decision is made can the company decide specifically which entry mode to adopt, namely export or contractual modes when the entry mode without capital investment is chosen, or between 100 per cent subsidiaries and joint ventures when the strategy supported by capital investment is chosen. But let's take a closer look at what each of these concepts mean:

Entry Modes		Description	Advantages	Risks
	Exports (Direct)	Selling products directly to foreign customers	- Full control over sales and branding.	- High logistical costs.

		without intermediaries.	- Higher profit margins.	- Requires in-depth knowledge of local regulations.
	Exports (Indirect)	Using intermediaries (distributors, agents) to sell abroad.	- Lower upfront costs and risks. - Leverages local partner expertise.	- Less control over pricing and brand representation. - Lower margins.
	Licensing	Granting a foreign firm rights to use IP (technology, brand) for a fee.	- Low-cost entry with minimal risk. - Fast market penetration.	- Limited control over operations. - Risk of IP theft or misuse.
No Capital Investment	**Franchising**	Allowing a foreign entity to operate under the brand's business model.	- Rapid expansion with local investment. - Shared operational burden.	- Brand reputation risk. - Quality control challenges.
	Management Contracts	Providing managerial expertise to a foreign firm for a fee.	- Low capital requirement. - Generates steady income.	- No equity stake; limited long-term gains. - Dependency on partner.
	Strategic Alliances	Collaboration with a local firm for mutual benefits (R&D, marketing).	- Shared costs and risks. - Access to partner's market knowledge.	- Potential conflicts over control.

				- Risk of knowledge leakage.
Capital Investment	**Joint Venture**	Shared ownership with a local partner.	- Local expertise + shared investment. - Better market access.	- Disputes over strategy. - Profit-sharing complications.
	Wholly Owned Subsidiary	Full ownership of foreign operations (greenfield or acquisition).	- Maximum control and profits. - No partner conflicts.	- High capital and risk exposure. - Complex regulatory compliance.

Table 3: *Advantages and Disadvantages of the different entry modes*
Source: *Own Elaboration*

This decision-making process can be better visualised in the Figure 1, which describes the hierarchical levels of the decision regarding the entry mode to be adopted by the company.

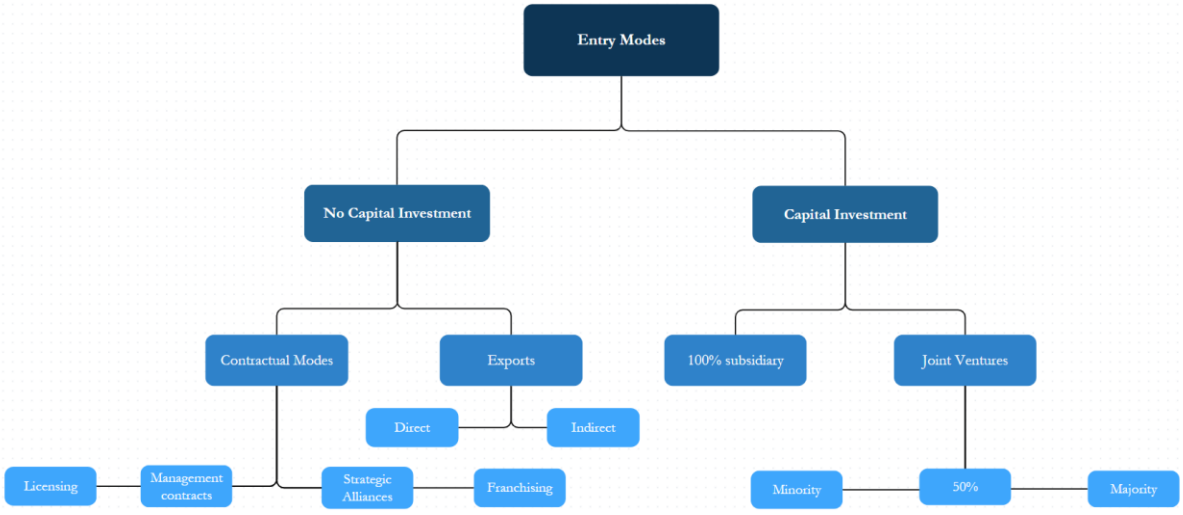

Figure 1: *Internationalisation: Entry Modes*
Source: *Own elaboration based on Pan & Tse (2000, p.538).*

4.5. Internationalisation on SMEs in Digital Health Sector

As previously stated, in a world of globalisation, the process of internationalisation is crucial to the expansion of businesses. This is particularly evident in the case of SMEs, which

typically have more deficiencies in terms of internal management capabilities, resources, and technological research and development (R&D) and Virtual Care is no exception.

In fact, there is growing evidence that internationalisation has become a key requirement for SMEs to gain competitive advantage which results in an increasing effort in managing the companies' internationalisation processes (Dutot, Bergeron, & Raymond, 2014; Schweizer, 2012). The effectiveness of those processes is directly related with the role of networks in internationalisation, by providing decision-makers with channels of information and knowledge, influencing foreign market selection, and overcoming resource constraints. The market knowledge, internationalisation knowledge, network knowledge, and technological knowledge are also critical for SMEs in making informed decisions about foreign market entry and expansion (Costa, Soares, & De Sousa, 2016).

This evidence was also highlighted in Simões' (1997) approach, which noted that prior studies had established a statistically significant relationship between a company's degree of international involvement and its size. The degree of international involvement was measured based on the modes of operation used in foreign markets, ranging from occasional and dependent export to direct export, commercial subsidiaries, and production subsidiaries. The findings demonstrated that small and medium-sized enterprises (SMEs) face significant challenges when pursuing internationalisation. Specifically, their limited size and scarcity of human resources, particularly in commercial and financial functions, not only hinder the steps required for international expansion but also affect its overall success. In fact, SMEs often rely on unplanned, reactive decisions due to limited information and experience, whereas firms with accumulated knowledge adopt more rational, planned decision-making approaches (Costa, Soares, & De Sousa, 2016).

In this context, it is also worth highlighting a study by the European Commission (2010), which pointed to various factors that can influence the internationalisation of SMEs, and can be considered for the case of Virtual Care, such as:

- Company size and level of internationalisation: larger companies have a higher level of internationalisation than smaller units.

- The size of the market: the smaller the country, the more internationalised SMEs are.

- International activity & age: the older the SME, the more into international markets.

The same study also found that SMEs believe the biggest obstacles to internationalisation are the price of their goods, the expenses of the entire process, a lack of funding, and a lack of public support and information as we've already stated before. Also, units that are already internationalised exhibit higher levels of growth in turnover and employee numbers when compared to those that are only active at a national level. This information regarding the internationalisation on SMEs level can be very useful for Virtual Care when defining their own strategy and understand what challenges and problems are most likely to arise during the internationalisation process.

If we now look at the internationalisation of digital health SMEs, it is possible to say that this sector has been evolving rapidly in recent years, with many medical technology companies realizing that the benefits of connected patient care and remote patient monitoring are of great value to both patients and physicians (Health Cluster Portugal, 2025).

In fact, according to the Health Cluster Portugal report (2025) as the demand for cost-effective and accessible healthcare solutions grows, telehealth continues to reshape, and digital health sector keeps growing which is an opportunity for SMEs to grow and potentially internationalise as we can see in the following tables:

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026
Value	2745,46	2840,2	3539,32	4700,93	5139,74	5903,58	6626,92	9950,87	11120,11
Volume	614327	659257	1356997	2313865	3156820	3942215	4692893	10635623	12199864

Table 4: *Digital Health Market, Global, 2018-2026 ($M)*
Source: *Health Cluster Portugal report (2025); Extracted Date: 06-Jan-2025*

Category	Country	2020	2021	2022	2023	2024	2025	2026	2027	2028	CAGR 18-33
Digital Health	Spain	74,89	110,3	131,4	158,72	185,2	212,5	239,3	263,9	284,5	15.00
	Portugal	11,06	16,53	20,13	24,59	28,98	33,53	38,03	42,21	45,74	16.30
	Brazil	48,14	60,15	53,66	55,59	56,77	266,2	302,5	337,1	367,5	17.30
Electronic Health Records	Spain	32,26	37,81	34,74	36,76	38,45	40,23	42,11	44,09	46,18	4.70
	Portugal	4,07	4,55	4,04	4,18	4,27	4,35	4,44	4,53	4,62	2.00
	Brazil	42,04	53,38	46,46	48,06	48,86	49,7	50,57	51,49	52,45	2.50

Table 5: *Possible Countries to Export: Market Analysis Tool, 2018-2033 ($M)*
Source: *Health Cluster Portugal report (2025); Extracted Date: 10-Dec-2024*

It is possible to see that the Global Digital Health Market has been growing exponentially in the last years and Portugal is projected to grow at a compound annual growth rate (CAGR) of 16.3%, with EHR systems representing a substantial segment of this expansion (Health Cluster Portugal, 2025). Spain and Brazil (mostly the most common countries o export by Portugal) are not an exception with an expected CAGR of 15% and 17.3% respectively. The expectation is that this growth will not only continue but even increase. This clearly opens a gap in the market for companies in the industry to explore, particularly SMEs, which could have an opportunity to expand their business if they manage to keep up with and adapt their strategy to market developments.

The data also strengthens the idea that the Covid-19 pandemic has demonstrated the importance for medical professionals to engage in work transcending national borders and to deeply understand perspectives of health in other countries. Internationalisation of medical education can play a key role to that end, by preparing culturally competent and globally conscious medical healthcare professionals. (Wu et al., 2022).

4.6. Similar Studies and Analysis

There are several studies analysing the concepts and models of internationalisation, as well as the entry mode selection conducted by SMEs in their internationalisation process. However, few focus specifically on the digital health sector, highlighting the relevance of this work, particularly given the unique characteristics of the company and the product under analysis.

For instance, Welch and Luostarinen (1988) and Calof and Beamish (1995) explored the evolution of internationalisation concepts, while Dunning and Lundan (2008) and Sapienza et al. (2006) examined motivations and entry modes. Pan and Tse (2000) provided a hierarchical framework for entry mode decisions, which is particularly useful for understanding the structured approach SMEs might adopt. Simões (1997) and the European Commission (2010) further emphasized the challenges SMEs face, such as limited resources and reactive decision-making, which are critical considerations for Virtual Care.

Despite these contributions, the literature lacks in-depth studies on the internationalisation of SMEs in the medical or digital health sector, a gap that has only recently begun to be addressed, especially after the Covid-19 pandemic. Wu et al. (2022) highlighted the growing

importance of internationalisation in healthcare, but empirical research on SMEs in this field remains scarce.

4.7. Critical Analysis

The literature underscores the importance of understanding the motivations behind a firm's decision to internationalise, as well as the barriers it may encounter in target markets. Various theories and models, such as those proposed by Dunning and Lundan (2008) and Pan and Tse (2000), provide frameworks for analysing these processes, particularly the hierarchical nature of entry mode decisions.

For SMEs like Virtual Care, internationalisation presents both opportunities and challenges. The digital health sector is experiencing rapid growth, as evidenced by market data from Health Cluster Portugal (2025), creating significant potential for expansion. However, SMEs must navigate resource constraints, regulatory complexities, and the need for strategic partnerships to succeed in foreign markets.

A critical limitation of the existing literature is its limited applicability to highly specific cases, such as SMEs in niche sectors like digital health. Most studies focus on broader industries or geographically restricted samples, leaving gaps in understanding the unique dynamics of this sector. Additionally, the reasons behind SMEs' choice of systematic versus non-systematic approaches to internationalisation remain underexplored.

This internship report contributes to filling these gaps by analysing the case of Virtual Care, a Portuguese SME in the digital health sector, and providing insights into its internationalisation strategies. By examining the company's motivations, potential entry modes, and sector-specific challenges, this work aims to offer practical recommendations for Virtual Care's expansion while adding to the broader academic discourse on SME internationalisation in the medical field.

5. Company Overview and Product Portfolio

This chapter establishes the foundational context for VirtualCare's internationalization strategy by examining two core elements: the company's organizational profile, including its history, mission, and operational structure, and its flagship product, Obscare®, detailing its technical capabilities, market traction, and strategic value. Together, these sections provide the necessary background to evaluate the challenges and opportunities of internationalisation in digital healthcare market, as explored in subsequent chapters.

5.1. VirtualCare, Lda

Founded in 2012, as a spin-off from the University of Porto, VirtualCare was born from the collaboration between research units specialised in health information systems, by a group of researchers with training and experience in medicine, IT and management. Based at UPTEC, it works with healthcare professionals from all over the country to ensure the full functioning of its solutions and develop a strategy aligned with current healthcare challenges.

Since its establishment, VirtualCare has positioned itself as a key player in the digital health sector, working with hospitals, clinics, insurance providers, and individual healthcare professionals. The company's solutions are tailored to meet the growing demand for remote healthcare services, particularly in an era where telemedicine has become essential.

VirtualCare's mission is to save time and resources, improve the quality of information and integrate systems. For that, they develop and disseminate innovative products, systems and services that apply information technologies and biomedical knowledge in a systematic way. The goal is to transform the healthcare experience, making it more integrated, accessible and patient-centred, empowering individuals and professionals with tools that improve clinical decisions and outcomes. The company's vision is to become a leading European reference in digital health by continuously innovating and expanding its solutions to meet global healthcare challenges. Core values driving VirtualCare's operations include Quality, as they establish standards of excellence to IT solutions, promoting process efficiency in a culture that promotes continuous improvement; Innovation, by combining the know-how of employees to create applications that make VirtualCare stand out in the market, encouraging creative and entrepreneurial autonomy; People, that promote work with rigor and commitment, inspiring people to give their best and Stakeholders, that promote collaboration particularly healthcare professionals and information and IT managers.

VirtualCare operates with a multidisciplinary team composed by 19 employees of software developers, healthcare professionals, and business strategists, fostering a collaborative work environment that encourages continuous learning and adaptation to industry trends.

With the increasing global adoption of digital health, VirtualCare aims to strengthen its market position by enhancing its AI capabilities, expanding into new regions, and forming strategic partnerships. The company remains dedicated to making healthcare more accessible, efficient, and patient-focused through technology.

5.2. Obscare®

Developed in partnership with Hospital São João in Porto, Obscare® represents a breakthrough in digital healthcare solutions for maternity and obstetric care. This comprehensive electronic health record (EHR) system was specifically designed to streamline clinical workflows while enhancing patient safety and data management in obstetrics departments. Unlike generic EHR systems, Obscare® offers specialised modules covering the entire pregnancy journey from prenatal consultations and delivery management to postnatal care, creating a seamless digital continuum for both healthcare providers and patients.

Obscare® stands out in the crowded digital health market through several key differentiators. Its AI-powered analytics module helps identify high-risk pregnancies by detecting subtle patterns in clinical data, while its interoperability features allow seamless integration with hospital information systems and medical devices. The platform's intuitive interface reduces documentation time by up to 30% compared to conventional systems, according to user reports.

As a result, the product has a lot of weight within the organisation, not only because it is long-lasting, comparatively well-established, and can be regarded as a company flagship, but also because of its significance in terms of turnover, as shown in the following figure.

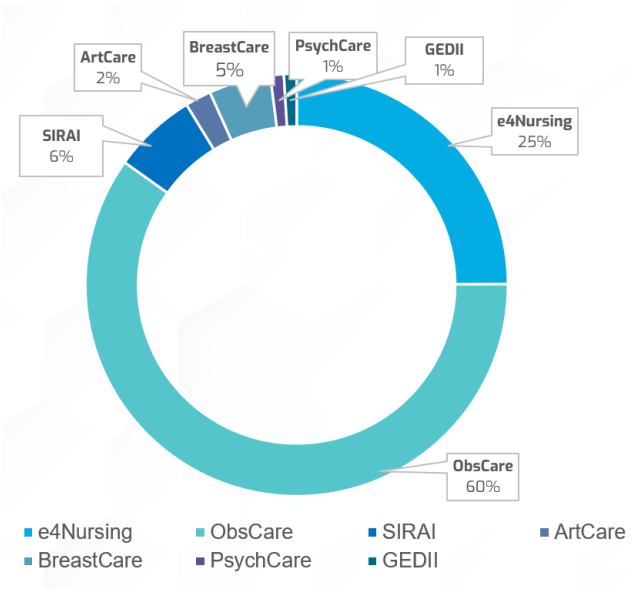

Figure 2: *VirtualCare's turnover*
Source: *VirtualCare 2025*

The system's success stems from its unique combination of specialised clinical functionality and technological innovation. Features like real-time fetal monitoring integration, automated report generation, and mobile access for remote consultations address specific challenges in modern obstetric care. As the digital health market continues expanding globally (projected to reach $9950M ($2624M for EHRs) by 2025 according to Health Cluster Portugal), Obscare®'s specialised focus and proven track record in Portugal position it as a strong contender for international adoption, particularly in markets seeking to modernize maternal healthcare infrastructure.

VirtualCare's ongoing development of Obscare® demonstrates how targeted digital solutions can transform specialised medical fields. By maintaining close collaboration with clinical partners and continuously incorporating user feedback, the system has evolved into a gold standard for obstetric EHRs - one that balances advanced functionality with practical usability for busy healthcare professionals.

5.3. Strategic Objective

The strategic objective of VirtualCare, as the focal point of my internship, was to advance the internationalization of Obscare®, with particular emphasis on the Brazilian market. My role centred on conducting a systematic analysis of Brazil's digital healthcare ecosystem, including competitor benchmarking, regulatory constraints, and cultural adaptation requirements for EHR systems. Through market research, stakeholder engagement, and financial viability assessments, the internship contributed to formulating a structured entry strategy, balancing the product's niche specialization with scalability in a regulated emerging market. This work directly informed the comparative analysis of entry modes presented in subsequent chapters, addressing the core challenge of SME internationalization in digital health.

6. Methodology

In this chapter, we will examine the methodological approach selected to explore VirtualCare's internationalisation strategy and the broader challenges faced by SMEs in the digital health sector. Additionally, we will discuss the study's context, data collection methods, and key research questions that guided the internship's activities. As Porta & Keating (2008) emphasize, methodology transforms a research problem into a workable framework, defining the tools and techniques used to investigate it systematically.

6.1. Research Approach

The present work falls within the qualitative methodological type, focusing more on individual cases, with a study that begins by examining the cases and their results, and then follows a path to the effects that led to them (Mahoney & Goertz, 2006).

Qualitative methodology is divided into 5 types of methodology: phenomenology, ethnography, case study, narrative research and grounded theory in data (Creswell, 2018). For this work, the most appropriate method would therefore be the case study that, according to Yin (1994 apud Tellis, 1997), it explains the complex causal links in real-life interventions. I intend to create a bridge between the theoretical framework presented in this work and the analysis of the internationalisation process of the company in which I carried out related activities during my internship. This method uses various types of sources for research such as market analysis, competitor benchmarking, and participation in partnership meetings as well as documents and literature review.

There is no consensus on the definition of a case study, which is why it is important to clarify the most pertinent definition for this work. But something that several definitions have in common is that a case study must be a complex functioning unit, it must be investigated in its natural context with several different methods and, of course, be contemporary (Johansson, 2003).

6.2. External and Internal Analysis: The Curricular Internship Context

The research begins with a dual examination of VirtualCare's operational environment. On the external front, the analysis explores the broader digital health landscape, assessing market trends from sources like Health Cluster Portugal reports, regulatory requirements including Brazil's ANVISA standards, and competitive dynamics through benchmarking against solutions like Astraia Software. Internally, the study draws from direct internship

participation to evaluate VirtualCare's Organisational capabilities, with particular attention to the Obscare® platform's technical features and adaptability. This dual perspective was developed through active involvement in company meetings, access to internal strategy documents, and hands-on work with the product development team during the internship period.

6.3. Expansion to Brazil: Strategic Evaluation

The methodology then narrows its focus to VirtualCare's Brazilian market entry, tracing the evolution of this strategic initiative from initial planning to implementation. This segment examines how theoretical models of internationalisation translated into practice, from early pilot projects with Brazilian hospitals to the establishment of local partnerships. Special consideration is given to the cultural and regulatory adaptation process, including adjustments made to Obscare®'s interface to accommodate different clinical workflows and documentation requirements in Brazilian maternity wards. The analysis incorporates insights gained from participating in market research activities, competitor analysis sessions, and stakeholder meetings during the internship.

Namely, it will be used a SWOT analysis framework to systematically compare the advantages and risks of independent internationalisation versus strategic alliances. According to Sammut-Bonnici and Galea (2015) a SWOT analysis evaluates the internal strengths and weaknesses, and the external opportunities and threats in an organisation's environment. The objective of a SWOT analysis is to use the knowledge an organisation has about its internal and external environments and to formulate its strategy accordingly.

Lastly, a comparative analysis will examine three distinct market scenarios (pessimistic, baseline, and optimistic) across both independent and partnership-driven expansion paths. This evaluation assesses how varying levels of local partner involvement in the joint venture model impact critical success factors including market penetration speed, regulatory adaptation efficiency, and revenue potential. Parallel projections were developed for both strategic approaches to enable direct performance comparison under equivalent market conditions.

6.4 Limitations

While offering comprehensive insights, the study acknowledges several methodological constraints. The five-month internship timeframe provided a snapshot of an ongoing

internationalisation process rather than its complete lifecycle. Some data from initial Brazilian pilot projects remained preliminary at the time of analysis, and certain internal projections represented strategic estimates rather than established outcomes. These limitations can be mitigated through triangulation with long-term industry forecasts, academic literature on SME internationalisation patterns, and comparative case studies from similar digital health providers.

By combining these methodological approaches, from broad market analysis to focused case examination, the research provides both theoretical contributions to understanding SME internationalisation and practical insights for digital health companies navigating regulated emerging markets. The integration of internship experience with academic frameworks offers a unique perspective on how niche technology providers like VirtualCare can balance global ambitions with local market realities.

7. The Case Study

This chapter provides an overview of the study developed in VirtualCare, Lda, the company where the internship took place, along with a detailed description and analysis of the activities conducted during the internship period from February 2025 to June 2025.

The concept of internationalisation and its underlying strategies has always been something that attracted me, namely the process for companies to become more competitive in the face of a new market environment. In my specific case, throughout my internship I had the opportunity to understand how a SME company, despite the difficulties inherent in the scarce resources available and the lack of experience, aspire to get into digital health market and be able to expand their business internationally.

In this sense, during my internship, it was important to get to know the work developed in the company, namely its day-to-day operations and its strategy, as well as improving and integrating the theoretical knowledge acquired during the course, develop the ability to solve real problems and foster interpersonal relationships and the ability to work with different teams.

The information presented here was obtained mainly from the company's website and reports of their products as well as some surveys made about the stakeholders and the market itself in order to provide information on the activities and strategies developed by the company.

Therefore, this chapter provides a comprehensive analysis of VirtualCare's operational ecosystem, structured around five critical dimensions: the global Digital Healthcare Industry landscape, an evaluation of key Competitors in the sector, the profile and needs of VirtualCare's institutional Clients, the company's established National Presence in Portugal, and its current International Presence with a focus on expansion challenges in Brazil. Together, these sections contextualize VirtualCare's strategic position within the digital health market.

7.1. Digital HealthCare Industry

Over the past decade, advancements in technology and the increasing demand for accessible, efficient healthcare solutions have propelled the rapid growth of the digital healthcare industry (Health Cluster Portugal, 2025). Digital healthcare encompasses a wide range of technologies, including electronic health records (EHRs), telemedicine platforms, wearable

devices, and artificial intelligence (AI)-driven diagnostic tools, all aimed at improving patient outcomes, reducing costs, and streamlining clinical workflows (Wu et al., 2022). This sector has gained significant traction, particularly after the Covid-19 pandemic, which highlighted the critical need for remote healthcare solutions and accelerated the adoption of digital health technologies worldwide increasing their value, as we can see on table 6.

Country	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Europe	**570,3**	**629,4**	**663,5**	**752,8**	**782,3**	**805,5**	**844,7**	**887,6**	**934,7**	**986,4**
Austria	4,53	4,74	4,88	5,3	5,2	5,11	5,1	5,09	5,08	5,07
Belgium	27,46	30,26	32,65	36,89	38,1	39,31	41,27	43,33	45,5	47,79
Czech Republic	1,61	1,72	1,79	1,96	1,94	1,93	1,96	1,98	2,01	2,03
Denmark	2,04	2,14	2,16	2,29	2,21	2,14	2,1	2,07	2,03	2
Finland	3,87	4,07	4,02	4,08	3,98	3,89	3,86	3,83	3,8	3,77
France	147,8	163,5	177	202,5	211,7	220,4	233,4	247,4	262,4	278,4
Germany	139,4	157,8	171,3	196,7	208,5	218,5	234,1	251,9	272,4	295,8
Greece	2,44	2,58	2,66	2,89	2,88	2,82	2,81	2,8	2,79	2,79
Hungary	0,78	0,82	0,84	0,9	0,88	0,87	0,87	0,87	0,87	0,87
Ireland	1,85	1,96	2	2,15	2,12	2,1	2,11	2,13	2,15	2,17
Italy	80,44	88,08	86,51	97,47	100,4	103	107,5	112,3	117,3	122,6
Netherlands	22,17	24,29	27,03	32,21	32,55	32,92	33,85	34,81	35,78	36,78
Norway	5,18	5,43	5,49	5,8	2,83	2,73	2,68	2,63	2,58	2,53
Poland	11,04	11,32	11,59	12,59	12,37	12,19	12,21	12,23	12,26	12,28
Portugal	**3,41**	**3,76**	**3,87**	**4,16**	**4,16**	**4,18**	**4,27**	**4,35**	**4,44**	**4,53**
Russia	9,85	10,73	11,42	12,85	20,58	21,2	22,2	23,25	24,34	25,48
Spain	25,72	28,42	30,62	34,62	35,76	36,76	38,45	40,23	42,11	44,09
Sweden	1,58	1,68	1,72	1,87	1,86	1,84	1,86	1,88	1,9	1,92
Switzerland	7,15	7,57	7,6	8,22	8,07	7,93	7,92	7,9	7,89	7,87
Turkey	9,66	10,25	10,45	11,4	11,3	11,19	11,26	11,34	11,41	11,48
United Kingdom	62,35	68,37	67,93	75,97	74,95	74,5	74,92	75,32	75,71	76,1

Table 6: *Digital Health [EHRs] Value By Geography, Europe, 2018-2027 (€M)*
Source: *Health Cluster Portugal report (2025); Extracted Date: 10-Dez-2024*

The global digital health market is projected to keep growing in future according to the table above which shows us the Digital Health [EHRs] Values by country. Both in Portugal and in Europe there's an expected growth driven by several factors, including the increasing prevalence of chronic diseases, the aging population, and the need for cost-effective healthcare delivery models. For instance, telehealth platforms have become indispensable in providing remote consultations, particularly in underserved regions, while AI-powered tools are revolutionizing diagnostics and personalized treatment plans (Wu et al., 2022).

Despite its potential, the digital healthcare industry faces significant challenges. Regulatory complexities, such as compliance with data protection laws (Brazil's LGPD and the EU's Health Data Space), and the need for interoperability between disparate healthcare systems pose hurdles for companies, especially small and medium-sized enterprises (Health Cluster Portugal, 2025). Additionally, the industry must address concerns related to data privacy, cybersecurity, and the digital divide, which limits access to technology in low-resource settings (Wu et al., 2022).

Looking ahead, the digital healthcare industry is poised for continued growth, fuelled by technological advancements and increasing investment in health tech infrastructure. The integration of AI, machine learning, and blockchain technology promises to further enhance the efficiency and security of healthcare delivery. However, success in this dynamic sector will depend on the ability of companies to navigate regulatory landscapes, address ethical concerns, and demonstrate tangible value to healthcare providers and patients alike.

7.2. Competitors

VirtualCare's Obscare® is an integrated electronic health record (EHR) system designed for maternity and obstetric care, offering modules for prenatal, delivery, and postnatal care. The company differentiates itself through AI-driven diagnostics, interoperability with telehealth platforms, and a patient-centric approach. However, its market penetration remains limited compared to global leaders like Siemens, which dominates Scandinavia with Obstetrix or Astraia that still holds most of the systems in Europe and Brazil.

According to the Health Cluster Portugal Report (2025), the global digital health market is projected to grow at a CAGR of 16.3%, with EHRs representing a significant segment. VirtualCare's challenge lies in scaling its solutions amid competition from both multinational corporations and regional niche players.

Siemens' Obstetrix is a mature EHR system widely adopted in Sweden (80% market share) and Finland (25%) and its main strengths are their comprehensive modules, their regulatory compliance facilitating cross-border exchange and mostly their established infrastructure compatible with Siemens' medical devices. All of them are characteristics that VirtualCare's product have or can easily implement so the differentiation is not a problem for Obscare® but Obstetrix's dominance in Scandinavia highlights the importance of partnerships with

public health systems, a strategy VirtualCare could replicate in target markets like Brazil, where public-private healthcare collaborations are expanding.

Astraia is also a software that can be considered a competitor in Europe and Brazil. Although it is not a direct competitor since it has rudimentary features compared to Obscare®, it ends up operating in the same market and is already established in most hospitals. It is also a product that is not very adaptable or compatible with other software, so it can be considered an obstacle and an indirect competitor. Brazil's digital health market is fragmented but growing, driven by demand for cost-effective telehealth solutions. Some other competitors are: Phelcom Technologies that focuses on portable ophthalmology devices but is expanding into maternal health via cloud-based EHRs; Portal Telemedicina that offers telehealth platforms with EHR integration, targeting rural healthcare gaps or Epic Systems (U.S.) and Cerner Corporation (global), which dominate the EHR sector but lack localized solutions for emerging markets. The majority of the market competitors and their characteristics can be better visualized in Annex 3 & 4.

VirtualCare's Obscare® competes in a dynamic sector where differentiation hinges on technology agility and strategic partnerships. By prioritizing regulatory compliance, targeted alliances, and AI-driven innovation, VirtualCare can carve a niche in Brazil's digital health market while mitigating risks associated with SME internationalisation. This analysis underscores the need for further research into Brazil's reimbursement policies and pilot testing of Obscare® in select hospitals to validate its market fit.

7.3. Clients

VirtualCare's digital health solutions mainly serve public hospitals, maternity wards and clinics where healthcare standards, efficient data management, and regulatory compliance need to be maintained. The company's product, Obscare®, focuses specifically on obstetric and gynaecological care, positioning it as an essential tool for healthcare providers rather than individual consumers. This business-to-business (B2B) approach mirrors specialised testing products in other industries, where professional-grade solutions are designed for institutional users rather than the general public.

The core client base for Obscare® consists of healthcare facilities and professionals who require reliable, integrated systems for managing maternal health workflows. Public hospitals in Portugal represent the primary market segment, particularly those handling high delivery

volumes that demand streamlined coordination between prenatal, delivery, and postnatal care. These institutions benefit from Obscare®'s comprehensive features, including telehealth compatibility that enables remote consultations and real-time data sharing with specialists.

The platform also serves telehealth providers who integrate Obscare®'s APIs into their remote care services, creating end-to-end solutions that range from virtual consultations to automated alerts for high-risk pregnancies. Additionally, medical research institutions leverage the system's anonymized data analytics for studies on treatment outcomes and epidemiological trends. This diverse client base demonstrates Obscare®'s versatility as both a clinical tool and research resource, while maintaining its focus on professional users rather than direct patient sales.

VirtualCare's exclusive B2B model emphasizes interoperability with existing healthcare infrastructure, cost-effective modular pricing, and built-in regulatory compliance - features specifically designed to meet institutional needs. The system's value for auditing and quality assurance mirrors specialised testing equipment in other fields, where documented results provide both operational benefits and regulatory protection. By concentrating on these professional applications rather than consumer markets, VirtualCare ensures Obscare® remains positioned as an essential institutional tool rather than competing with general wellness applications in the crowded digital health space.

7.4. VirtualCare National Presence

VirtualCare is a well-established company in Portugal, as is Obscare®, which is even older than the company itself. Initially set up in partnership with the ULS São João with the aim of developing personalized obstetrics software, Obscare® has now been on the market for 21 years and has a total of 222,700 deliveries registered in the system.

In fact, the product already covers 38% of all deliveries in Portugal and is present in 20 ULS out of a total of 39 in Portugal, which shows how consolidated the product is at national level. Figure 3 shows the geographical distribution and the ULS in which Obscare® is found.

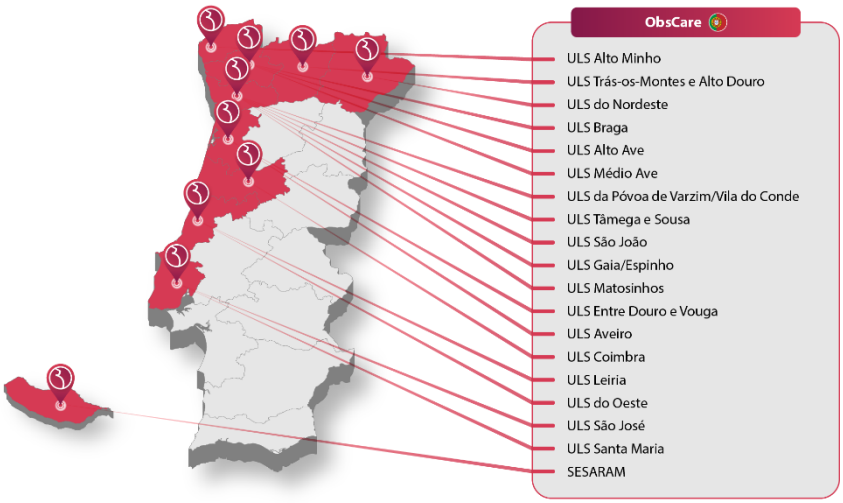

Figure 3: *Obscare® National Geographical Distribution*
Source: *VirtualCare 2025*

Even though it is already well-established in the domestic market, the tendency is for expansion to continue within Portugal due to the product's exclusive characteristics, as well as the fact that the positive feedback given by the ULS with the product made a marketing effect on those who don't yet have the product but end up showing interest. Proof of this is the prospect of expanding to few new ULS this year and the openness showed by them to the product.

In addition to this consolidated presence, the company has close ties with the SNS (National Health System). Many of the rules and guidelines related to obstetrics are often analysed taking into account the possibilities that Obscare® offers and the statistics that are gathered through the product itself, so Obscare® often ends up being a guide for drawing up these rules.

7.5. VirtualCare International Presence

VirtualCare's international expansion with its Obscare® platform has followed a strategic path similar to other specialised medical technology companies, leveraging trade fairs, localized partnerships, and gradual market penetration.

The platform first gained traction in Europe (particularly Spain) and Brazil, where VirtualCare identified strong demand for digitized maternal health solutions. This attempt at

internationalisation began initially by broadening networking contacts, whether through trade fairs and international meetings, developing R&D projects together with other international companies, etc., in order to share knowledge, get to know the foreign market and gain experience and bases for a more concrete approach to internationalisation in the future. Although in the specific case of ObsCare® there is still no structured project in Europe for the internationalisation of the product, VirtualCare has other types of products (such as E4Nursing) with partnerships established with universities and structured pilot projects that aim to start the internationalisation of the company and its products, in order to increase the company's international presence.

As we can see in the following figure, the expansion in Brazil began with a pilot project at the *Carmosina Coutinho* maternity hospital. Despite all the efforts made by the company, this installation was not immediately successful, something that was expected beforehand. Due to cultural differences, lack of training and knowledge of software on the part of the employees, as well as the difficulties of adapting to a new system with some differences in technical and theoretical terms to the reality in Brazil, its use was somewhat discarded, and it was not seen as a successful project.

Figure 4: *Obscare® Geographical Distribution in Brazil*
Source: *VirtualCare 2025*

However, the company expected this from the first project and considers it a way of learning to adapt to a new reality. Even without the best adherence, it was possible for them to establish international connections and gain a better understanding of the Brazilian hospital system and environment, as well as to identify more concrete needs so that they can adapt their product to them. The differences between Brazilian and Portuguese legislation were

also another obstacle, and once again this pilot project was a way of getting to know the Brazilian reality in this respect and adapting to it.

The company is also in the process of approving and implementing the product at the Amparo maternity hospital in the state of São Paulo, which is seen as an international experiment that could become a pilot project if it is successful. So, nowadays the company is committed to gaining a presence in Brazil and securing a stable customer base through partnerships, pilot projects, etc. to cement its position and gain knowledge of the market.

The international growth has not been without challenges, particularly regarding control over implementation and branding. VirtualCare's reliance on local distributors has sometimes resulted in inconsistent positioning of Obscare®. Regulatory adaptations for Brazil's LGPD and the European Health Data Space required significant software modifications, while the lack of structured feedback mechanisms from distribution partners has occasionally slowed product improvement cycles. These experiences have informed VirtualCare's evolving strategy, which now emphasizes more collaborative approaches including potential joint ventures, such as ongoing discussions to co-develop Obscare®.

8. VirtualCare's Expansion to Brazil

This section is divided into 4 key parts to evaluate VirtualCare's potential expansion into the Brazilian market, ensuring a data-driven and strategic approach. First, the current strategy of VirtualCare is examined to align its goals with international growth objectives. Next, a PESTAL analysis and Porter's 5 Forces framework are applied to assess Brazil's macroeconomic, competitive, and industry-specific conditions. The reasons for internationalisation highlight Brazil's market attractiveness, including demand gaps and growth opportunities.

The analysis then focuses on entry modes and economic viability, comparing two primary strategies: "Go Alone" (full ownership) and "Joint Venture" (partnership). For each, a SWOT analysis identifies risks and advantages, while cost structures and profit projections, quantify financial feasibility.

The goal of this section is to recommend the optimal market-entry strategy for VirtualCare in Brazil, balancing risk, control, and profitability to ensure long-term success in the healthcare technology sector.

8.1. Current Strategy

After analysing VirtualCare's position and its flagship product, Obscare®, it is critical to assess the company's current strategic direction and future opportunities.

VirtualCare's primary challenge is market saturation in its home market, where growth potential for Obscare® is limited. Using the Ansoff Matrix (Table 7), two viable paths emerge: Market Development by expanding Obscare® into new markets (e.g., Brazil) with the existing product or Diversification by introducing new products in new markets.

		Products & Services	
		Existing	**New**
Markets	**New**	Market Development	Diversification
	Existing	Market Penetration	Product Development

Table 7: *The Ansoff Matrix*
Source: *Ansoff, 1958*

In fact, VirtualCare has been working on several R&D projects in collaboration with various organisations and corporate partners as it can be seen in Annex 5. Although there are a

considerable number of partnerships to develop new products, these are long-term projects that are not prioritized in the timeline of the company. So, what can be considered a priority for VirtualCare at the moment and has been the main focus of development is the expansion of existing products already established in Portugal abroad.

Given the situation described above and the proven success of Obscare in its core market, we can assume that the most feasible strategy is market development. This approach leverages existing product expertise while tapping into Brazil's growing demand for digital healthcare solutions, minimizing risk compared to diversification.

Thus, VirtualCare's current strategic focus is geographic expansion of Obscare, prioritizing market development to drive sustainable growth.

8.2. PESTEL Analysis

When assessing the current state of a country, the PESTEL analysis is one of the most useful tools, as it examines Political, Economic, Sociocultural, Technological, Environmental, and Legal factors. This provides businesses with a comprehensive overview of the market they intend to enter.

Brazil, officially the Federative Republic of Brazil, is the largest country in South America, with a population of 214 million (2023). It is the 9th largest economy globally by nominal GDP and a key player in Latin America, known for its rich natural resources, agricultural exports, and growing digital economy.

Starting this analysis with the political factors, the most relevant aspects in this context are:

- Democratic government with a presidential system, though political instability has been a recurring issue.
- Complex regulatory environment, with bureaucratic hurdles for foreign businesses.
- Corruption challenges, though recent anti-corruption measures have improved transparency.
- Strong influence in regional trade blocs (Mercosur, BRICS).
- Taxation policies are often seen as burdensome for foreign investors.
- Healthcare policies favour universal access (SUS system), creating opportunities for digital health solutions like VirtualCare.

As far as the most important economic factors are concerned, the following can be listed:

- Mixed economy with strengths in agriculture (world's top exporter of coffee, soy, and beef), mining, and manufacturing.
- GDP growth volatility due to global commodity prices and internal fiscal challenges.
- High income inequality (Gini index: 53.4 in 2021), with a growing middle class driving demand for private healthcare.
- Inflation fluctuations (5.8% in 2023, down from 10%+ in previous years).
- Foreign direct investment (FDI) incentives, particularly in tech and healthcare sectors.
- Currency risk (BRL volatility) may affect profitability for foreign firms.

The Sociocultural Factors considered in analysing this market are the following:

- Young, urbanizing population (median age: 33 years), with increasing digital adoption.
- Rising demand for private healthcare due to inefficiencies in the public system (SUS).
- Cultural preference for in-person healthcare, but telehealth adoption accelerated post-pandemic.
- High smartphone penetration (85% of population), supporting digital health solutions.
- Strong regional disparities (wealth concentrated in Southeast/South).

Regarding technological factors, these are the most important ones:

- Fast-growing tech sector, with São Paulo as a startup hub ("Brazilian Silicon Valley").
- 5G rollout improving connectivity, though rural areas lag behind.
- Government support for digital health, including telemedicine regulations (eased in 2020).
- Cybersecurity concerns due to high fraud rates.

As for environmental factors:

- Amazon rainforest deforestation remains a critical issue, affecting Brazil's global image.
- Renewable energy leader (hydroelectric power supplies ~60% of electricity).
- Climate change risks, including extreme weather events (floods/droughts).
- Sustainability-focused policies gaining traction among corporations.

Finally, the Legal Factors include:

- Strict data privacy laws (LGPD, similar to GDPR), impacting digital health firms.
- Complex labour laws favouring employee rights.
- Intellectual property protections improving but still weaker than in developed markets.
- Taxation complexity (multiple federal/state taxes) increases operational costs.

Brazil presents significant opportunities for VirtualCare's expansion with its Obscare® product, particularly due to three key factors. First, the country has experienced growing demand for digital health solutions in the post-Covid era, as both consumers and healthcare providers increasingly recognize the value of telehealth services. Second, Brazil's favourable demographic profile, featuring a large, young, and increasingly tech-savvy population, creates an ideal market for digital healthcare adoption. Finally, recent regulatory changes have demonstrated strong government support for telemedicine, further facilitating market entry and growth potential for innovative healthcare technology providers like VirtualCare. However, challenges like bureaucracy, taxation, and currency risk require careful planning. A joint venture with a local partner could mitigate entry risks while leveraging Brazil's market potential.

8.3. Porter 5 Forces

To assess the competitive landscape for VirtualCare's Obscare in Brazil's digital healthcare market, we apply Porter's Five Forces framework. This analysis reveals both opportunities and challenges for the company's expansion strategy.

Bargaining Power of Buyers is moderate to high. Brazil's healthcare ecosystem includes hospitals, private insurers, and private institutions, each with different levels of negotiation leverage.

In Brazil's obstetric care market, buyer power varies significantly across segments. Private hospitals and large maternity networks hold high bargaining power, as they consolidate demand and can negotiate volume-based discounts or demand customized features (high-risk pregnancy monitoring modules) from telehealth providers like VirtualCare. Health insurers (e.g., Unimed, South América) also exert strong influence, as they control patient access and may prioritize platforms with proven cost-efficiency for prenatal and postnatal care. Conversely, individual pregnant women, especially in lower-income groups, have limited bargaining power but are highly sensitive to affordability, often relying on Brazil's

public SUS system or low-cost alternatives. However, Obscare® could reduce buyer pressure by targeting corporate wellness programs or partnering with private obstetric clinics, where differentiation through AI-driven prenatal analytics or integration with local ultrasound/EHR systems would justify premium pricing.

Supplier Power ranges from low to moderate. VirtualCare relies on cloud service providers (AWS, Google Cloud), medical data APIs, and local tech talent. While cloud services are commoditized, Brazil's shortage of skilled developers may increase labour costs. Additionally, dependence on local data providers could pose risks if alternatives are limited. That said, VirtualCare's proprietary technology and in-house software development capabilities help reduce supplier dependency.

The *Threat of New Entrants* is moderate. While basic telehealth software systems face low barriers to entry, advanced solutions like Obscare® require significant investment in regulatory compliance, AI capabilities, and local partnerships. Competition comes mostly from global players (e.g., Astraia), that are already established so, VirtualCare's first-mover advantage, compliance with Brazil's LGPD data privacy laws, and potential hospital partnerships could create defensible barriers.

Substitute Products present a low to moderate risk. Although there's not a direct competitor for ObsCare® there are many obstetric basic software's that are still being in most of the hospitals and the traditional in-person care that remains preferred for complex diagnoses, as well as low-cost alternatives that appeal to price-sensitive users. To counter this, Obscare® must emphasize its unique features in monitoring the pregnancy journey, its management tools or insurer integrations that generic alternatives cannot replicate.

Finally, *Competitive Rivalry* is high. The Brazilian telehealth market is fragmented, with local startups and international firms competing aggressively. Price wars and feature differentiation are common, making it essential for Obscare® to avoid commoditization. A focus on B2B partnerships, such as collaborations with hospitals and insurers, rather than direct-to-consumer models could help secure a sustainable position.

So, VirtualCare's expansion into Brazil requires a dual focus on differentiation and risk mitigation. Obscare®'s proprietary AI and analytics capabilities can reduce buyer and supplier pressures, while targeting institutional clients may help navigate intense market rivalry. Regulatory compliance and local partnerships will be critical in defending against new

entrants. A joint venture with a Brazilian healthcare provider could further accelerate market entry while sharing operational and financial risks.

This analysis suggests that while Brazil's digital health market is somehow competitive, Obscare®'s technological edge and strategic positioning can carve out a profitable niche. Success will depend on executing a B2B-focused strategy that leverages partnerships and local market insights.

8.4. Reasons for Internationalisation in the Brazilian Market

As previously analysed, Brazil represents a strategic market for VirtualCare's expansion, particularly for Obscare® in the obstetric telehealth segment. The decision to enter Brazil is driven by several synergistic factors aligning the country's healthcare demands with Obscare®'s technological capabilities.

First, Brazil's large and underserved obstetric care market presents a compelling opportunity. With 2.8 million births annually (one of the highest rates globally) (IBGE, 2023), demand for accessible prenatal and postnatal care far exceeds the capacity of the overburdened public system (SUS). Private healthcare providers and insurers are actively seeking digital solutions to bridge gaps in maternal care, creating a ripe market for Obscare®'s AI-driven telehealth platform.

Second, Brazil's regulatory tailwinds support telehealth adoption. The 2020 relaxation of telemedicine laws, coupled with ANS (National Health Agency) guidelines mandating obstetric telehealth coverage, creates a favourable environment for Obscare®'s integration into private insurance networks and hospital systems.

Third, demographic and technological synergies amplify Obscare®'s value proposition. Brazil's technological readiness for the younger generations aligns perfectly with telehealth adoption, while its urban-rural care disparities make remote obstetric monitoring a critical solution. Obscare®'s features, such as AI risk-prediction tools for high-risk pregnancies, address localized challenges like maternal mortality rates, which are disproportionately high in remote regions.

Finally, Brazil's growing digital health ecosystem offers partnership opportunities with local insurers (Unimed), hospital chains (Rede D'Or), and maternal health startups, reducing entry barriers. VirtualCare's first-mover advantage in AI obstetrics differentiates it from generic

telehealth competitors, positioning Obscare® as a high-value solution for institutional buyers.

In conclusion, Brazil's market gap in obstetric care, supportive regulations, and tech-ready population create a unique opportunity for Obscare® to scale while addressing critical healthcare needs. By targeting private-sector partnerships and leveraging its AI capabilities, VirtualCare can establish Obscare® as a leader in Brazil's maternal telehealth space.

9. Entry Modes and Economic Viability Analysis

In this section we will discuss the different possibilities for VirtualCare's internationalisation of its ObsCare® product. Following Koller et al. (2010), financial viability assessments must balance scalability with SME resource limitations, requiring economic scenario-based projections. Throughout the internship, various hypotheses were put on the table and analysed in order to understand which was the best and most suited to the Brazilian market. Two clear hypotheses emerged from this journey: going it alone or going into a joint venture. These hypotheses will be analysed and scrutinized here to conclude which is the best path for the company to follow in terms of internationalisation.

This analysis process includes a SWOT analysis framework in order to understand the strengths and weaknesses of each path, whether external or internal, as well as a framework for projecting expected costs and profits for each of the hypotheses.

The aim of this chapter is therefore to conclude on the best way to internationalise a SME in the digital health sector, in this case VirtualCare, taking into account all the variants of the market and the company itself.

9.1. "Go Alone"

VirtualCare's hypothesis of entering the Brazilian market independently represents a strategic approach that offers both significant opportunities and notable challenges. By choosing to "go alone," the company would maintain full control over its operations, branding, and product development, while bearing sole responsibility for navigating Brazil's complex market landscape. This path is particularly attractive for preserving profit margins and protecting intellectual property, but requires careful consideration given VirtualCare's previous experiences in the Brazilian market.

The company's two pilot projects at Maternity Carmosina Coutinho in Maranhão and Maternity Amparo in São Paulo provided valuable insights into the realities of independent market entry. Both initiatives encountered similar obstacles that highlight the complexities of the Brazilian healthcare market. Clinicians showed resistance to Obscare®'s interface, which was initially designed for Portuguese workflows, leading to lower-than-expected adoption rates. Regulatory hurdles, particularly in navigating ANVISA requirements, proved more time-consuming than anticipated without local expertise. Perhaps most significantly, the absence of established local partnerships made it difficult to build trust and credibility

with hospital administrators, who were hesitant to commit to long-term contracts with an unfamiliar foreign provider.

These early experiences demonstrated that product superiority alone is insufficient for success in Brazil. The market demands extensive localization, not just in language translation, but in adapting to Brazilian clinical workflows, billing systems, and regulatory requirements. Moreover, they revealed how crucial local advocacy and relationship-building are in Brazil's relationship-driven business culture.

This strategy demands substantial resources that may strain an SME like VirtualCare. Establishing a local subsidiary sometimes requires significant upfront investment in legal setup, office space, and staffing. The company would also need to invest heavily in marketing to build brand recognition in a competitive market where local players already have established relationships.

The lessons from Maranhão and São Paulo suggest that while independent expansion is theoretically possible, it would require VirtualCare to make substantial adjustments to its approach. A more gradual market entry strategy, perhaps focusing initially on private hospitals before tackling the more complex public SUS system, might mitigate some of the risks. The company would also need to allocate greater resources to product localization and on-the-ground relationship building than it did in its initial pilot projects.

Ultimately, the "go alone" strategy presents VirtualCare with a classic risk-reward calculation. While it offers the potential for greater control and profitability, it also demands more resources and carries higher risk than alternative market entry strategies. The following analysis of strengths, weaknesses, costs and projected returns will provide a more detailed framework for evaluating whether this approach aligns with VirtualCare's risk tolerance and long-term strategic objectives in the Brazilian market.

9.1.1. SWOT Analysis

Considering all the frameworks analysed before and the characteristics of the company and its product, a SWOT analysis helps in the identification of factors analysing internally strengths and weaknesses and externally opportunities and threats.

Strengths

- Proprietary Technology

- Difficulty to imitate
- Proven Track Record
- Full Control
- First-Mover Advantage

Weaknesses

- Limited Local Market Knowledge
- High Initial Costs
- Resource Constraints
- Brand Recognition
- Cultural Barriers

Opportunities

- Growing Telehealth Demand
- Regulatory Support
- Public-Private Partnerships
- Corporate Wellness Programs
- Technological Readiness

Threats

- Intense Competition
- Currency Volatility
- Bureaucracy
- Cultural Resistance
- IP Risks

So, while "going alone" offers full control, VirtualCare's SME status and Brazil's complexities suggest high risk. A phased approach, starting with pilot projects in private hospitals, could validate viability before full-scale investment.

9.2. "Joint Venture"

The joint venture approach represents a strategic middle ground for VirtualCare's expansion into Brazil, offering a balanced solution between maintaining control and mitigating risks. Unlike the fully independent "go alone" strategy, forming a joint venture with an established

Brazilian partner would allow VirtualCare to combine its technological expertise with local market knowledge and existing relationships.

A concrete example of this strategy in development is VirtualCare's ongoing partnership discussions with BirthSound[1], a prominent Brazilian digital health company. This potential collaboration aims to integrate Obscare®'s specialised obstetric capabilities with BirthSound's comprehensive clinical management platform, creating a complete end-to-end solution for Brazilian healthcare providers. The mutual benefits are clear: VirtualCare gains immediate access to BirthSound's established distribution channels and regulatory expertise, while BirthSound can leverage VirtualCare's technology to enhance its own product offering and potentially expand into European markets through VirtualCare's Portuguese network.

This approach directly addresses the challenges VirtualCare faced in its previous independent attempts to enter the Brazilian market through the Carmosina Coutinho and Amparo maternity hospitals. Those experiences highlighted how difficult it can be for a foreign company to navigate Brazil's complex healthcare ecosystem alone. A joint venture would provide crucial local insights into clinical workflows, help navigate ANVISA regulations, and offer established relationships with hospitals and insurers, which are areas where VirtualCare previously encountered obstacles.

The partnership model also offers financial advantages by sharing the substantial costs of market entry and product localization. For a medium-sized company like VirtualCare, this risk-sharing aspect is particularly valuable when entering a large and complex market like Brazil. Additionally, having a local partner can significantly accelerate the time-to-market and improve adoption rates among Brazilian healthcare providers who may be more receptive to a solution offered by a known domestic player.

However, joint ventures also introduce new complexities that must be carefully managed. Aligning strategic objectives between the partners, establishing clear governance structures, and negotiating equitable profit-sharing arrangements all require significant upfront effort and ongoing attention. There's also the challenge of protecting intellectual property while still achieving the necessary level of integration and collaboration.

[1] In accordance with confidentiality obligations, the original company name has been anonymised as "BirthSound" throughout this thesis. No other changes have been made to the underlying data or findings.

The following analysis will examine these factors in greater detail through a SWOT framework and financial projections, helping to determine whether this collaborative approach represents the optimal path for VirtualCare's Brazilian expansion compared to the fully independent alternative. The joint venture strategy appears particularly promising for overcoming the specific challenges VirtualCare has already encountered in Brazil, while still maintaining substantial influence over product development and market strategy.

9.2.1. SWOT Analysis

Analysing the joint venture through a SWOT framework, we find the following:

Strengths

- Local Market Expertise
- Faster Market Entry
- Shared Costs & Risks
- Enhanced Credibility
- Synergistic Product Integration

Weaknesses

- Profit Sharing
- Loss of Full Control
- IP Risks
- Integration Complexity
- Dependency on Partner

Opportunities

- Regulatory Navigation
- Public Sector Access
- Cross-Market Expansion
- Localized Innovation
- Economies of Scale

Threats

- Partner Misalignment
- Market Saturation

- Legal Complexities
- Cultural Friction
- Reputation Risk

So, while JVs sacrifice some control, they address VirtualCare's key weaknesses in Brazil (local knowledge, resources) while amplifying opportunities. The VirtualCare alliance example demonstrates how the right partnership could turn past failures into scalable success.

9.3. Cost Structure & Profit Projections – Comparative Analysis

This section presents a comprehensive financial evaluation of VirtualCare's potential market entry strategies for Brazil, systematically comparing the independent expansion ("Go Alone") approach with the partnership-driven joint venture model. The analysis employs a scenario-based methodology examining pessimistic, baseline, and optimistic market conditions to identify the optimal expansion path that aligns with VirtualCare's documented risk tolerance, resource constraints, and long-term strategic objectives.

The financial projections are grounded in multiple robust data sources and analytical frameworks. For demand projections and market penetration estimates, the analysis incorporates a detailed sensitivity analysis of Brazil's digital health market capacity, with particular focus on the obstetric care segment. These estimates were further refined through benchmarking of the local market player, BirthSound, which currently maintains partnerships with over 100 healthcare institutions and has demonstrated consistent growth patterns that inform our five-year projection horizon. The projections also incorporate adjustment factors to account for Obscare®'s specialized positioning within the broader EHR market.

Revenue assumptions follow a tiered structure designed to reflect market realities, with hospitals expected to pay €30,000 annually for comprehensive Obscare® licenses. The joint venture model assumes an industry-standard 50% revenue sharing arrangement, based on comparable healthcare technology partnerships from VirtualCare.

The cost framework reveals significant differences between the two strategic approaches. Independent expansion requires substantial upfront investment, including €200,000 annually for local staffing (consistent with VirtualCare's existing international hiring practices) and €150,000 in initial regulatory compliance costs for ANVISA certification and LGPD adaptation. Ongoing expenses include also marketing and localization, figures validated

through the company's experiences in initial Brazilian pilot projects. In contrast, the joint venture model demonstrates notable cost efficiencies, eliminating 60-70% of localization expenses through partner infrastructure and reducing operational expenditures by 30-40% through shared resources.

Three carefully constructed scenarios provide the framework for analysis. The pessimistic scenario (10% market penetration) incorporates lessons from VirtualCare's early challenges, including regulatory hurdles and adoption resistance observed during initial pilot implementations. The baseline scenario (25% penetration) reflects BirthSound's historical growth trajectory in comparable market segments, while the optimistic projection (40% adoption) factors in Brazil's accelerated digital health expansion in the post-pandemic environment.

The financial projections incorporate assumptions derived from VirtualCare's historical operational patterns, which inform the company's likely responses to various market conditions. These behavioural considerations have been carefully factored into the scenario planning to ensure the projections reflect realistic organizational dynamics. The modelling accounts for the company's established approaches to resource allocation, regulatory challenges, and expenditure management, while maintaining appropriate commercial confidentiality about specific internal processes.

This comprehensive modelling approach ensures the financial projections accurately reflect both quantitative market realities and qualitative organizational factors, providing VirtualCare with a robust, evidence-based foundation for strategic decision-making regarding its Brazilian market entry.

The following tables present detailed three-year projections for each strategy-scenario combination. This structured comparison will clarify whether VirtualCare should prioritize control ("Go Alone") or risk mitigation ("Joint Venture") when entering the Brazilian market. The conclusion synthesizes these findings into a concrete recommendation based on the company's SME constraints and growth objectives.

Go Alone Projection

Metric	Year 1	Year 2	Year 3
Hospitals	5	10	15
Revenue	150 000 €	300 000 €	450 000 €
Local Team	- 200 000 €	- 200 000 €	- 200 000 €
ANVISA Compliance	- 150 000 €	- 100 000 €	- 50 000 €
Marketing	- 100 000 €	- 100 000 €	- 100 000 €
Total Costs	- 450 000 €	- 400 000 €	- 350 000 €
Margin	- 300 000 €	- 100 000 €	100 000 €

Joint Venture Projection

Metric	Year 1	Year 2	Year 3
Hospitals	10	20	30
Revenue	300 000 €	600 000 €	900 000 €
Local Team (Shared)	- 100 000 €	- 200 000 €	- 250 000 €
Integration	- 50 000 €	- 100 000 €	- 150 000 €
Marketing	- 70 000 €	- 140 000 €	- 260 000 €
Total Costs	- 220 000 €	- 440 000 €	- 660 000 €
Margin	80 000 €	160 000 €	240 000 €
VC's Margin (50%)	40 000 €	80 000 €	120 000 €

Table 8: *Pessimistic Market Conditions Projections*
Source: *Own elaboration based on internal documentation*

Looking into Table 8 it's possible to conclude that in a pessimistic market scenario characterized by regulatory bottlenecks and slow adoption, VirtualCare's expansion paths present distinct risk profiles. The independent "Go Alone" approach would face mounting costs from prolonged ANVISA certification processes and intensive localization efforts, while revenue growth remains constrained by healthcare providers' resistance to change. This strategy risks significant upfront investment with delayed returns, though it preserves full strategic control and long-term profit potential.

By contrast, the joint venture model substantially mitigates these challenges through the partner's established regulatory relationships and existing hospital networks. While revenue sharing reduces margins, it transforms fixed costs into variable ones and accelerates market entry. The partner's local credibility helps overcome adoption barriers that VirtualCare alone would struggle with. Given Brazil's complex healthcare bureaucracy and cultural nuances demonstrated in previous pilot projects, the JV's risk-sharing structure proves far more resilient in pessimistic conditions, despite requiring some strategic compromise.

Go Alone Projection

Metric	Year 1	Year 2	Year 3
Hospitals	15	30	50
Revenue	450 000 €	900 000 €	1 500 000 €
Local Team	- 200 000 €	- 300 000 €	- 400 000 €
ANVISA Compliance	- 150 000 €	- 150 000 €	- 150 000 €
Marketing	- 100 000 €	- 150 000 €	- 250 000 €
Total Costs	- 450 000 €	- 600 000 €	- 800 000 €
Margin	- €	300 000 €	700 000 €

Joint Venture Projection

Metric	Year 1	Year 2	Year 3
Hospitals	25	50	80
Revenue	750 000 €	1 500 000 €	2 400 000 €
Local Team (Shared)	- 150 000 €	- 300 000 €	- 400 000 €
Integration	- 100 000 €	- 200 000 €	- 200 000 €
Marketing	- 150 000 €	- 300 000 €	- 400 000 €
Total Costs	- 400 000 €	- 800 000 €	- 1 000 000 €
Margin	350 000 €	700 000 €	1 400 000 €
VC's Margin (50%)	175 000 €	350 000 €	700 000 €

Table 9: *Baseline Market Conditions Projections*
Source: *Own elaboration based on internal documentation*

Now, under baseline market conditions (Table 9) with gradual adoption and stable regulatory processes, VirtualCare's independent expansion ("Go Alone") presents a viable but capital-intensive path. The company would achieve steady hospital onboarding (15-50 over three years) while bearing full localization and compliance costs. This approach delivers

respectable margins (€0 in Year 1 growing to €700K by Year 3) while maintaining complete control over product development and branding. However, it requires sustained investment in local operations and carries exposure to Brazil's complex tax and labour regulations. The profit point arrives by Year 2, making this suitable for VirtualCare if willing to accept moderate risk for higher long-term rewards.

The joint venture alternative demonstrates stronger early performance in baseline conditions. Leveraging a partner's existing client base accelerates initial revenue (€750K Year 1 vs €450K solo) and reduces operational headaches. While sharing 50% of revenue, VirtualCare benefits from faster market penetration and lower fixed costs. The model proves particularly effective at scaling mid-sized hospital networks (25-80 clients in three years) while mitigating regulatory and cultural risks. So, JV provides more predictable growth, a crucial advantage for an SME navigating Brazil's competitive digital health landscape. The partner's local infrastructure effectively turns potential baseline challenges into manageable operational realities.

Go Alone Projection

Metric	Year 1	Year 2	Year 3
Hospitals	25	60	100
Revenue	750 000 €	1 800 000 €	3 000 000 €
Local Team	- 200 000 €	- 400 000 €	- 600 000 €
ANVISA Compliance	- 100 000 €	- 100 000 €	- 50 000 €
Marketing	- 100 000 €	- 200 000 €	- 250 000 €
R&D	- 100 000 €	- 100 000 €	- 100 000 €
Total Costs	- 500 000 €	- 800 000 €	- 1 000 000 €
Margin	250 000 €	1 000 000 €	2 000 000 €

Joint Venture Projection

Metric	Year 1	Year 2	Year 3
Hospitals	40	90	150
Revenue	1 200 000 €	2 700 000 €	4 500 000 €
Local Team (Shared)	- 200 000 €	- 400 000 €	- 900 000 €
Integration	- 100 000 €	- 200 000 €	- 200 000 €
Marketing	- 100 000 €	- 250 000 €	- 450 000 €
R&D	- 100 000 €	- 150 000 €	- 250 000 €
Total Costs	- 500 000 €	- 1 000 000 €	- 1 800 000 €
Margin	700 000 €	1 700 000 €	2 700 000 €
VC's Margin (50%)	350 000 €	850 000 €	1 350 000 €

Table 10: *Optimistic Market Conditions Projections*
Source: *Own elaboration based on internal documentation*

In high-growth conditions (Table 10), VirtualCare's independent expansion ("Go Alone") achieves strong €2M margins by Year 3, benefiting from full revenue retention and control. However, this requires flawless execution because any slowdown in adoption would strain resources given the substantial upfront investments needed for rapid scaling across 100+ hospitals.

The joint venture alternative delivers superior market penetration (150 hospitals) and €4.5M total revenue, with VirtualCare securing a stable €1.35M net share. While this represents 33% lower net margins than the independent path, the JV provides crucial infrastructure and risk mitigation, enabling faster growth with reduced operational burdens. The choice ultimately

hinges on priorities: maximum profitability with higher risk ("Go Alone") versus accelerated, sustainable expansion through partnerships.

By analysing the financial projections across all scenarios (the cost structure & profit projections can be better visualised and explained on Annex 6), the joint venture strategy emerges as the most balanced and sustainable approach for VirtualCare's expansion into Brazil. While the independent "Go Alone" option does offer potentially higher profits in ideal conditions, reaching €2M in Year 3 compared to the JV's €1.35M, the partnership model demonstrates clear advantages that better suit VirtualCare's position as an SME entering a complex foreign market. The JV's superior risk management capabilities stand out, as it maintains positive cash flow even in challenging pessimistic scenarios where the independent approach would face significant early losses. Additionally, the partnership enables substantially faster market penetration, with the ability to onboard 150 hospitals in optimistic conditions compared to just 100 for the independent path. Perhaps most importantly for VirtualCare's resource constraints, the JV model eliminates approximately 50% of the upfront costs associated with going it alone. This combination of reduced financial risk, accelerated market entry, and more efficient resource deployment makes the joint venture the strategically sound choice, despite its somewhat lower profit ceiling in optimal conditions. The JV's balanced trade-off between profitability and risk mitigation positions it as the most reliable path for VirtualCare to establish and grow its presence in Brazil's healthcare market.

10. Conclusion

This study examined the internationalisation strategy of VirtualCare, Lda, a Portuguese SME specialising in digital health solutions, with a focus on expanding its flagship product, Obscare®, into the Brazilian market. The research sought to determine the most viable market entry strategy by comparing independent expansion with a collaborative approach. The findings highlight the unique challenges faced by SMEs in the digital health sector, where regulatory complexity, cultural adaptation, and competition from both global players and local solutions create significant barriers to entry.

One of the key conclusions is that SME internationalisation in digital health requires more than just technological superiority. VirtualCare's pilot projects in Brazil, such as those at the Carmosina Coutinho and Amparo maternity hospitals, revealed that even a well-designed product like Obscare® can struggle without localization tailored to clinical workflows, reimbursement policies, and data governance frameworks. The company's initial difficulties underscored the importance of adapting not only the software's language but also its functionality to align with Brazilian healthcare practices. For instance, resistance from clinicians stemmed from interface designs optimized for Portuguese workflows, while regulatory hurdles proved more time-consuming without local expertise. These experiences demonstrated that SMEs in niche sectors must prioritize market-specific customization alongside innovation.

The comparative analysis of entry modes further revealed that joint ventures offer a more balanced approach for SMEs like VirtualCare. While the "Go Alone" strategy promises higher profit potential in optimistic scenarios it demands substantial upfront investment in legal setup, staffing, and marketing, with significant exposure to Brazil's bureaucratic and currency risks. In contrast, a joint venture with a local partner mitigates these challenges by leveraging existing distribution networks, shared costs, and regulatory familiarity. Though revenue-sharing reduces margins (50% in the analysed model), the JV's faster market penetration and lower fixed costs make it more resilient, particularly in pessimistic or baseline conditions. This aligns with broader literature on SME internationalisation, where partnerships help overcome the "liability of smallness" and accelerate credibility in foreign markets.

Based on this analysis, three key recommendations emerge for VirtualCare and similar digital health SMEs pursuing internationalization. First, VirtualCare should prioritize a phased joint-

venture partnership in Brazil, leveraging local expertise to navigate regulatory complexities (e.g., ANVISA, LGPD) while mitigating upfront costs—a strategy validated by the financial projections in Section 9.3. Second, the company must institutionalize post-implementation feedback mechanisms with Brazilian clinicians to iteratively adapt Obscare®'s interface to local workflows, addressing the cultural resistance observed in pilot projects. For SMEs more broadly, this case underscores the necessity of balancing niche specialization with modular product design, enabling compliance with heterogeneous healthcare regulations without compromising core functionality. Such an approach would reduce the challenges of niche specialization in global markets while preserving competitive differentiation in global markets.

However, the study has several limitations. The five-month internship period restricted the ability to observe long-term outcomes, relying instead on preliminary data from pilot projects and internal projections. Financial assessments, while grounded in market forecasts (e.g., Health Cluster Portugal reports), remain speculative, as external variables like currency fluctuations or policy shifts could alter outcomes. The focus on Brazil also leaves unexplored alternative markets, such as Spanish-speaking Latin America or EU expansion, which might present different opportunities. Additionally, while competitor benchmarks provided valuable insights, the dynamic nature of digital health means new entrants or technologies could quickly reshape the landscape.

Despite these constraints, the study contributes practical insights for SMEs navigating regulated, technology-driven sectors. It reinforces that success in internationalisation hinges on strategic adaptability, balancing control with collaboration, and underscores the value of local partnerships in mitigating risks. Future research could extend these findings by tracking VirtualCare's post-internship progress in Brazil, comparing alternative entry modes (e.g., licensing), or analysing the impact of evolving regulations like the EU Health Data Space. Ultimately, VirtualCare's case offers a blueprint for niche technology firms: while global ambitions are essential, sustainable growth often depends on knowing when to go it alone and when to rely on the expertise of others.

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12. Appendix

12.1. VirtualCare Webinars Developed

Name of Webinar	Description	Date
ChatGPT in Nursing Management	Webinar held exclusively for APEGEL Members, promoting the use of ChatGPT to support the work of nurse managers.	February, 7
Innovation in Obstetrics	Webinar to show how ObsCare® supports research and clinical and non-clinical decision-making, driving innovation and improving care.	April, 10
e4Nursing and Nursing Research	The potential of e4Nursing in nursing training and research. With speakers from Portugal and Brazil and the start of the Multicentre Study.	May, 19
ObsCare® ULS	Present the new ObsCare® module, dedicated to Local Health Units (ULS) units.	July, 09
E4Nursing IA Presentation	Present the AI innovations present at e4Nursing, the new dedicated chatbot.	Sep, 24
What's New in SIRAI®	Presentation of the new SIRAI® functionalities, the result of R&D projects in collaboration with various national and international organisations.	To be scheduled

Table 11: *VirtualCare Webinars Developed*
Source: *Own elaboration based on Virtual Care internal information*

12.2. Healthcare Fairs Event Survey

Name of Fair/Conference	Description	Local	Date
3ºEncontro Bienal da Sociedade Portuguesa Neuropsicologia	Conference focusing on advancements and research in neuropsychology within Portugal.	Coimbra,Portugal	March, 21
Reunião de Primavera SPOMMF	Spring meeting addressing updates in maternal-fetal medicine and obstetrics in Portugal.	Peniche, Portugal	April, 21
Einstein Frontiers 2025	Cutting-edge medical innovation and research showcase featuring global healthcare leaders.	São Paulo, Brazil	Mar, 26-27
XIV Reurión Delforo De Ineroperabilidad y Gobernanza Del Dato En Salud	Event dedicated to health data interoperability and governance strategies.	Valencia, Spain	May, 07
MedTech Europe	Exhibition highlighting the latest medical technologies and devices in the European market.	Lisbon, Portugal	May, 13-15
Congresso APEO 2025 - XXVI Congresso Nacional	National and international congress focusing on	Porto, Portugal	May, 05-06

e X Congresso Internacional da APEO	occupational health and workplace wellness.		
Vitalis	Leading digital health conference showcasing IT solutions for modern healthcare systems.	Gothenburg, Sweden	May, 20-22
eHealth Conference	Forum on digital health transformation, policy, and innovation in Europe.	Toronto, Canada	Jun, 01-03
Radical Health Festival	Platform for disruptive ideas and startups revolutionizing healthcare delivery.	Helsinki, Finland	Jun, 03-05
HIMSS Europe	Premier event for health IT professionals focusing on digital health advancements.	Paris, France	Jun, 10-12
HLTH Inc	Global gathering exploring the future of healthcare through technology and innovation.	Amsterdam, Netherlands	Jun, 16-19
IHE-Europe Connectathon 2025	Hands-on event testing interoperability standards for health IT systems.	Vienna, Austria	Jun, 23-27
Portugal Summit	High-level discussions on healthcare policies, trends, and investments in Portugal.	Lisbon, Portugal	Sep, 25
Congresso ICHOM	Conference on value-based healthcare and patient-centered outcome measures.	Dublin, Ireland	Sep,29 – Oct, 01
Healthcare Innovation Show - HIS	Exhibition of groundbreaking healthcare solutions and technologies in Latin America.	SãoPaulo, Brazil	Oct, 01-02
Nascer Positivo - VII Encontro Internacional De Novos Paradigmas Na Saúde Da Mulher e no Nascimento	International meeting on new paradigms in women's health and childbirth practices.	Porto, Portugal	Oct, 07
EFMI STC 2025 Scientific Programme Committee (SPC)	Scientific program focusing on medical informatics and data-driven healthcare.	Osnabrück, Germany	Oct, 22
Conferência Innovation Health Together (IHT) + RECOMED	Collaborative event on health innovation and medical recommendations.	Porto, Portugal	Oct, 28-29
Frontiers Health 2025	Conference bridging digital health startups with investors and industry leaders.	Berlim, Germany	Nov, 11-12
7º Congresso Nacional da Sociedade Portuguesa de Obstetrícia e Medicina Materno-Fetal	National congress on maternal-fetal medicine and obstetric care advancements.	Porto, Portugal	Nov, 20-22

Table 12: *Healthcare Fairs Event Survey*

Source: *Own elaboration based on VirtualCare internal information*

12.3. Products Functionality Comparison Table

Functionalities	VirtualCare (ObsCare)	Dextromedica (DextroNET)	Oracle Cerner (Health Maternity)	Epic (Stork)	Clevermed (BadgerNet)	K2 Medical (Athena & Guardian)	Philips (IntelliSpace Perinatal)	PeriGen (PeriWatch Vigilance)
Complete Obstetric Clinical Record	✔	✔	✔	✔	✔	✔	✔	✘
Integration with Electronic Health Records	✔	✔	✔	✔	✔	✔	✔	✔
Unified Mother-Baby Register	✔	✔	✔	✔	✔	✔	✔	✘
Electronic Partogram	✔	✔	✔	✔	✔	✔	✔	✘
Integration with Fetal Monitors	✔	✔	✔	✔	✘	✔	✔	✔
Real-time CTG analysis	✔	✔	✔	✔	✘	✔	✔	✔ (Advanced AI)
Clinical Decision Support	✔	✔	✔	✔	✔	✔	✔	✔ (Advanced AI)
Obstetric Indicators and Reports	✔	✔	✔	✔	✔	✔	✔	✔
Mobile Application for Pregnant Women	✘	✘	✘	✘	✔	✔	✘	✘
Neonatal Integration	✔	✔	✔	✔	✔	✔	✔	✘
AI Decision Support	✔ (Limited)	✔ (CDM Module)	✘	✘	✘	✘	✘	✔ (Advanced AI)
Monitoring and Alerts	✔	✔	✔	✔	✘	✔	✔	✔ (Advanced AI)
Compliance with Clinical Guidelines	✔	✔	✔	✔	✔	✔	✔	✔
Business Intelligence e Dashboards	✔ (Partial)	✔ (Qlik Sense)	✔	✔	✔	✔	✔	✔
Remote access to information	✘	✔	✔	✔	✘	✔	✔	✘
Global Use/Regions of Operation	Portugal	Spain	Global	USA/Global	United Kingdom	United Kingdom/Australia	Global	USA (Global Emerging)

Table 13: *Products Functionality Comparison Table*
Source: *Own elaboration based on VirtualCare internal information*

12.4. Comparative Table of Licensing Prices and Model

Supplier / Product	Licensing Model	Price Range	Integration with fetal monitors
VirtualCare (ObsCare)	Licensing by institution / SaaS	~€10,945/year (maintenance, ULSM)	Maintenance costs in an average Portuguese public hospital. Initial price varies according to the project.
Dextromedica (DextroNET)	Enterprise license / Bed license	~€576,725 (multi-center contract in Spain)	Multi-hospital project. Based on Philips IntelliSpace Perinatal + CDM module (Qlik).
Oracle Cerner (Health Maternity)	Bed license / Enterprise license	€500.000 - €5M per hospital	Part of the complete Cerner package. High-value multi-year contracts (~€20-100M for complete EHR).
Epic (Stork)	Enterprise license (per bed/user)	€1M - €10M+ per hospital	Multi-million dollar contracts in large hospitals. License ~€5,000-€7,000 per doctor.
Clevermed (BadgerNet)	License per bed / SaaS	~£500,000 - £2M (obstetric module)	Widely used in the British NHS. Price per trust/hospital, integration with existing systems.
K2 Medical (Athena & Guardian)	License per bed / Annual subscription	~€50.000 - €500.000 per hospital	Modular pricing, depending on integration and number of beds monitored.
Philips (IntelliSpace Perinatal)	Enterprise license / Bed license	~€100.000 - €1M+ per hospital	Additional cost for integration with Philips fetal monitors.
PeriGen (PeriWatch Vigilance)	SaaS subscription / License per bed	~€500 - €1,000 per bed/month	Licensing as a complement to the existing EHR, focus on AI for fetal monitoring.

Table 14: *Comparative Table of Licensing Prices and Model*
Source: *Own elaboration based on VistualCare internal information*

12.5. Milestones VC 2025 | I&D Projects

Projects	Milestones		
HfPT	Dashboard integration and testing in VCI	Test Terminology Server	
MEDGPT	Definition of Use Case		
RECOMED	Development of a Therapeutic Reconciliation form	Test with Real Patients	Organising a promotional event
ALLYMED	Kick-off 06/25		
PELVITRACK	Update of the Standard Mechanical Testing form	Form development for remaining tests	Pilot
VIGIA	Kick-off 07/25		
MYHEALTH@MYHANDS	Definition of Use Case	Data exchange with GAIA X	AI Hub development
TEF-Health	Definition of Pilots		

Table 15: *Milestones VC 2025 | I&D Projects*
Source: *VirtualCare 2025*

12.6. Cost Structure & Profit Projections – Detailed Analysis

Go Alone Projection

Scenario 1: Pessimistic Market Conditions

Metric	Year 1	Year 2	Year 3
Hospitals	5	10	15
Revenue	150 000 €	300 000 €	450 000 €
Local Team	- 200 000 €	- 200 000 €	- 200 000 €
ANVISA Compliance	- 150 000 €	- 100 000 €	- 50 000 €
Marketing	- 100 000 €	- 100 000 €	- 100 000 €
Total Costs	- 450 000 €	- 400 000 €	- 350 000 €
Margin	- 300 000 €	- 100 000 €	100 000 €

Scenario 2: Baseline Market Conditions

Metric	Year 1	Year 2	Year 3
Hospitals	15	30	50
Revenue	450 000 €	900 000 €	1 500 000 €
Local Team	- 200 000 €	- 300 000 €	- 400 000 €
ANVISA Compliance	- 150 000 €	- 150 000 €	- 150 000 €
Marketing	- 100 000 €	- 150 000 €	- 250 000 €
Total Costs	- 450 000 €	- 600 000 €	- 800 000 €
Margin	- €	300 000 €	700 000 €

Scenario 3: Optimistic Market Conditions

Metric	Year 1	Year 2	Year 3
Hospitals	25	60	100
Revenue	750 000 €	1 800 000 €	3 000 000 €
Local Team	- 200 000 €	- 400 000 €	- 600 000 €
ANVISA Compliance	- 100 000 €	- 100 000 €	- 50 000 €
Marketing	- 100 000 €	- 200 000 €	- 250 000 €
R&D	- 100 000 €	- 100 000 €	- 100 000 €
Total Costs	- 500 000 €	- 800 000 €	- 1 000 000 €
Margin	250 000 €	1 000 000 €	2 000 000 €

Joint Venture Projection

Metric	Year 1	Year 2	Year 3
Hospitals	10	20	30
Revenue	300 000 €	600 000 €	900 000 €
Local Team (Shared)	- 100 000 €	- 200 000 €	- 250 000 €
Integration	- 50 000 €	- 100 000 €	- 150 000 €
Marketing	- 70 000 €	- 140 000 €	- 260 000 €
Total Costs	- 220 000 €	- 440 000 €	- 660 000 €
Margin	80 000 €	160 000 €	240 000 €
VC's Margin (50%)	40 000 €	80 000 €	120 000 €

Metric	Year 1	Year 2	Year 3
Hospitals	25	50	80
Revenue	750 000 €	1 500 000 €	2 400 000 €
Local Team (Shared)	- 150 000 €	- 300 000 €	- 400 000 €
Integration	- 100 000 €	- 200 000 €	- 200 000 €
Marketing	- 150 000 €	- 300 000 €	- 400 000 €
Total Costs	- 400 000 €	- 800 000 €	- 1 000 000 €
Margin	350 000 €	700 000 €	1 400 000 €
VC's Margin (50%)	175 000 €	350 000 €	700 000 €

Metric	Year 1	Year 2	Year 3
Hospitals	40	90	150
Revenue	1 200 000 €	2 700 000 €	4 500 000 €
Local Team (Shared)	- 200 000 €	- 400 000 €	- 900 000 €
Integration	- 100 000 €	- 200 000 €	- 200 000 €
Marketing	- 100 000 €	- 250 000 €	- 450 000 €
R&D	- 100 000 €	- 150 000 €	- 250 000 €
Total Costs	- 500 000 €	- 1 000 000 €	- 1 800 000 €
Margin	700 000 €	1 700 000 €	2 700 000 €
VC's Margin (50%)	350 000 €	850 000 €	1 350 000 €

Table 16: *Cost Structure and Profit Projections - Detailed Analysis*
Source: *Own elaboration based on VistualCare internal information*

Financial Projections Methodology

- ***Revenue Calculations***:

Based on fixed license fees of €30,000 per hospital annually, multiplied by the estimated number of hospitals in each scenario.

- ***Hospital Adoption Estimates***

Joint Venture Projections: derived from BirthSound's existing client base (100+ hospitals) and their 5-year growth trajectory; adjusted for Obscare®'s niche focus (obstetrics) and local partner's market penetration rates.

Go-Alone Projections: based on VirtualCare's past pilot experiences in Brazil (e.g., Carmosina Coutinho maternity); benchmarked taking into account Brazil's healthcare networks (e.g., Unimed's hospital coverage) and SME scalability limits.

- ***Scenario Definitions***

Baseline (25% penetration): reflects realistic growth, aligned with BirthSound's historical adoption rates.

Pessimistic (10% penetration): accounts for regulatory delays and resistance to new technologies (observed in early pilots).

Optimistic (40% penetration): includes R&D investments (e.g., AI features for high-risk pregnancy alerts) to accelerate adoption; assumes faster market uptake post-pandemic and stronger partner synergies in JV.

- ***Cost Structures***

Go-Alone Model: Local Team fixed at €200K/year (aligned with VirtualCare's int'l hiring costs); ANVISA Compliance with high upfront (€150K) decreasing over time as systems stabilize; marketing with a persistent spend (€100K–€400K) due to brand-building needs in new markets.

Joint Venture Model: Lower ANVISA Compliance Costs, are absorbed into integration costs (shared with partner); Shared Local Team reducing costs (partner provides existing infrastructure). Marketing scaled with adoption (€70K–€450K), leveraging partner's existing networks.

- ***Key Variations***

Margin Fluctuations: JV shows lower margins but stable growth (shared costs reduce risk); Go-Alone has higher upside in optimistic scenarios (full revenue retention) but greater volatility.

Marketing Costs: Remain high in pessimistic scenarios due to VirtualCare's persistence in tough markets. Spike in JV Year 3 (optimistic scenario) reflects scaling efforts for rapid expansion.

- ***Validation***

BirthSound's operational data (for JV realism); VirtualCare's pilot feedback (e.g., clinician resistance = slower adoption in pessimistic cases); Brazilian healthcare reports (e.g., ANVISA approval timelines, Unimed's EHR adoption rates).