



The State of Refurbishment and Renovation in the Portuguese market for Retail, logistics and Hospital

(Thesis developed in partnership with GEO department, from TDGI)

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Abstract

The aim of this thesis was to help the GEO department from TDGI to discover what business opportunities they have in the current market and over the next few years. For this, research into potential developing markets that require infrastructure investment on a continuous basis. Retail, Logistics and (private) Healthcare were the most appealing sectors and, therefore, a deeper understanding of their needs and criteria for (construction) supplier selection was a focal point of the thesis.

To properly study these markets several interviews were conducted with experts in each segment to collect qualitative data that could be used strategically by GEO. Plus, literature analysis on the current state of RLH markets, mainly trends and innovations, was conducted to reinforce expert impute.

Retail will remain a big market segment even with the increase of the online economy, and their refurbishment requirements ensure a steady source of revenue. Logistics is one of the fastest growing markets and Portugal presents a lack of infrastructure that will require a significant investment in the next years. The Hospital sector is a staple of stability in terms of infrastructure investment, since they need to constantly upgrade equipment and operational facilities to provide the best healthcare service.

To define an optimal strategy a financial analysis on the profitability of each market segment should be taken into consideration to ensure the best resource allocation possible.

Resumo

O objetivo da tese é de ajudar o departamento GEO, da TDGI a descobrir que oportunidades de negócio é que existem no mercado atual e ao longo dos próximos anos. Para este efeito, foi realizada uma pesquisa a mercados em desenvolvimento com necessidades contínuas de investimento nas suas infraestruturas. Os setores do Retalho, Logística e Hospitalar (privados), mostraram-se os mais apelativos e por essa razão a compreensão das suas necessidades e critérios de seleção de fornecedores (construção) tornou-se num ponto chave da tese.

Para estudar aprofundadamente estes mercados, várias entrevistas foram realizadas com especialistas de cada área de forma a recolher informação qualitativa que poderá ser usada estrategicamente pelo GEO. Adicionalmente, através da literatura foi também estudada informação relativa as tendências de mercado e inovações, para reforçar os insights dos especialistas.

O Retalho continuará a ser um dos maiores setores independentemente do aumento do comércio online e as suas necessidades de renovação garante uma fonte de receitas estável. A Logística é um dos mercados em maior crescimento. Em Portugal, existe um problema de falta de infraestruturas o que implicará investimentos significativos nos próximos anos. O setor Hospitalar é dos mais estáveis ao nível de investimentos nas suas infraestruturas, visto que é necessário estar constantemente a atualizar equipamentos e espaços operacionais.

Para definir a melhor estratégia de negócio uma análise da rentabilidade dos projetos em cada setor deverá ser realizada para garantir uma boa alocação de recursos aos projetos.

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Table of Contents

Introduction	6
Literature Review	8
Business-to-business Segmentation	9
Value Proposition	9
Markets and Infrastructure	10
Retail	11
Hospitals	12
Logistical Platforms	14
Research Methodology	16
Expert Input and Data Analysis	17
Retail	18
Key Insights	21
Logistics	22
Interview Data	23
Key insights	26
Hospital	27
Interview Data	28
Key Insights	31
Discussion	32
Conclusion	36
Limitations	37
Further research	38

Retail, Logistical Warehouses/Platforms and Hospitals - RLH

Healthcare Infrastructure - HI

Teixeira Duarte - TD

Renovation and refurbishment - RR

Gestão de Espaço e Obras - GEO

Key words:

Retail, Logistics, Hospitals, Real Estate, Construction, Refurbishment, Renovation, Infrastructure

Introduction

Working with GEO (Gestão de Espaços e Obras – Refurbishments and renovations Department), a developing department within TDGI (Tecnologia de Gestão de Imóveis - Teixeira Duarte (TD) Group), this article aims to assess the growth potential of the construction market, mainly regarding refurbishment and renovation projects that do not include infrastructure overhauls. With this in mind, we will need to understand current and future prospects in terms of infrastructure investment. Being that the main focus will be on Retail, Hospitals and Logistical Warehouses/Platforms. The questions that need to be answered are:

- What are the best market segments to invest in?
- What is the best way to enter said markets?
- Which markets have the ideal clients with whom to form partnerships?
- How does the Construction, Refurbishment and Renovation work in each segment?

As new trends continue to shake up all kinds of businesses, it is necessary to understand these trends to stay competitive and make the best strategic decisions. Concerns such as ergonomics, energy efficiency, social spaces, smart building adaptations or, more recently, health conditions due to COVID pandemic, are becoming more prevalent and meaningful when we talk about Construction.

GEO (Gestão de Espaços e Obras) meaning Management of Spaces and Construction is currently undergoing a rebranding and relaunch of capabilities. Their core business currently is the construction of office spaces, excluding the infrastructure. They are able to intervene in earlier stages of the project as the department has architects working alongside technicians, overseers and Site Managers (Project Managers). Although the main focus has been office construction, diversification is always important for a business to thrive and because of this, the Department is looking for potential new business opportunities. The TDGI brand (and TD) is well known in the Portuguese market, in fact it is one of the biggest players in the Facilities Management segment, making it relatively easy for GEO to get client meetings. However, the company wants to develop partnerships and guarantee the best possible customers, and for this they need to understand what said customers need and what is happening in the market currently and what is going to happen in the future.

Despite a 7,6%¹ recession, the hit that our economy suffered overall because of the pandemic in 2020, the construction and real estate segments seems to be among the safest. In fact, according to an S&P analysis the Real Estate Investment Trust (REIT) is one of the top 5 least affected by the pandemic² and this is especially significant since the REIT market is one of the main sources of clients for GEO. The Portuguese Construction Market was responsible for 13.4 billion euros in 2020, approximately 6,6% of the economy. It is expected to grow between 1,2% and 3,2% in 2021 after a positive result of 2,5% in 2020, despite the COVID crisis. Furthermore, residential construction is expected to be the most impaired, unlike Civil Engineering projects and Public building investment, which are the main drivers of growth³. This situation aligns with GEO's growth strategy, as their target markets are likely to invest in their working spaces.

The verified growth in construction and findings presented later on suggest that there is value creation potential in the Refurbishment and Renovation (RR) sector. Yet, adaptability and the ability to innovate, or at least to keep up with market trends, are essential for capturing this potential growth. With the information gathered in this report, companies should be able to define their strategic plans more accurately. Knowing which segments should be prioritized and what should be the best approaches to reach the more profitable clients allows for strategy to be optimized. Large companies usually have significant infrastructure needs. They require high quality Building Infrastructure and Facility Management (FM) services and are hence ideal target customers. Plus, developing partnerships with bigger clients ensures a sustainable source of stable revenues.

The FM segment is important because of the direct value creation it creates within the Construction market. Increases in productivity associated with FM affect all other businesses,

¹ Produto Interno Bruto diminuiu 5,9% em volume no 4º trimestre de 2020 e 7,6% no conjunto do ano 2020 - 4.º Trimestre de 2020 Retrieved from URL: [Statistics Portugal - Web Portal](#)

² S&P report (holistic view nor specifically to Portugal): [Industries Most and Least Impacted by COVID-19 \(Probability of Default Perspective\) Recovery Insights: March 2021 Update](#)

³ Associação dos Industriais da Construção Civil e Obras Públicas and the Associação de Empresas de Construção e Obras Públicas e Serviços (2021, January). *Setor da Construção com crescimento moderado em 2021*. Retrieved from URL: [Setor da Construção com crescimento moderado em 2021](#)

whether we are talking about an office building, a hospital, or a retail establishment. All sorts of infrastructure would benefit, for instance, from a higher degree of energy efficiency, both for financial and sustainability reasons. Therefore, helping the Construction industry to become more efficient can have repercussions across a range of business use cases.

The objective of this thesis is to predict the development of the Construction market in infrastructures such as Retail Buildings, Logistical Platforms and Hospitals (RLH) during and after 2021, as well as determining the best ways to approach said markets. By late 2021, the effects of the pandemic will be significantly reduced and most of our daily professional and personal activities should be returning to normal, as well as investments in infrastructure.

All the industry sectors mentioned have the potential to be good sources of revenues, but it is important to assess their worth and the best time to invest and develop partnerships. Retail shops after a period of involuntary neglect will need to readapt and renew their current facilities. Hospitals, also, might be the source of potential growth due to COVID, yet their specialized operations most likely represent an investment in terms of knowhow. logistics has been seeing a meaningful growth increased by E-commerce (and the pandemic), which is expected to continue for a few more years.

Literature Review

This project has the aim to help GEO develop, mainly through the selection and acquisition of new clients who have the potential to become future partners. To achieve this, it is important to understand segmentation and what conditions from a managerial standpoint, should be met, not only to find said clients. For this, being an early adopter (technology) and developing good relationships with clients are some of the more significant factors (Sood & Kumar, 2017).

Business-to-business Segmentation

Good segmentation is essential to achieve a sustainable and long-lasting growth. To find the best potential clients we need a strategic perspective that delivers customizable products on a B2B basis (Brotspies & Weinstein, 2017). Taking this into consideration, the best projects create value (for the client) through the company's expertise, grant a satisfactory profit margin due to their size and engineering technical requirements, and provide the opportunity to develop partnerships in the near future. All these benefits can be increased with good collaboration and coordination (Heredia-Rojas & Liu, 2016). Currently under a process of readaptation, the department is struggling, while searching for a new identity focused on understanding the market and presenting themselves effectively. As the company tries to find client partners and to innovate alongside them, the company needs to generate trust and contracts, complementarity and similarity and different levels of control (De Groote, et al., 2020). To develop client partnerships, GEO needs to grow and evolve alongside its customers by innovating and establishing strong and cooperative relationships (Bustinza et al., 2017). This means that they need to be extremely aware of market trends and circumstances that surround the specific markets to quickly match client needs and ensure that both entities (GEO and clients) evolve together. As TDGI brand name makes it easier for the department to get client meetings, part of the strategy should focus on leveraging the brand and becoming more appealing to the market, gaining influence and negotiation power. There are two major factors that end up defining how others perceive a company which are performance and behaviour. Ensuring both is an extremely important differentiation factor when it comes to brand recognition (Sarin, 2014).

Value Proposition

To continue improving the quality of services and strengthening partnerships, it is essential to have good communication and Enterprise resource planning systems (Hewavitharana et al., 2019), operating with a focus on Value Proposition creation. This way of thinking can bring benefits to clients from several sources, namely a deep understanding of client operations, innovations and a better and more complete communication (about operational, economic, financial, environmental and social responsibility issues) (Ranta et al., 2020). New discoveries in a specific market segment can be replicated in different sectors, increasing the value proposition (Ritala et al., 2020) and GEO's performance. To further create value, a constant

realignment of what needs to be achieved throughout the project timeline is important to ensure client needs are fully met, plus it is beneficial to make sure that there is a win-win situation in all steps of the process. These gains can be achieved through outcome-based business models (Sjödín et al., 2019), especially if a continuous improvement approach is implemented. The department creates value by helping clients to improve their operations through infrastructure. For this, it is key to pay attention to customer needs and to develop an identity focused on merging the goals of GEO and client-partners (Ocasio & Joseph, 2018).

Markets and Infrastructure

More than ever before both clients and employees demand innovation from companies at a rapid pace (Da Silva et al., 2017), including facilities upgrades. Well-developed and maintained Infrastructure can benefit the community (more specifically workers and customers) within the contexts of RLH. There are several ways for companies to improve their performance and, one of those ways is to increase the efficiency of workers or processes. Managers and Directors should take into consideration their employees well-being as a good in itself but also, a well-motivated employee will have a better performance, leading to better results for the company (Krekel et al., 2019).

A well-constructed and prepared office building can set a company's employees to a higher performance level, greener spaces can improve the health of workers (Wolf & Flora, 2010) or an optimally designed hospital could lead to a more efficient treatment of patients.

For further context it is important to note that due to operational characteristics of the business, being that the company's focus is refurbishments and renovations and that smaller projects tend to be less profitable, it is more appealing for GEO to find projects ideally between 100.000€ and 500.000€ for the time being, but with objective of having works that could go up to 1 million euros (higher values would most likely have to be given to Teixeira Duarte).

Retail

Portugal is a country that highly values retail. Currently with 2 companies in the top 200 retail companies in the world (Jeronimo Martins and SONAE). Portuguese people particularly enjoy going to the mall and to stores as an experience in itself not just to purchase new products⁴. Because of this the frequency of store updates is considerably high.

E-commerce is reshaping how retail works, forcing sellers to adapt and to evolve to keep up. In this market segment the consumers tend to be one of the main drivers of innovation (Pantano, 2014). People want access to more information and to make the purchasing process faster and easier. From augmented reality to digital wallets that make physical money a thing of the past, new methods and approaches require adaptation from a structural level. Bluetooth Low Energy technologies that allow retailers to track and study their clients, digital payment machines or image projection technologies all require an adaptation on an infrastructure level⁵. Brands are still studying and trying to understand exactly what customers want balancing Convenience and Social Presence (interaction), yet we know that both features in good measure are going to be important factors in the future (Grewal et al, 2020). On this matter, Portugal is no exception regarding the intention of companies to implement innovations sooner rather than later (Carvalho, 2018). Yet, of the previously mentioned technologies, augmented and virtual reality are still under development from a practical standpoint and haven't been fully tested, while others such as self-checkout have already been implemented in large retailers such as Continente.

All this adds to the constant rearrangement that retailers go through to adjust the layout of their stores for different reasons. Stores want to provide better (more luxurious) customer experiences and to achieve this they need to combine technology with the store design

⁴ CBRE (2017, April). O nosso objectivo, para 2017, é o de continuar a crescer (p. 12). Retrieved from URL: [“O NOSSO OBJETIVO, PARA 2017, É O DE CONTINUAR A CRESCER”](#)

⁵ Michael Page (n.d.) Retalho: tendências futuras. Retrieved from URL: [Retalho: tendências futuras](#)

(Alexander & Cano, 2019)⁶. This change is also forced by the Omnichannel methodology (Hickman et al., 2019), where retailers start working also as warehouses and online sellers. For large retailers, psychology alongside marketing developments (Chaudhary et al., 2018) and experience about everyday sales activities and preferences means that the display of products is constantly changing (Pak et al., 2018) to optimize the appeal to clients. New trends store styles (street, artsy, punk, etc) means that stores want to be able to quickly refashion themselves if necessary. All these circumstances require from the retail infrastructure the ability to adapt, and for these stores to be built or renovated in order to meet the demands of the market and stay ahead of the competition.

Sustainability and environmental concerns mean that all sectors need to improve infrastructure including retailers, which because of the nature of their activity and accessibility to all people have the potential to be market leaders and be the example to follow. In order for communities to grow in a sustainable manner in a low carbon circular economy and a small amount of waste (energy, water among other resources) a well-prepared infrastructure is a requirement (Sen & Ongsakul, 2019).

Hospitals

Under the current state of affairs (pandemic health crisis) it would be impossible to not investigate how the construction and facilities management of healthcare infrastructure (HI) is affected and what needs arise from such a predicament. A lot of hospital wards allocated to surgery and medical consultation had to be transformed into negative pressure rooms to treat Covid patients. Without Hospital rearrangement the death toll due to COVID could have been much higher (Pacheco et al., 2021) culminating in a necessary investment in HI. The problems that were created or exposed by this crisis will need to be fixed and the solution might require an investment in facilities to provide the medical staff with better and more efficient working conditions, increasing the number of patients being treated and the quality of treatment. Software and hardware hurdles are an issue that needs to be solved (Holmgren et al., 2020) to ensure increasing levels of patient care and to keep up with the implementation

⁶ Despite the study in question being mostly applicable to fashion stores, the findings are also applicable to other store types, plus due to the size of this type of store (Zara, H&M and GAP for instance) they are the most interesting for GEO.

of new (4G and) 5G network capabilities (Kream & Stefano, 2018). Furthermore, these innovations require an architectural overhaul to intertwine new digital components with everyday operational activities (Bygstad & Øvrelid, 2020) achieving this a higher level of productivity. Installation of accessible digital platforms to the public and restructuring the layouts of the triage, waiting rooms, consultation spaces and surgery facilities are merely a few of the changes that hospitals will require in the next few years.

Even before COVID-19 the need for more training regarding the construction crews that operate in hospitals was seen as a necessity in the industry (Mousavi et al., 2020). A better prepared team of experts in this area can be a great selling point and a driver for cost reduction especially when we are talking about a sector with such a degree of specificity, therefore a company that becomes known for a well-prepared team will be more appealing for potential clients. There are, however, many other trends that can be observed in the Healthcare Infrastructure construction market. In a survey conducted by the American Society for Health Care Engineering directed towards professionals in the construction and facilities management segments about the use of new technologies. These developments include model creation tools such as Building Information Modelling (most common with 25% of usage), 360-degree photography and 3D projection mapping, Prefabrication of components, Modular construction and even the use of drones. This allows companies to control costs, enhance collaboration and communication and shorten or maintain schedules⁷.

Another interesting development that high level construction companies are implementing in their methodologies and way of thinking is Evidence based Design⁸. This means that more than ever before the construction of Healthcare Infrastructure is based on medical activities and scientific assessments of what drives production efficiency (Bingham et al., 2020). Because this way of looking at the design of HI is still relatively new it is more plausible to become a market innovator especially since the expectation is that more developments are to come from it.

⁷ The American Society for Health Care Engineering (ASHE) (2020, March 9). 2020 Hospital Construction Survey Retrieved from URL: [2020 Hospital Construction Survey](#)

⁸ Center for Health Design (n.d.). Evidence Based Design. Retrieved from URL: [Evidence-Based Design 1](#)

Many of the developments mentioned before represent trends ongoing in the US and Northern Europe. Portugal tends to be a few years behind when it comes to the implementation of new innovations, however the gap in terms of ability (to innovate) compared to other European countries seems to become smaller over the years (Heitor, 2015). If the country has the ability and people to enact such development the main obstacle to the implementation of new discoveries must be related to the investment level, which has been chronically low since 2011. This situation might be reversed in the short-term as the pandemic exposed the lack of investment and increased public pressure to increase the finance of public hospitals. For 2021, the government has already pledged a 700 million Euros increase to the public healthcare (SNS) sector, bringing the total budget to almost 12.6 Billion Euros⁹. At least 161 million Euros is expected to go to infrastructure investment, which could be particularly interesting for GEO if invested in PPPs (Parcerias Público-Privadas).

Logistical Platforms

In recent years the investment and development of infrastructure in this area has been overwhelming. With companies like Amazon leading the way (yet not always being the best example to follow) the need for a deeper understanding of how these platforms work is reflected in the amount of new literature.

As previously mentioned, there is no doubt that e-commerce is reshaping the way we buy products and will remain a key factor in our modern economies even after the pandemic crisis subsides (Alfonso et al, 2021). Meaning that the market will continue to grow and that along with it, investment in Construction, Renovation and Refurbishment is necessary and possible source of revenues. As usual the opportunity to generate profits and investments creates innovations, namely robots (Bogue, 2016), Drones (Perera et al., 2020), layout improvements with lean methodologies (Oliveira, 2020) and more software-based management systems.

Logistics shares many characteristics with industry, namely materials and product management and the necessity for efficient planning, and for this reason it is one of the most developed adapters of industry 4.0 methodologies (Winkelhaus & Grosse, 2019) and earlier

⁹ Serviço Nacional de Saúde (SNS) (2020, October 12). Orçamento de Estado. Retrieved from URL: [Orçamento do Estado 2021 – SNS](#)

adapters. This will require infrastructure evolution and adaptation such as actuators, sensors and distributed controllers, to new Warehouse and Transportation management systems in order to make operations as efficient as possible (Barreto, Amaral & Pereira, 2017).

Besides the fact that the innovations in questions will in most cases require an adaptation on an infrastructural level, there are many other concerns demanding the attention of managers. Many of the previously mentioned developments can create tensions between employees and employers, such is the case of the demand for more ergonomically designed workplaces (Gruchmann, 2021), which is expected in an industry with a high degree of physical labour. Another problem investors have to contend with is related to sustainability and the environmental impact of these new infrastructures as managerial awareness and stakeholder influence increases (Seroka-Stolka, 2014) so does the need to adapt the infrastructure.

The literature discussed so far in relation to Logistical Warehouses and platforms is important to understand the needs of clients and to anticipate, or at the very least match the trends of the market, however it is important to note that in Portugal the problem is not just within the infrastructure itself, but the lack thereof¹⁰. This will have implications on the types of projects that will arise, especially early on, as bigger projects (<1 million euros) will most likely be passed to Teixeira Duarte's (parent company). Despite this many projects will be conversions from manufacturer or retail buildings to warehouses and will remain within the scope of TDGI and more specifically GEO.

¹⁰ Property Forum (2021, March 9). Sheds, beds & meds will be investment winners in 2021. Retrieved from URL: [Sheds, beds & meds will be investment winners in 2021](#)
Journal Expresso (2021, March 12). Oferta não agrada aos grandes investidores internacionais. Retrieved from URL: <https://leitor.expresso.pt/semanario/semanario2524/html/economia/imobiliario/oferta-nao-agrada-aos-grandes-investidores-internacionais>

Research Methodology

Because of the complexity and intricacies of the markets a qualitative research approach was chosen as it allows for a better reading on the intentions of companies in Retail, Logistics and Healthcare. There were three main sources were used to collect information,

- Reputable Consultancy and Real Estate companies' reports about RLH markets based on data and expert opinions;
- Statistical analysis works and institutions (such as INE);
- Academic research papers.

This has the goal to give the reader a full context of the state of the market and provide a better understanding of the project.

Another major source of information was a set of interviews with Real Estate Experts and Infrastructure Directors (also potential clients) in relevant market segments. This had the intention of collecting information both regarding practices and priorities of potential clients as well as getting a more accurate picture of the future of the market from people who are on the field every day and fully understand the benefits and hurdles that these markets are prone to go through and people who need to see the market in broader and more strategic sense. The objective is to find experts that have a more senior career and are more aware of the inner workings of the markets and need to have a more strategic view, providing the best insights on how the markets are going to behave. The optimal candidates in this regard are real estate experts. On the other hand, it is also important to understand, from people closer to the field (operations), like Project Managers, what are the main criteria for the selection of construction, renovation and refurbishment suppliers and how exactly does the process work. Is the connection between the company and the constructor direct or done through a middleman, do companies usually have the technical expertise to understand how the civil engineering process is going and how involved are they usually?

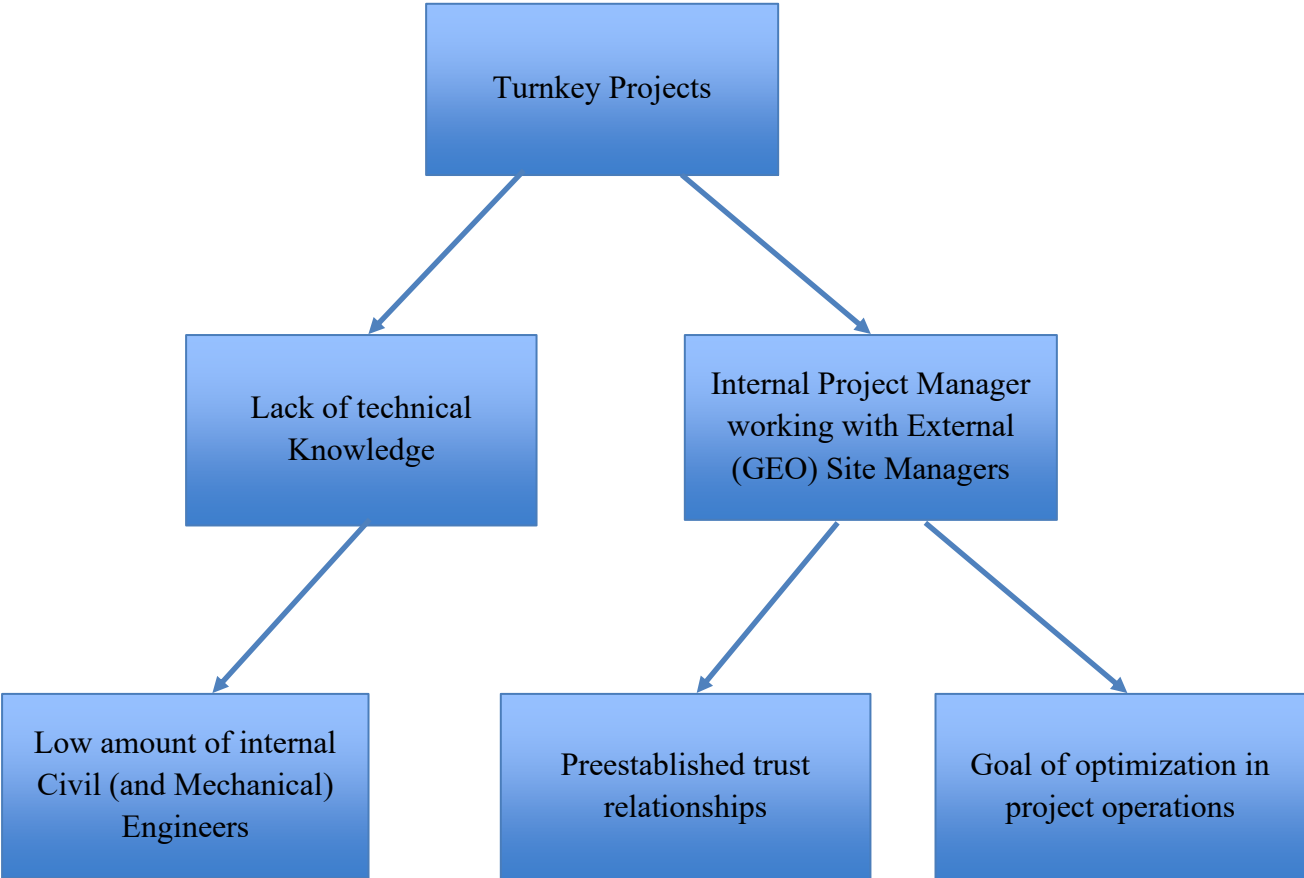
The interviews started with the contextualization of GEO, its recent past and future objectives followed by the purpose of the thesis project. The nature of the interviews was semi-structured, engaging back and forward about different subjects as they arise. However, there was a loosely followed script (available in annex) that was used as a reference point to ensure that the necessary information was gathered. Due to the pandemic context the interviews were conducted online in live sessions. Among the eight interviews, two were for retail, two for

logistics and three for the healthcare sector. For Retail and Logistics there was one person (each) with national responsibilities and that lead departments in some of the biggest Real Estate players, while the other interviewee was a Project Manager in leading companies in the country with potential to be client-partners. Similarly, for the hospital sector the three people interviewed had roles akin to Project Manager. There was no interview with a real estate expert because of the nature of the Portuguese HI market where facilities and buildings are managed by the healthcare companies themselves.

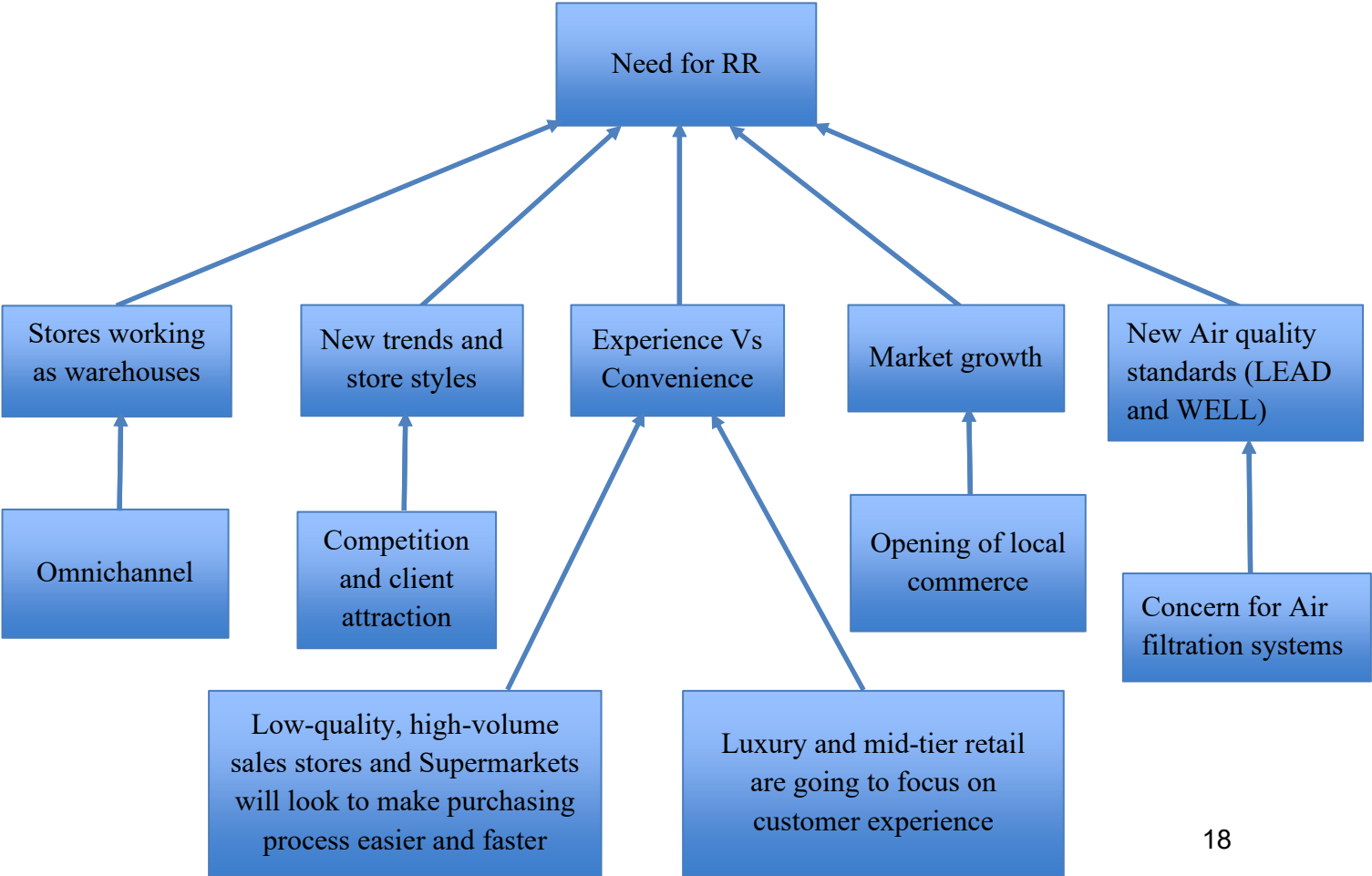
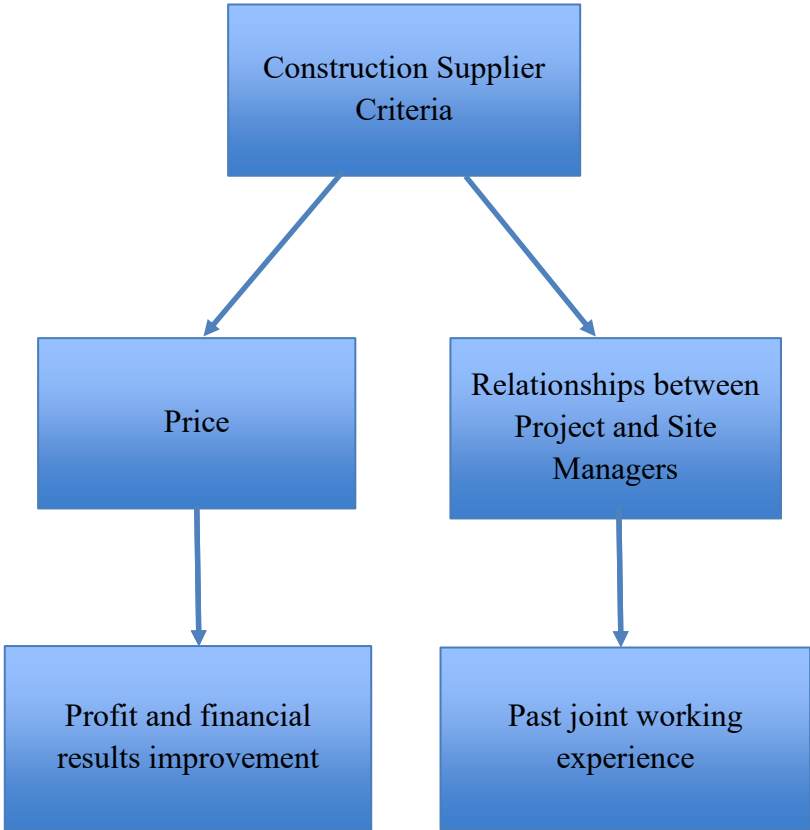
Expert Input and Data Analysis

For further context, Project Managers refers to the contracting company’s representative to oversee the construction projects from the client’s perspective and Site Managers refers to the suppliers’ representative. These are the terms more commonly used in the Retail, Logistics and Hospitals. Although Project Managers might also be called Expansion, Infrastructure or Engineering Manager, the roles tend to be similar in nature.

Common Insights to RLH market segments:



Retail



Interview Data

Bruno Pacheco - Head of Development and Project Management at Reify (Sonae)

Bruno's role demands involvement in several market sectors including Retail and Office spaces. Furthermore, Bruno reaches a more senior position today coming from more technical roles (Engineering) especially in retail, meaning that he is both aware of market trends on a macro level but also has a deep understanding of the field and how innovations are applied on a construction level.

The selection of construction suppliers goes through two phases, firstly the company internally chooses five potential targets who they know have a high quality standard. Besides this benchmark, previously established, trustworthy relationships are also a determining factor. Secondly, the company chooses the offer with the lowest cost ensuring this way a more efficient selection that ensures quality at a better price. New construction works are normally conducted under a *fast tracking*¹¹ system where work packages for different parts of the construction sites are distributed across a few contractors who are supervised by a Development Manager (Construction and Commercial responsibilities) from Reify. The company aims to optimize their operations and financial results, through efficient layouts and infrastructure, always with a focus on long-term goals. Regarding renovations and refurbishments of stores, it is not mandatory that they resort to Reify (or Sonae Sierra) although they often do. Stores (Sonae Sierra malls) have freedom to search their own construction contracts if they so desire.

When it comes to trends the main disruptor is omnichannel. This implies that people purchase their product online, but still enjoy and many times need to go to the stores to pick-up their new items. This means that out-lets are working as warehouses and that the role of retail workers requires a bigger online presence to ensure all clients are able to get the products they seek in a timely manner. Especially due to the pandemic context stores are being pressured into working in an omnichannel system and this has implications when it comes to their size, since this new methodology is more efficient in bigger structures. According to Bruno this transition is going to be completed in the next two years and establishments that do not adapt

¹¹ Fast tracking is a technique where people work on future tasks before fully completing previous ones.

are at risk of disappearing. Sonae's establishments are among the most developed in the country including client tracking (open spaces, supermarkets and anchor stores), the installation of self-checkout equipment where the expectation is that it will be common for stores to have them in the future, well prepared stores to adapt their own fit-out and air filter systems (HEPA) that are ahead of current market trends, increased by the COVID pandemic. Companies in Europe are starting to prioritize the LEAD and WELL air quality standards. Augmented and virtual reality is still a few years away from having positive returns from a business standpoint and therefore it is still at this stage merely a marketing tool.

Patrícia Araújo - Head of Retail at JLL

With vast experience and knowledge of the retail market Patricia has to continuously follow the trends and innovations in order to provide the best consultancy services to the company's customers. She is also responsible for making sure that the construction projects are working according to the expectations and needs of the clients.

The retail segment is going through a period of readjustment that was both stifled and exacerbated by the COVID pandemic depending on the context we are looking at. On one hand bigger enterprises started to operate more under an omnichannel methodology and are evermore focused on providing their customers with an enjoyable experience. On the other hand we were gradually experiencing a recovery of local retail (at first in the more historical parts of Lisbon and Oporto, but more recently also in the remaining areas of the cities), due to the end of rent control laws in 2012. This observable trend before the pandemic is likely to return but many of these stores will be facing financial troubles.

In the medium long run it is expected that we will have two different kinds of stores. Some are more geared towards experience and others towards convenience. This is because nowadays people either go to stores almost as a hobby or they simply want to get a product they need as quickly as possible. This has implications regarding the store space. Has previously stated, the intention to provide clients a better experience means that retail shops will change the way they display their products and become more pleasing for visitors, while more convenience driven enterprises will become more autonomous in their operations with less workers and more self checkout platforms to make the consumers life easier and their trip to the store quicker.

Stores need to renovate every 3 or 4 years and this usually implies some degree of refurbishment, this is because they need to adapt to new store styles and since it is very difficult to predict future trends (at least in the span of a few years) it is not possible to build a space versatile enough to avoid some RR work.

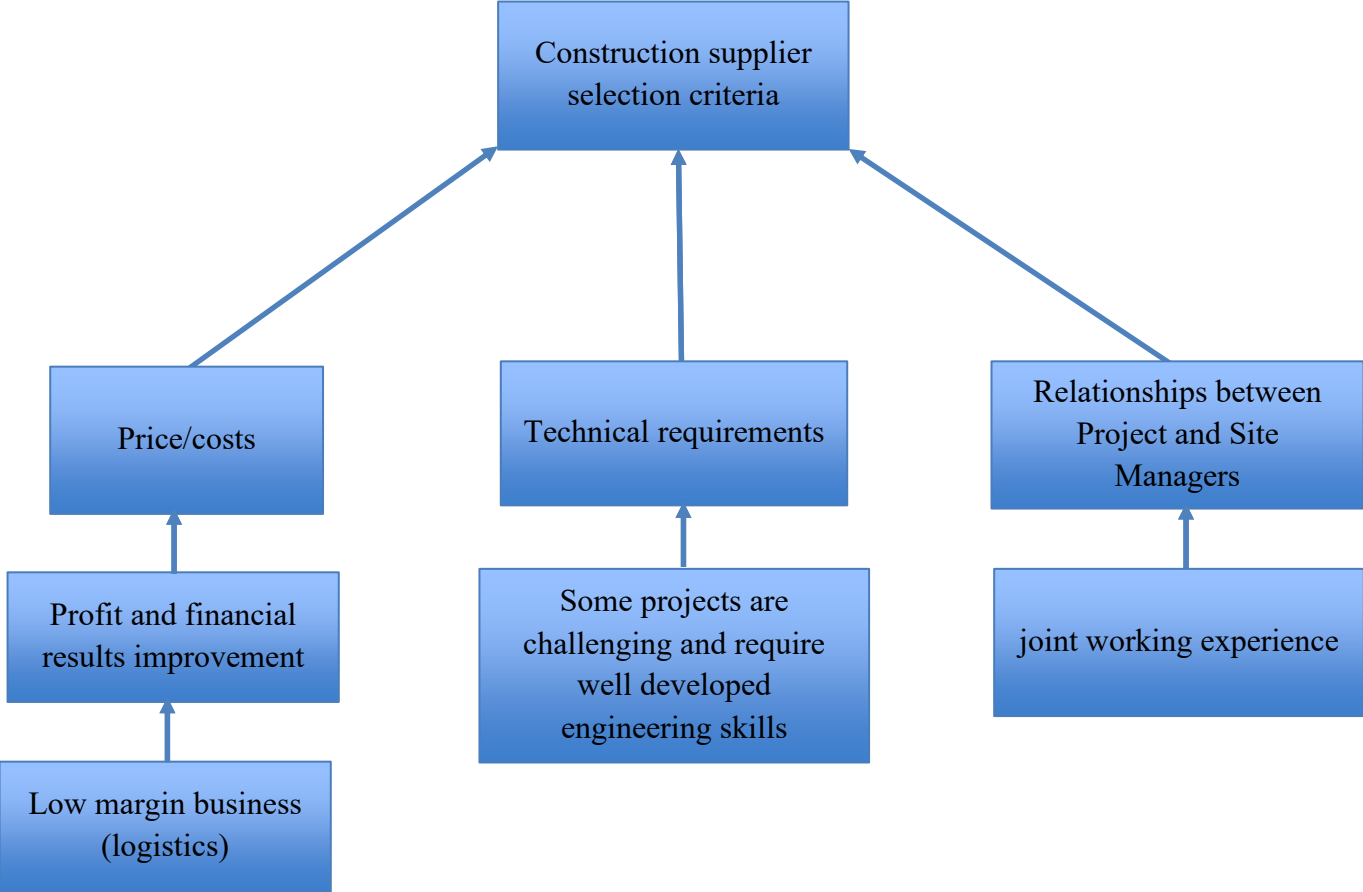
Key Insights

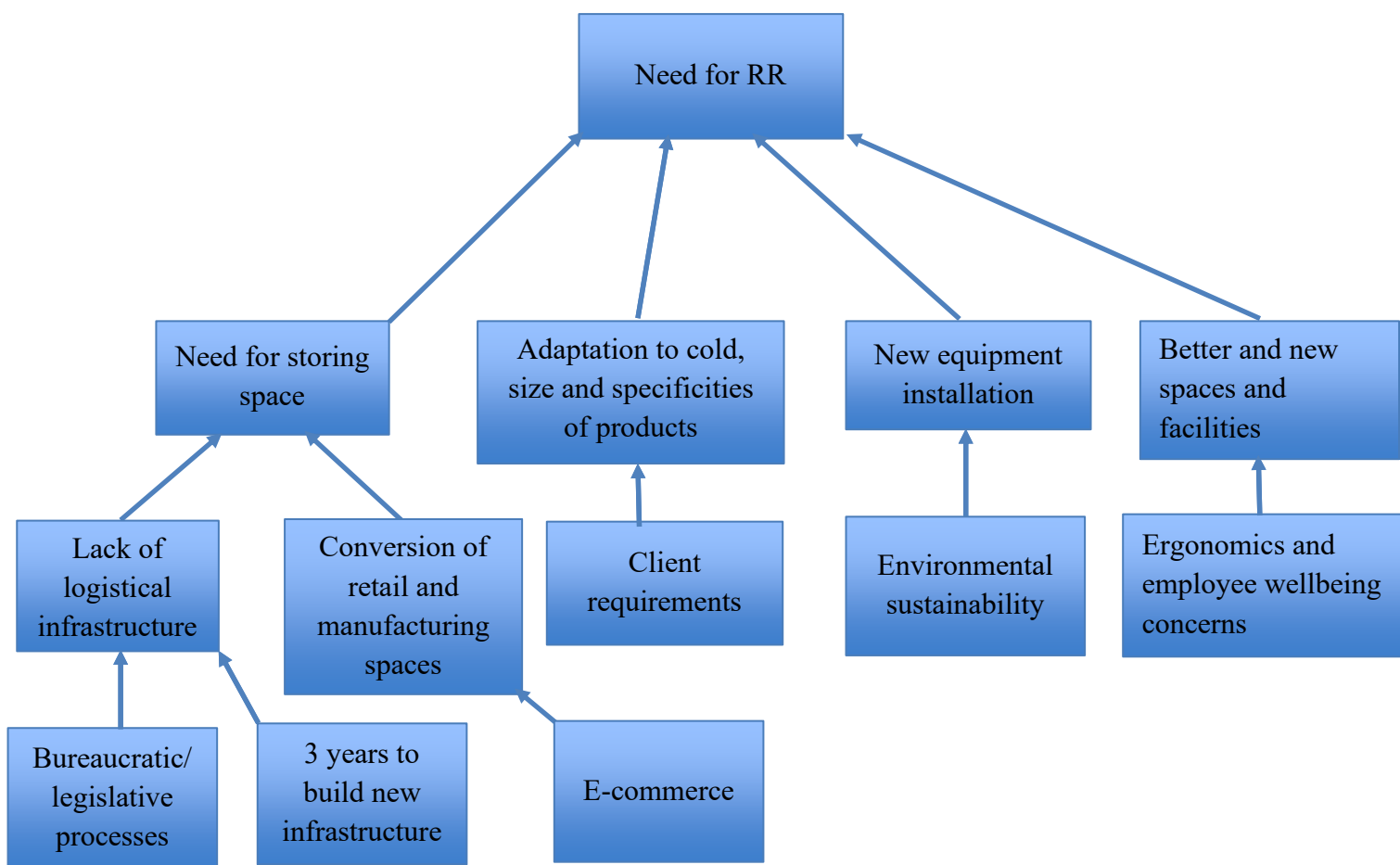
Bigger retail companies tend to use an internal Project Manager to overview construction projects, this person usually has an education in Civil Engineering or at least on-site experience. The key factors to developing partnerships in this sector are the relationships built between representatives (Site Manager, Project Managers, and other positions with significant levels of responsibility), past working experience and finally price.

According to both experts (and the literature), Omnichannel is a game changer when it comes to retail operations that are already forcing retailers to evolve and update their infrastructures. As people start to buy more online stores are adapting and becoming part of the E-commerce process, working as warehouses where people can go pick-up their purchases. This will change the size of stores as the bigger they are the more profitable the Omnichannel methodology is and it also might have implications on the structure of some shops. Furthermore, we will start to have stores more driven towards convenience focus while others will be more geared to experience. The first will be equipped with self-checkout machines and organized to make people's purchases more efficient and faster. This will mainly affect supermarkets, convenience stores and in cheaper brand retail. On the other hand, we have experience focused retail which will have a more appealing look with better service increasing interaction between employees and customers. This change will occur over the next few years, as stores who refuse to adapt might face a significant decline in their ability to attract customers. Also, within this retail segment we have a resurgence of local commerce in Lisbon and Oporto, especially outside of historical areas. Stores tend to renovate frequently to match new trends and styles, so they usually do not spend more than 4 years without some level of construction work done. Despite this, the pandemic forced the industry to change scheduling. We currently have a lot of stores that need an upgrade, yet the majority will wait for up to a year to assess the recovery before investing in refurbishment or renovation.

The majority of retail buildings will change their filtration systems to LEAD and WELL air quality standards, which can represent a business opportunity. This trend was accelerated by Covid pandemic and people’s concerns with air quality. More futuristic technologies such as augmented and virtual reality are still several years away and are more used as marketing ploys than business tools.

Logistics





Interview data

Edite Louro - Innovation and Process Manager at Luís Simões

Recently returned to Luis Simões, one of the biggest logistical players in the Portuguese market, where Edite had previously been for fourteen years. Between her departure and today she had the opportunity to lead several logistical departments in different contexts, including Automotive (Autoeuropa) and cold storage. In later years her focus has been increasingly turned to process and operations optimization and trying to gradually implement a continuous improvement mentality (six sigma).

Logistical companies often resort to consultants to help them develop new infrastructure working in tandem with internal teams from innovation and project departments composed by multidisciplinary teams. These projects should be built in accordance to the needs of the operations but they also need to be prepared for expansions and future adaptations. This

market segment is by its own nature very thin in terms of margins, which leads to a focus on lower prices when it comes to finding suppliers including in construction. However, a certain level of quality from a technical and engineering standpoint is also a requirement as bad infrastructure could be very problematic for the operations. Edite specifically mentioned infiltrations and floor quality (flat and long-lasting) as frequent concerns for warehouses and logistical platforms. It is not mandatory that the constructor responsible for the construction of the infrastructure is the same that will later work on renovation projects. In terms of costs, these projects often range between 100.000 € million and 1€ million, and logistical companies preferably work with one general contractor to optimize communications. Bigger enterprises tend to have at least one person with a civil engineer background or at the very least someone with a lot of experience in dealing with construction companies and able to police the projects. New customers might imply some renovation works, namely if cold storage is a requirement.

It is important to differentiate two types of logistical services that require different kinds of infrastructure. E-commerce platforms (preferably built near urban areas) tend to operate under a crossdocking¹² methodology and because of it moving products faster, which is less demanding in terms of space. On the other end, the rest of the market that operates under a more traditional system requires taller buildings and more space to manage stocks, usually built on the outskirts of cities with easy access to the road networks.

Regarding the Portuguese market, there is a lack of infrastructure in place, especially in the northern regions of the country. There is an effort boosted by the pandemic to create new infrastructure or transform former manufacturing plants and large retail stores into warehouses (more suitable for E-commerce operations). Despite this, due to the need to find suitable places and overcome bureaucratic hurdles the country's needs for logistical infrastructure will take 5 to 10 years to be met (from the ground up building a warehouse normally takes about 3 years). Technologies such as drones, although a frequent topic of conversation within logistical circles, are still not implemented. Implementation of lean methodologies are gradually applied, even if there is a general will to do so in practical terms they aren't used on a day-to-day basis.

¹² Crossdocking - Rapid movement of products in warehouses, quick shipments of products to consumers after the delivery to the logistical company.

Sergio Nunes - Head Industrial, Logistics and Land at Cushman & Wakefield

His senior position in the company means his responsibilities come hand-in-hand with the need to deeply understand the markets and having a strategic overview over its future. It is essential to evaluate the locations and rents (and other costs) involved in the Logistics sector, especially taking into consideration the low margins of the industry.

The investment proclivity towards the Logistics market segment was already strong in the few years before the COVID pandemic, but it was exacerbated by it. Still, there is a significant amount of investment in infrastructure needed by distributors to match the demands from clients. Although in the space of 2 years transportation suppliers should have a comfortable position regarding their ability to respond to demand, the markets should find an optimal balance in around 5 years. Different regions have different demands, Lisbon and Oporto and their respective surroundings are the main centres of attraction, but more central areas like Leiria and Coimbra, and also strategic points such as harbor areas and northern connections with Galiza are also important points of interest. There are a few difficulties within cities to find, reasonably priced, brownfield and greenfield spaces due to the increase in rent over the previous years.

Companies are being forced to look at their workers' welfare, physically and psychologically. Better quality of life at work is in demand, from ergonomic improvements to creating more green spaces and social spaces, this even includes the possibility of the construction of futebol fields next to the warehouses. A lot of the new projects also take into consideration the environment and are equipped with solar panels. They also more often than not are built with a height of over 12m to increase the available volume and the efficiency of operations. Drones and robots are typical focal points in the industry but are still to be implemented in the country. It is not only among the biggest enterprises that we see changes in the logistical market, a lot of smaller new business models and older ones are starting to grow within the sector. Self-storage¹³, Dark-stores¹⁴ and Ghost Kitchens¹⁵ are the main drivers of said growth.

¹³ Rental of small storage units, usually on a short-term basis.

¹⁴ Usually a big warehouse, where people can collect their online purchases.

¹⁵ Restaurants without a forefront, they work in partnership with delivery companies like Glovo, Uber Eats and EatTasty.

Usually business spaces (offices, stores and restaurants), reconverted to provide easy storage and transportation within big cities.

Key insights

Logistical companies often rely on the support of consultancy companies to help them create the projects for their infrastructures, optimizing processes and including worker input in the planning phase. After this step, the projects tend to be given to a general contractor who reports to the logistical company through a Project Manager with some experience in terms of infrastructure management (usually Civil or Mechanical Engineering background).

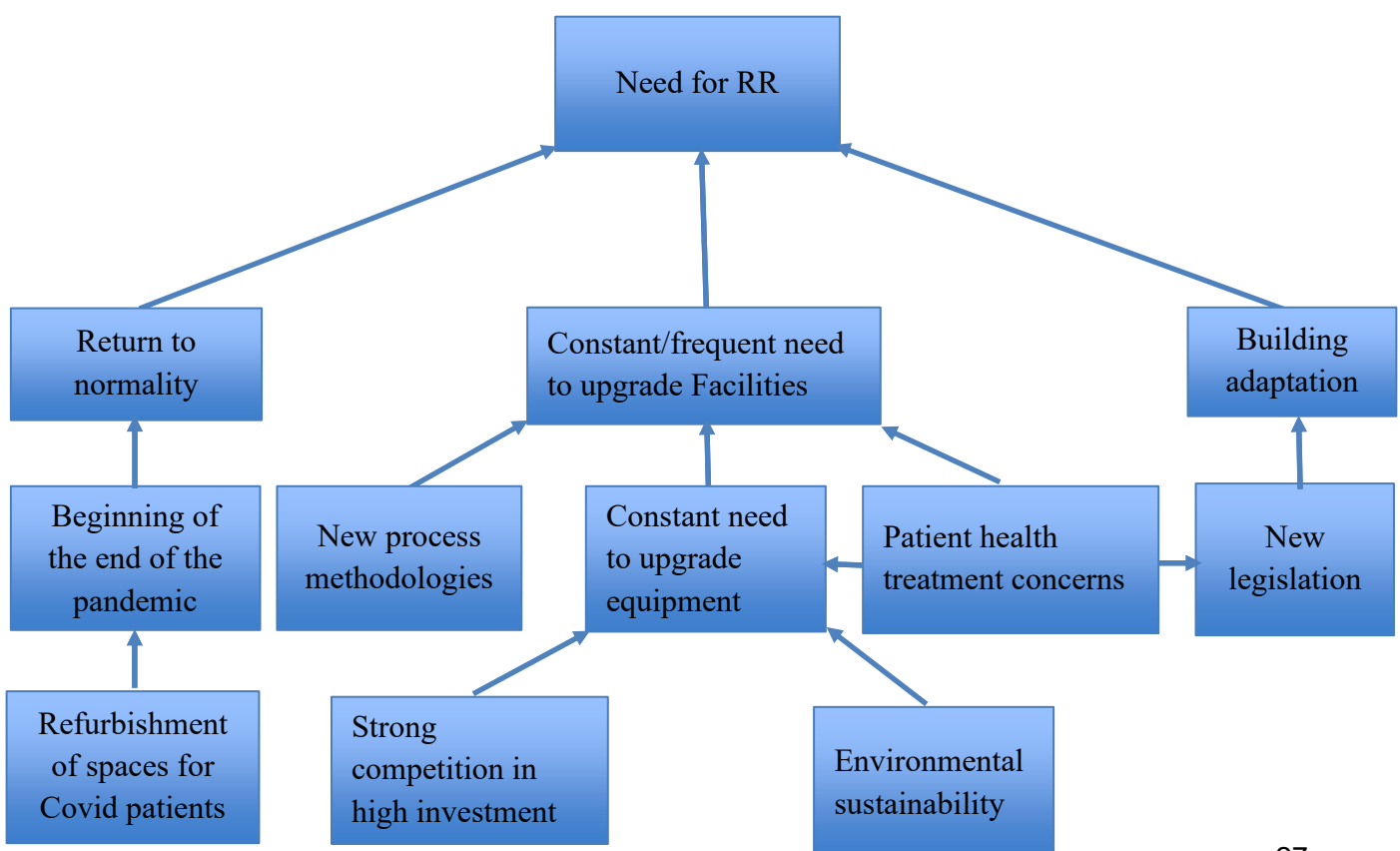
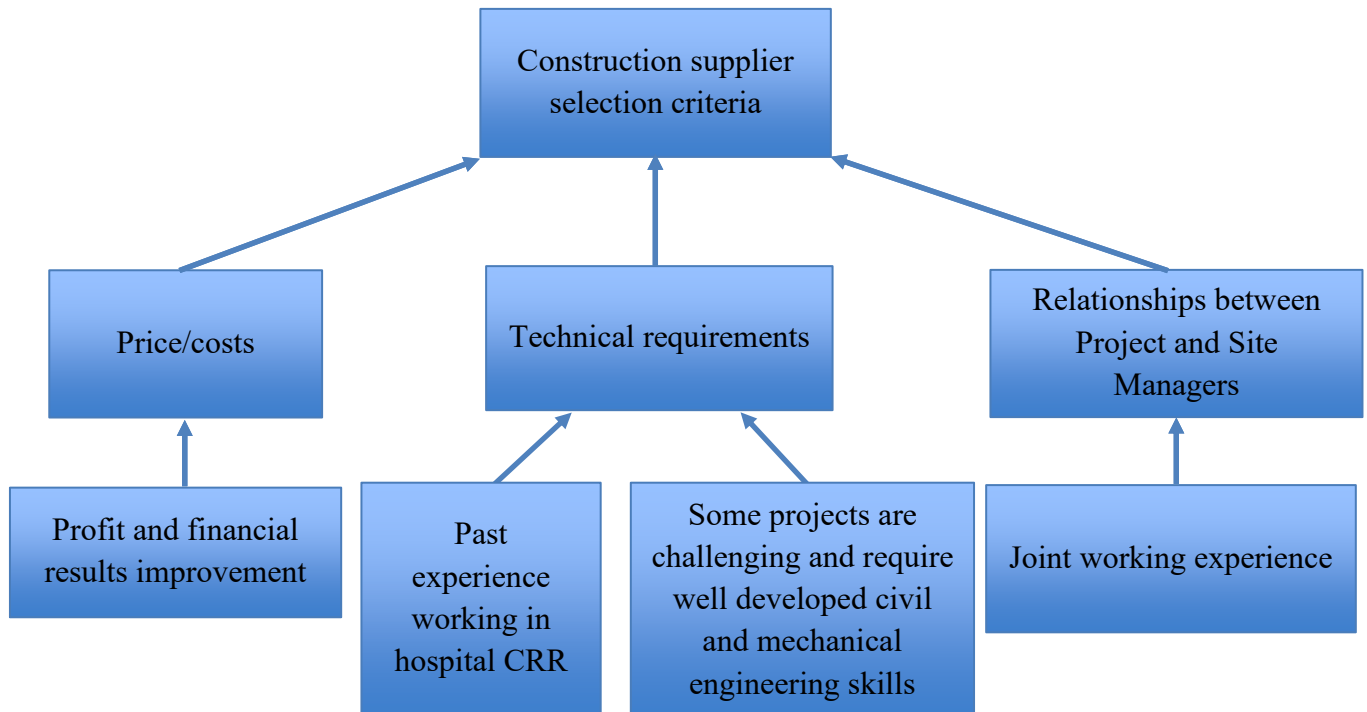
The logistics market is seriously lacking space and infrastructure to match demand. Even before the pandemic this was the case, but the problem increased as people had to start ordering more products online. The deficiency is particularly notable in big city areas, especially in the northern part of the country. These constraints are verified in both E-commerce related logistics and the more established and traditional companies and investments can take around 5 years to match the space requirements. This is also increased because the construction of new buildings in the sector normally takes 3 years (including licensing and bureaucratic processes). On the other hand, conversion of old stores and industrial complexes is faster but location and rents can often make these projects unviable. Furthermore, these conversions are normally only adequate for E-commerce logistics, which have less requirements in terms of space and the quality of infrastructure.

Renovation and Refurbishment projects tend to vary between 100.000 and 1 million euros, but the frequency of said projects is fairly unpredictable as it is very dependent on the logistical company's client needs. E-commerce logistics needs are more difficult to gauge as the infrastructure is more recent and the operations require less adaptation. To improve on margins, logistical operators often prioritize price when it comes to supplier selection, yet depending on the project, good technical capabilities might be a must, to ensure that flawed work doesn't hinder the operations.

Solar panels to optimize energy consumption and more quality of life spaces are common tropes in the industry. Work spaces will become more ergonomic to improve worker health and more leisure areas will be created to increase motivation. Robots and drones are often a

topic of conversation, but it will take a few years before large scale implementation is considered a viable option.

Hospital



Interview Data

Pedro Martins - Project Manager at Trofa Saúde

After attaining some experience as a site manager, Pedro became a Projector Manager becoming responsible for overseeing Trofa Saúde's construction, renovation and refurbishment projects being the link between what the medical staff needs to optimize their operations and the construction crews who are responsible for developing the projects.

In terms of supplier selection, experience in hospital and medical environments is a major factor, as the technical knowledge and specificities of the infrastructures are extremely important for medical care enterprises to ensure quality services. The size of the construction companies can also be a factor depending on the size of the projects, after this a balance between quality and price is the final criteria. There are few usual contractors who they trust, but they often turn to the wider market to find other offers, especially for smaller projects. Usually, the projects have a site manager from the construction supplier and a project manager from the healthcare company who establishes a bridge between the requisites of the medical staff and the administration to optimize operations, profitability, and customer experience.

An ageing population requires more medical services. Private institutions provide a faster and more pleasant experience to their customers, meaning they are many times the best option for the elderly. This implies that overtime this sector is expected to steadily grow and that facilities will need to be built or upgraded to meet the demand. The natural refurbishment, readaptation and restructuring cycle of medical facilities tends to vary significantly from speciality to speciality but on average business units don't spend more than two years without some construction work done.

There is a strong incentive to keep up with innovation and new technologies, namely in terms of equipment, like CT-Scans and X-ray machines. The installation of equipment often requires renovations and space readjustments. Between the preparations and installation of medical hardware and readjustments of spaces to improve operations we have most of the renovations construction projects in the sector. There is balance in terms of the usage of spaces and healthcare providers want on one hand to have comfortable spaces for clients,

while on the other hand want to have the maximum amount possible of medical offices per square meter. During the pandemic the amount of available area per person was increased, due to social distancing requirements, yet as society returns to normality, private hospitals will most likely recover some space to increase the amount of medical appointments.

Vera Vilhena - Engineering and Maintenance Director at CUF

With vast experience in construction in the healthcare business Vera has a lot of responsibilities related to ensuring that operations can perform optimally and smoothly. Furthermore, she often needs to find solutions and the best way to implement them in a fast-moving industry that requires a quick adaptation.

The demands made of construction companies are very high, and often lead to a certain amount of fatigue in terms of relationships. There is a specific department allocated to renovations, due to how often they are done. The majority of the construction suppliers are internal suggestions being that CUF has a significant pool of companies from which to choose from. When the need arises from production to readjust the structures, the company develops the planning and architectural components of the project with the oversight of a supplier (this step might be skipped in smaller projects). After this initial stage a construction company is usually invited to participate and manage the construction site while a Project Manager from CUF ensures that the works are going according to plan.

There are two driving factors that force innovations, firstly and from a managerial standpoint the company wants to optimize profits and the quality of operations and secondly new legislation that requires off private healthcare facilities changes to meet better standards and working conditions. Also, due to the pandemic, healthcare infrastructures had to be rearranged to provide medical services to infected customers and to ensure that the rest of the clients were safe. However, as we return to normality the structures will need to be replanned to respond to the needs of a post-covid market. This means that less space is required and that hospitals will increase the amount of medical offices to grow their sales. Private Healthcare groups try to go to a more sustainable path in terms, regarding the environment, when possible, yet most of the increase in energy efficiency actually comes from developments in medical equipment and not as much in terms of infrastructure. There is a transition of solar panels from heat generation to electricity generation as the older panels did not allow a

sufficient amount of control of water temperature creating optimal conditions for the growth of bacteria like Legionella.

Spaces for clients are increasing, to give them a more pleasant and comfortable experience, while the amount of space per employee is decreasing to increase the amount of production. Furthermore, in terms of equipment some Private Portuguese enterprises are almost on par with American and Northern European Institutions, machines that allow surgeons to remotely conduct operations, cyclotron, operating rooms adapted for medical students to completely observe surgeries through cameras and displays and development of multidisciplinary medical services rooms. Filtration systems are also a common concern, even without taking Covid into consideration, air flows can carry other viruses and bacteria, or unhealthy gases used in some medical procedures.

Nuno Rocha - Project Manager at José de Mello Saúde (CUF)

Responsible for managing the company's construction, both in terms of new construction and renovations. Nuno has to be the connection point between the site manager and the company's administration to ensure that the projects are going according to plan and on schedule.

In order to select suppliers José de Mello Saúde can prioritize technical abilities depending on the project in question, as the types of projects might be easier or not to accomplish from an engineering standpoint. Other important factors are the ability to adapt (for instance to working during closed business hours), past joint working experiences, scheduling and prices. Normally, projects are conducted on a turnkey basis and renovation, refurbishing and restructuring projects tend to be of areas between 100m and 1000m in terms of area and 100.000 € and 1.000.000 €. Construction supervision is provided by a third company while José de Mello Saúde is responsible for the project management, meeting weekly with construction suppliers. The majority of renovations and facility upgrades are due to the need to install new equipment to replace old ones and to readapt the structure of the spaces to increase production or process efficiency.

The level of investment is expected to remain stable, as competition among healthcare companies is high to be on the forefront technologically to provide the best possible services. There was a shift in recent years to building healthcare facilities in mid-sized cities. These

facilities have a high degree of wear, meaning that they often need to be refurbished. Legislation adaptation is often a concern when it comes to developing and upgrading an infrastructure.

Companies might try to decrease the amount of available space to workers in order to increase production. However, people might resist this, because of the pandemic and the development of new habits and concerns. Working from home might mitigate some of this resistance.

Key Insights

Technical requirements and past experience in the sector are often the main deciding factor on who will be the construction supplier for a given project, the ability to adapt (to complicated circumstances and night shifts for instance) is also a valuable characteristic and finally price and finishing projects in a timely manner. The process is managed through an internal Project Manager who makes sure that the upgrades are on par with the institution's requirements by frequently engaging with Site Managers.

There are two kinds of renovation and refurbishment projects in this sector:

- The first is related to increasing the production capacity or the productivity of operations, by creating new medical offices or improving the efficiency of workflow, both for patients and medical staff;
- The second kind of project is a necessity that arises from installation of new medical equipment such as MRI and CT scan machines which most of the time need spaces to be refitted and adapted.

Many of the projects are also forced by legislation that these infrastructures need to meet in terms of safety. These projects tend to cost around 1.000 € per square meter, ranging between 100.000 and 1M million euros, and hospital units tend to make significant investments on average in less than every two years. The healthcare private industry is expected to maintain a stable investment level overtime, in line with pre-covid values. In the short-term there might be a slight increase in investment as hospitals will need to repurpose Covid dedicated areas and readjust patient workflow as the need for social distancing will no longer be a mandatory requirement. The amount of free space per employee might be reduced to increase production levels but some resistance from workers is expected, on the other hand leisure spaces for

clients might increase to provide a more pleasant experience. Over the past few years, the number of healthcare facilities in mid-sized cities has increased and these infrastructures tend to need maintenance quite frequently.

Although not always a priority, whenever possible investments are made to increase environmental sustainability. Currently there is also a necessity to change heat panels to photovoltaic panels, as the former does not allow for proper management of water temperature leading to an increased risk of bacterial proliferation such as *legionella*.

Discussion

Best Timing to Target Each Market

Because GEO does not possess infinite resources the department needs to assess when to “attack” the RLH market segments as they are going through different development stages and investments levels are going to be influenced by different factors, besides the impact of COVID on the Economy.

In Retail, the real estate expert (Patrícia Araújo) claims that we will see many companies delay their investments for the better part of a year as they wait to assess the influx of people back to stores. There have been encouraging moments, such as the increase in sales in retail in April when compared to pre-pandemic numbers. However, this is to be expected, in the short-term, with the reopening of the economy. It is very important to keep an eye on the retail market as many stores will need to be updated as they were halted in the past year. Furthermore, E-commerce is reshaping commercial surfaces which will require refurbishments, renovations and adaptations of store spaces.

When it comes to Logistics, it is a market segment that is experiencing fast growth, increased even by the COVID crisis. Both experts agree that there is still a significant lack of infrastructures in Portugal, regarding warehouses and logistical platforms, meaning that a lot of investments are going to occur in the future. This wave of construction and renovation is going to continue for around 5 years, and even after the market’s needs for space logistical companies might be interesting partner clients, since they frequently need to adapt their structures to match their own customers' needs.

Medical infrastructures need to be readapted frequently, either because private enterprises want to increase production by optimizing space usage or make client experience better, or because new equipment (and most do so) requires structural adaptation to be installed, being this view consensual among all three industry experts. According to the President of the Associação Portuguesa de Hospitalização Privada (APHP, Portuguese Association of Private Hospitalization), revenue levels of private Hospitals are on the rise and €213 million were invested in the private sector (majority of investment to hire personnel and to purchase equipment)¹⁶. It is also important to consider how prepared a construction company needs to be to develop projects in the healthcare sector as there are many requirements from a technical standpoint.

Impact Of E-commerce In Retail

According to both retail Experts and the Literature, E-commerce is changing retail forever, as people more than ever can simply purchase products from the comfort of their home. This is in theory a massive problem for the Retail sector, however this new trend implies change more than decline. Despite the fact that people can buy online the majority still prefers to visit the stores, especially in Portugal, a southern and culturally warm country. Stores are beginning to adapt to a more experience focused style business, better service, more interactivity with customers, more information displayed and more appealing spaces for visitors. Furthermore, before the COVID crisis Portugal was going through a resurgence of local commerce, mainly in non-historical and non-touristic areas of the cities, which is expected to return as the economy recovers. This type of business is more experience focused as customers and shop owners tend to know each other and develop bonds of trust.

Convenience Or Experience In Retail

In the future the retail market will tend to two kinds of stores, some more focused on convenience and others on Experience, this was shown in the literature and reinforced by the experts. The first will have more automated shops so that people can quickly and easily purchase products and the latter will become more pleasant and appealing, turning shopping

¹⁶ APHP (2021, march 31), Relatório e Contas 2020 Da APHP Aprovados Por Unanimidade. Retrieved from URL: [Relatório e Contas 2020 da APHP aprovados por unanimidade](#)

almost into a hobby. This means that the store structures are going to be significantly different. Some will be simpler with easy access and constructed mainly with a practical use in mind and others will be made more appealing for customers to visit and have an enjoyable experience. Taking this into consideration it is relevant to assess which is going to be more profitable and which partnerships are more beneficial. Experience driven enterprises will adapt and renovate more frequently while convenience driven retail will most likely only need to do so for maintenance or to implement new equipment. In order to assess where the focus of GEO should be regarding these two types of stores, a financial analysis needs to be done regarding the profitability of each kind of project.

Logistics Infrastructure Underdeveloped In Portugal

As investment increases, do the opportunities to create partnerships and increase sales for construction operators. This segment can represent growth, in terms of participating in construction projects, reconversion of different spaces (mainly retail stores and manufacturing facilities) into E-commerce warehouses and renovation of logistical platforms. Most of the investment will be focused on E-commerce, which are typically less complex infrastructures, more focused on the fast movement of products and not as much on storage. These kinds of projects will be more frequent but smaller in terms of size when compared to a more traditional logistics operator, meaning that they might be less profitable on a per-project basis.

Economic Efficiency Of Logistics Projects

The need of Logistical operators to have lower supplier prices, as discussed with the industry experts might make some of the projects less viable in terms of financial gains, so deciding which ones are to be realized should be done on a case-by-case basis. This is because it might be beneficial in terms of client relations to proceed with the less efficient project if it will help guarantee future opportunities.

Hospitals Short/Long Term, When Is It Worth It?

Healthcare companies are constantly renovating and rearranging their spaces and operations, most hospital units don't spend two years without going through extensive construction work to update their buildings, as mentioned by Pedro Martins, making the industry a steady source of revenues, especially if partnerships are developed. In the short-term the amount of business opportunities might be higher as many hospitals restructured facilities to receive Covid patients and to better manage customer movement flow through the Hospital. Although

necessary adaptations at the time, many of them will need to be reversed or simply changed to fulfil different roles within the healthcare operations.

Technical Requirements In Medicine Facilities

Medical healthcare facilities have a lot of requirements to ensure the safety and wellbeing of both employees and customers. For this reason, Construction, Refurbishment and Renovation companies need to have expertise specific to working these environments. While GEO, through TDGI has access to this knowhow, if new projects arise, the department would in the long run need to hire an engineer who would be specifically allocated to HI which at this stage could be difficult. This would cease to be a problem with revenue growth, but as of now it would not be possible.

Other Business Opportunities

There are other market sectors that can represent potential growth to GEO. Firstly, the hospitality sector, which is mainly because of tourism, is one of the main engines of the Portuguese economy. Unfortunately, it was one of, if not the most, affected by the Covid crisis and therefore its recovery will most likely be slow and only after said recovery will we see significant investment in construction and renovations. This return to normality will take a few years as the best estimates only expect tourism to return to pre-pandemic numbers in 2022 in the best case scenario. Secondly, the information management industry will require the construction of Data Center infrastructure. At the moment, Portugal doesn't have a significant number of these types of facilities, but some projects are already being planned, including a €3.5B investment in Sines which will create 1.200 jobs. As our economies steer more and more to be data driven institutions the number of Data Centers will have to notably increase. These projects tend to represent large investments meaning that there is a significant upside in terms of operational margins.

Offices In New Sectors

GEO's core business is in office Refurbishment and Renovations, yet the intention is to diversify and reach new sectors. However, their office RR experience can be an asset to penetrate the Retail, Logistics and Hospital as all of them require office spaces. This could be a good entry point to develop ever important relations within the RLH industries. The purpose would be to transition to construction projects in their core business, diversifying by building trust with clients.

Conclusion

All of the markets mentioned before have the potential to generate results for GEO. Taking this into consideration, an optimal strategy should be developed to achieve long-term sustainable growth. The department should try to establish partnerships with big companies that require a lot of infrastructure, becoming their main (or at least a regular) construction supplier. This would provide a steady source of income as these companies need to regularly update their infrastructures, and the ability to accomplish the budgeted objectives can also give more freedom to search for new business opportunities and take more risks.

The first target should be the logistics sector. As the need for space and infrastructure subsides so does the investment. Logistical operators are in need of construction projects in the short term and even when warehouse space capacity matches the demand, logistical platforms often need renovations to maintain the quality of processes and operations and to adapt to customer orders. Traditional logistics operator's R&R and E-commerce logistical infrastructure conversions are the best fit for GEO's operational targets. Also, important to mention, is that this segment might be the least profitable as the industry's low margins make logistical operators try to negotiate prices down. Secondly, private healthcare, which is a very stable market with relatively slow growth. However, the amount of current infrastructure and the constant need to adapt can provide a significant source of business. It is the second suggestion chronologically because in order to operate in this context it is required to have more technical knowledge in house. Experience that GEO, as access to through TDGI and even TD if necessary, but still, the preparation to work in these specific circumstances might take some time to organize. Finally, one of the biggest sectors of the Portuguese economy, the retail market was one of the most affected by the pandemic. However, it is one of the most resilient and it is expected to recover quickly, the question here is how fast. According to the expert analysis, stores might wait for up to a year to assess the reopening of the economy, before significantly investing in RR. Yet, there are investments long overdue in the area, delayed by the pandemic. Before Christmas and before the next summer (2022), because of tourism, might be two relevant reference points to evaluate the investment levels in retail as these seasons represent commercial spikes for retail and owners might consider refurbishing or renovating just before to make themselves more appealing to customers.

Limitations

These suggestions only take into consideration the current state of the market and not operational margins from the company or any other managerial factors that should be taken into consideration when deciding which business opportunities to approach, such as resource allocation and time constraints. Different types of projects might be more profitable even if their market segment isn't expected to grow significantly, and more business opportunities does not mean that the projects in question will be the optimal choice. A good possible example of this is the Logistics market, which shows the biggest upside in terms of business opportunities. Yet, the logistical market experts mentioned that due to the sector's low profit margins they tend to favour cheaper prices, even if a certain level of technical competence is mandatory to complete the projects.

When it comes to the literature review it is important to note that the information about the Portuguese context is somewhat limited. There is a reasonable number of studies regarding specific cases and projects; however, papers that investigate any of RLH market segments as a whole are more difficult to come by, especially in relation to the construction industry. For this reason, the information regarding the Portuguese economic context is more reliant on the work of Consultancy and Real Estate companies which, although being reliable sources, do not go through the same scrutiny and peer review as an Academic Paper.

The market experts provided very interesting insights on the current state of the market and its future. Due to time constraints the amount of possible interviews was somewhat limited, meaning that despite the usefulness of the information it is not adequate to claim that their views represent the whole market. They certainly reflect the will and wants of the more robust investors and a significant amount of more modest enterprises but not the majority of the economy. While it is not a limitation by itself in the context of this project it is important to note that this study applies mainly to bigger and more established companies in the market and may not reflect the average company in terms of their infrastructure needs and expectations regarding future investments. Also, for the Hospital segment there was no interview with a Real Estate expert because these companies don't specialize in that specific market due to its structure in Portugal (medical infrastructure mainly owned by a few local groups who prefer to manage their own Real Estate).

Further research

This study adds to the knowledge and understanding of the Retail, Logistics and Private Healthcare markets in terms of their needs for space and infrastructure. It would be interesting to study from a financial standpoint the profitability of each market segment for construction projects. Other interesting studies in relation with GEO's future business opportunities are Data Centers, how are their structural investments done and how much renovations and refurbishments are required and in the hospitality business, when is investment returning in a post-covid environment.

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Annex:

Script:

- What is the role and responsibilities of the interviewee
 - Provides a better understanding of the person's experience and knowhow of the markets;
- How does the process of construction suppliers work?
 - This provides GEO with the knowledge to make better approaches in a more timely manner;
- Does the company have technical knowledge from a Civil Engineering standpoint?
 - Another insight on how to better adapt the relationship between the client and customer depending on the circumstances;
- How is the construction project followed and overviewed? Who talks to who? Is there a middle man?
 - In relation to the previous question to further understand the processes?
- What were the criteria of selection for construction, renovation and refurbishment (financial, quality, technical (engineering), deadlines...)
 - Very important to understand the best way of strategically positioning themselves in order to entice new customers;
- What are the expectations for the future of the markets in question?
 - In order to decide where to focus it is important to understand where the RLH markets are heading;
- Which innovations and market trends do you consider are the more appealing and more likely to be implemented (and when)?
 - Building upon the previous question but on more specific terms;

- Regarding contract renewals, what are the main factors to decide to maintain or drop a current supplier (deadline fulfilment, prices, quality, response quickness and interactions...)?
 - To maintain clients and keep them happy it is important to understand what they value the most.