



**University of Wales Trinity Saint David**

# **Costa Rica's Medical Device Manufacturing Industry and a Critical Evaluation of Boston Scientific Costa Rica**

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# Section 1. International business report

## 1. Introduction

The current report analyses the international competitiveness of medical device manufacturing industry in Costa Rica and critically examines the operating environment of Boston Scientific Costa Rica as a large foreign multinational subsidiary. The country-industry duo is analytically useful in the sense that Costa Rica is no longer a small export economy comprising of the agricultural and tourism sector but rather a specialised centre of high-value technological production in the medical industry and Boston Scientific has become one of the most compelling examples of how multinational companies can become embedded within that model. It is stated in the report that the advantage of Costa Rica is not based on labour cost alone. It is founded on an even more multifaceted set of incentives of free trade zones, institutional credibility, stocked production know-how, supplier clustering, skilled labour and long-term integration into global production networks. Those strengths, however, expose the company to concentration risk, skills bottlenecks, dependence on regulation and infrastructure pressure. The medtech ecosystem in Costa Rica has a strong positive relationship with Boston Scientific, and its future performance will be determined by the ability of the subsidiary to keep enhancing its capabilities and stop being a cost-effective export hub.

## 2. Industry and country overview

The medical device production sector in Costa Rica has turned out to be one of the most strategically important export sectors in the country and one of the most obvious illustrations of the process of industrial upgrading in Latin America. The industry encompasses a broad spectrum of products and processes such as catheters, endoscopy components, cardiovascular, dental products, precision parts, disposables, implantable materials and more and more intricate engineering and research work. Costa Rica is no longer a mere assembly place. The nation is now home to a medtech ecosystem comprising of production, process engineering, quality assurance, sterilisation, packaging, validation, automation support as well as selected research and development functions linked to global lead firms.

The magnitude of such change is significant. In the first three quarters of 2024 and in full-year 2024, before increasing to 48 per cent of goods exports in 2025, medical devices occupied 43 per cent and 44 per cent of Costa Rica goods exports, respectively (COMEX, 2024;

PROCOMER, 2025a; COMEX, 2026a). According to CINDE, in 2024, the country exported more than USD 8.7 billion of medical and scientific equipment and that the industry had over 58,000 workers as of 2025 (CINDE, 2025a). It makes medical devices not only a successful niche, but the top-performing pillar of the national export model. The industry is important as it is a source of foreign exchange, capital-intensive FDI, as well as increasing the demand on technicians and engineers, and facilitating the shift of production based on resources to advanced manufacturing. This broader interpretation is supported by OECD analysis, which demonstrates that the exports structure of Costa Rica has continually moved to the higher-value activity, and free trade zones are at the centre of that upgrade (OECD, 2025).

The development path is also uncovering. According to CINDE, the exports of medical devices have an average of 18 per cent per year between 2017 and 2023 when exports were over USD 7.5 billion and 15 per cent per year over the past fifteen years when they were over USD 8.7 billion (CINDE, 2024a; CINDE, 2025a). That is not the trend of a boom that is short-lived. It implies cumulative advantage, in which previous waves of multinational investment produced experience, labour market learning and supplier relations that had the effect of making the country more and more attractive to subsequent entrants. Costa Rica has developed technological capabilities that transcend beyond its comparative advantage that is not dynamic as put by Lall (1992). It is not just the number of firms that exist in the location it is the capability of the location to execute activities with more restrictive quality tolerances, better regulatory discipline and more process knowledge.

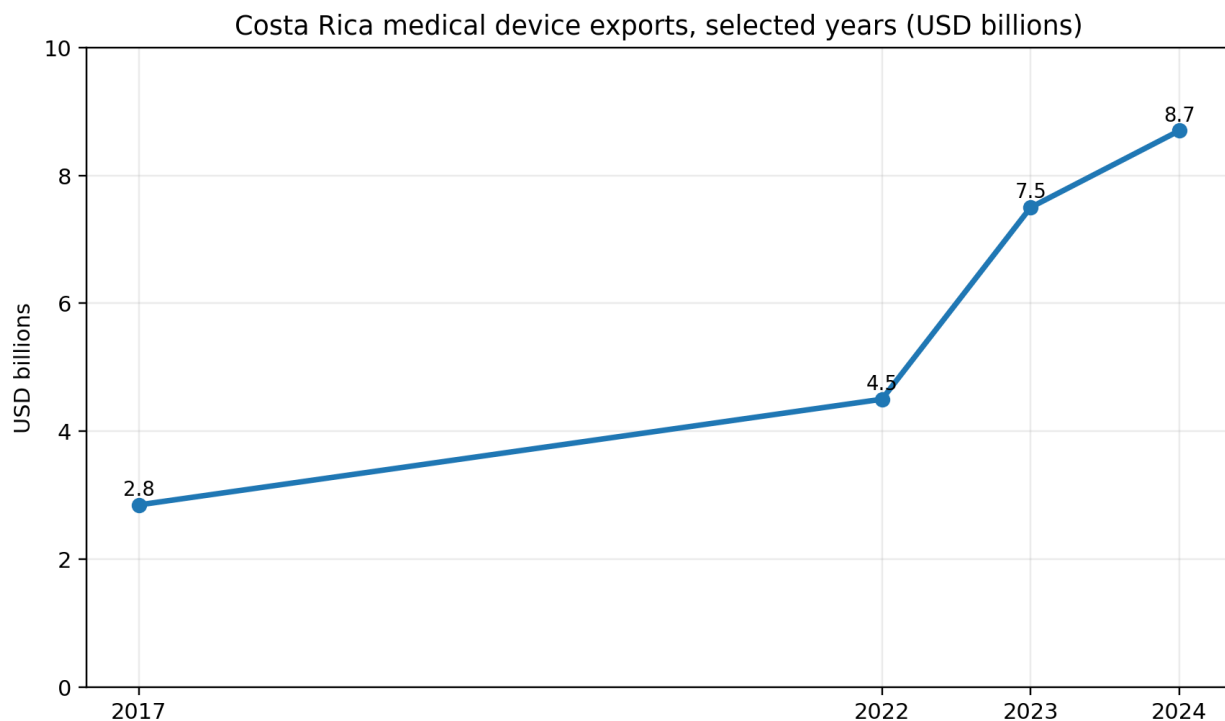


*Figure 1. Costa Rica medical device exports, selected years (USD billions). Source: CINDE (2024a; 2025a).*

The industry has a multinational and cluster-based competitive structure. Boswell scientific, Abbott, Edwards Lifesciences, Medtronic, Baxter, Freudenberg Medical, Resonetics and Theragenics are companies that conduct business in the broader life-sciences ecosystem in Costa Rica (CINDE, 2026; PROCOMER, 2024a; PROCOMER, 2024b). Some of these companies have increased production presence, have opened new facilities or extended product scope, which indicates that Costa Rica is not only being used to enter the market, but also to make long-term network configurations. There are also over 90 medtech multinationals that alter the nature of competition. Competition is not primarily an issue of contest between Costa Rican consumers since the industry is highly export-driven. Rather, companies are vying over engineering skills, the reliability of suppliers, process perfection, regulatory trustworthiness, automation capacity and internal requirements between their respective international companies.

Boston Scientific is in a very good position in this structure. CINDE defines it as the biggest employer and exporter of medical equipment in Costa Rica and has a team of over 7,000 employees in its established business before the Cartago expansion and approximately 1,200 more positions projected by the new investment (CINDE, 2023). It has a bigger responsibility

therefore than that of a normal producer. It is a kind of anchor company whose size helps in labour-market growth, supplier enhancement and the international signalling impact which impacts future investment. Other key players include Abbott and Medtronic, yet the presence of Boston Scientific, its longevity and research and development base make it particularly influential in the process of defining the identity of medtech in the country.

Relative positioning between companies is indicative of alternative strategic logics. The combination of Boston Scientific is broad product-family coverage, high-volume manufacturing, process engineering and deepening local capability. Abbott and Edwards Lifesciences are thriving in specialised therapeutic and monitoring areas. The example of the Costa Rica operations of Medtronic demonstrates the complementary strategy that is formed on the basis of the growth of advanced production units. Contract and component-based companies like Resonetics and Cadence complement the ecosystem in a new direction, building up the supplier and intermediary layer and not competing directly with branded original equipment manufacturers. Such a trend is important since it indicates that the competitiveness of Costa Rica is more of a cluster phenomenon than a firm phenomenon. Mutually reinforcing ecosystem Flagship OEMs, specialised component manufacturers and process partners can coexist in the ecosystem.

**Table 1.** Relative positioning of selected firms in Costa Rica's medtech cluster

| <i><b>Firm</b></i>              | <i><b>Primary role</b></i>         | <i><b>Relative position</b></i> | <i><b>Capability profile</b></i>                                   | <i><b>Key strategic note</b></i>               |
|---------------------------------|------------------------------------|---------------------------------|--------------------------------------------------------------------|------------------------------------------------|
| <i><b>Boston Scientific</b></i> | Anchor OEM and multi-site producer | Cluster leader                  | Broad product-family production, process engineering, R&D linkages | Most deeply embedded foreign producer          |
| <i><b>Abbott</b></i>            | Large diversified OEM              | High                            | Specialised therapeutic and diagnostics-                           | Strong global brand and stable operating model |

|                             |                                      |               |     |                                                               |                                                                       |
|-----------------------------|--------------------------------------|---------------|-----|---------------------------------------------------------------|-----------------------------------------------------------------------|
|                             |                                      |               |     |                                                               | related<br>manufacturing                                              |
| <i>Edwards Lifesciences</i> | Specialised OEM                      | High          |     | Cardiovascular and high-specification production capabilities | Benefits from precision skills and regulation-intensive environment   |
| <i>Medtronic</i>            | Large diversified OEM                | High          |     | Expanded sophisticated manufacturing modules                  | Illustrates continuing confidence in Costa Rica as a medtech platform |
| <i>Resonetics / Cadence</i> | Component and contract manufacturing | Medium rising | but | Specialised component production and partnership roles        | Strengthen supporting-industry depth and supplier flexibility         |

Meanwhile, there are weaknesses in the industry. When the exports are concentrated in only a small number of industries, the exposure to the demand shocks, regulation changes as well as strategic choices made at the multinational headquarters are increased. The evidence provided by OECD demonstrates that Costa Rica has been receiving strong FDI to the country, but there is also a problem of concentration risk, since the US has now become the most dominant source of FDI (OECD, 2025). The free trade zones dominate the industry, which is also geographically concentrated, and strained by the lack of skills and infrastructure. That is, the success of Costa Rica is not fictitious. The nation has established an advanced export platform, but its strength lies in the ongoing improvement of the talent, logistics, quality and level of regulation and innovation.

## Costa Rica goods export composition, 2025

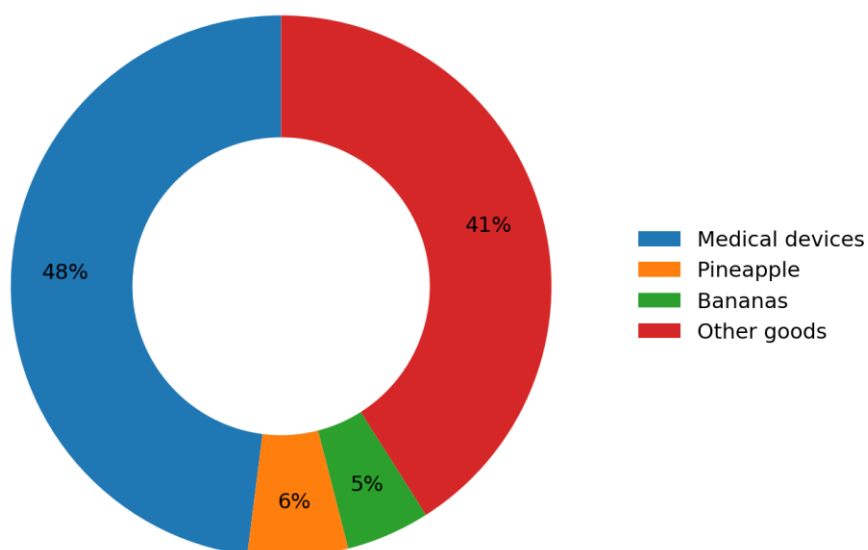


Figure 2. Costa Rica goods export composition, 2025. Source: COMEX (2026a).

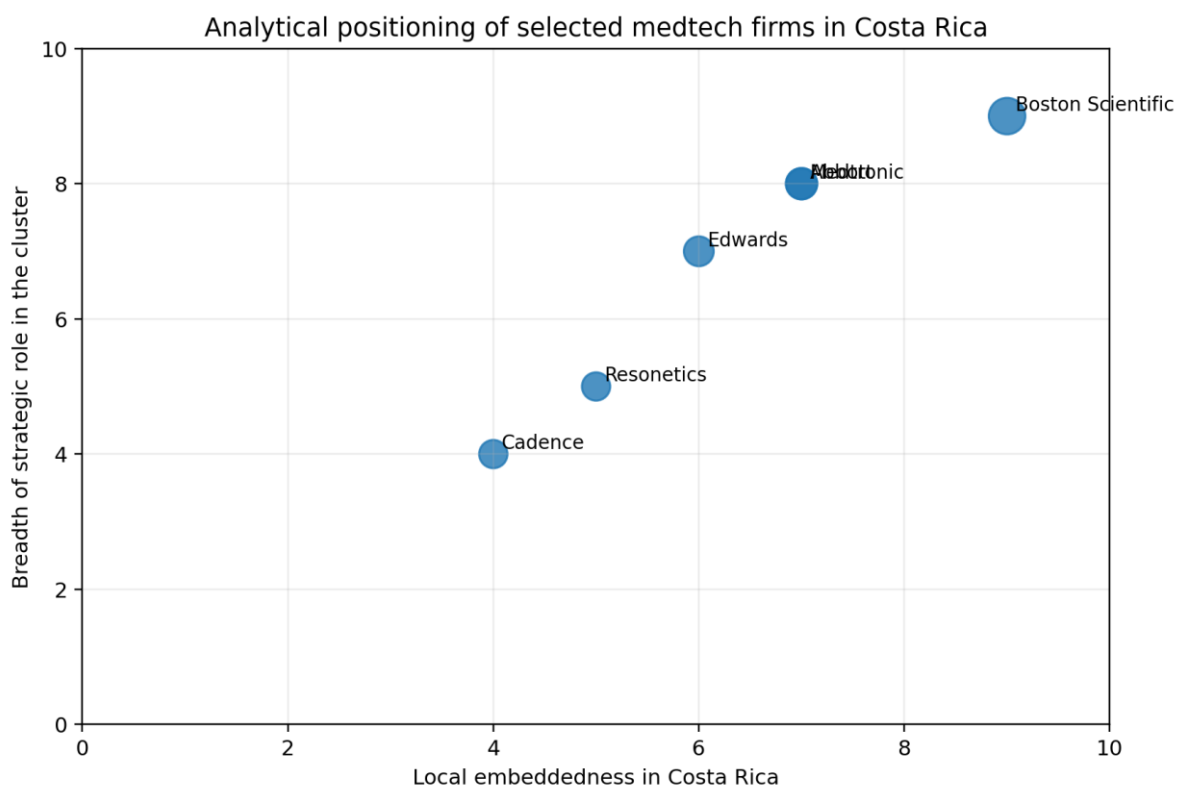


Figure 3. Analytical positioning of selected medtech firms in Costa Rica. Source: author's synthesis based on CINDE (2023; 2025a; 2026) and PROCOMER (2024a; 2024b).

Collectively, the medical device sector in Costa Rica is of international importance not due to it being the lowest-cost destination in the world but rather as it has developed a reputation of being a reliable and synchronised location to high technology production within global production systems. The framework by Coe and Yeung (2015) comes in handy in this case: it is the strategic linkage between the national institutions and lead firms that create competitiveness, rather than country-specific factors. Costa Rica has coupled that in an exceptionally good way. The second issue is whether the success can be explained with the help of Porters Diamond and where the model should be qualified.

### 3. Porter's Diamond and the global competitiveness of Costa Rica's medtech industry

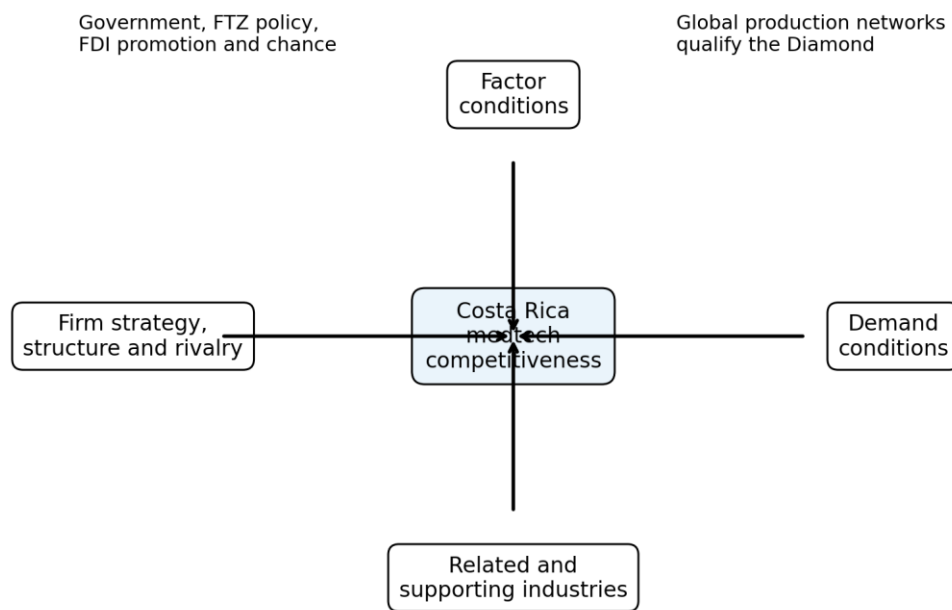


*Figure 4. Porter Diamond schematic for Costa Rica's medtech industry. Source: author's synthesis based on Porter (1990), Rugman and Verbeke (1993) and OECD (2025).*

The Diamond of Porter is a helpful point of departure when it comes to the analysis of the medtech competitiveness of Costa Rica, yet it has to be handled critically. The model emphasises the interactions between factor conditions, demand conditions, related and supporting industries as well as the firm strategy and rivalry to create national advantage

(Porter, 1990). In Costa Rica, the four dimensions are important, but the multinational networks, the state activism and global production connexions are also vital in the strength of the industry and received less focus in Porters work than subsequent international business scholarship.

The most obvious source of strength is the factor conditions. The labour force in Costa Rica is also exceptionally favourable to high-technology manufacturing in the area: politically stable, trainable, experienced in controlled production and with an established education and technical training base. Surveys conducted by OECD keep highlighting FDI and export performance as drivers of growth, and also point out that free trade zones and high-tech manufacturing have increased the level of technological content of exports (OECD, 2025). That broader base of capability is an advantage to the medical device cluster, as well as the tacit knowledge. New entrants do not begin at zero once a place has been years of generating highly regulated products to companies like Boston Scientific and Abbott. They are handed over a labour market already possessing validation engineers, quality specialists, process technicians and regulatory personnel. This path dependence is significant in the sense that it simplifies capability reproduction and minimises multinational risk.

Factor conditions are not entirely positive, however. The labour pool of Costa Rica is skilled and limited. Due to the growth of the sector, companies are competing with the identical specialised talent, which may increase wage pressure and labour turnover. There are also infrastructure and logistics limitations of the country that are more prominent in a high-value, time-sensitive industry as compared to other industries that are more straightforward in assembly. The model by Porter is able to capture the quality of factors but it does not have the ability to capture completely the speed of the tightening of those factors by the success itself. The problem facing Costa Rica is thus dynamic: maintaining factor conditions ahead of the growth of the industry itself.

Conditions of demand are more complex. Costa Rica lacks a substantial domestic market share of advanced medical equipments, and thus in the same way that Porter used the demand of the home markets to justify national advantage, local demand can not justify the sector. To a narrow reading, this would constitute a weakening of the Diamond. Nevertheless, the applicable demand is not domestic consumer level but the challenging demands suggested by international purchasers, regulators and intra-firm quality mechanisms. The manufacturing of medical devices is informed by the stringent demands in the United States,

Europe and other markets of destination. The Costa Rica plants thus have to work in the conditions of external demand which are much tougher than it would be in the local market. This is where the criticism of Rugman and Verbeke (1993) comes in. Small open economies cannot be described as being competitive nationally without regional and international market integration. The medtech in Costa Rica is based on cross-border need and not home-market scale.

One of its strengths is related and supporting industries. A high concentration of medtech companies, service providers, free trade zones, training institutions and export-promotion agencies now occupies a small country such as Costa Rica. Promotional activities of the sector, aftercare of investors, and administration of regimes have been visible in the co-ordination of PROCOMER and CINDE (PROCOMER, 2025b; CINDE, 2026). The specialised parks like Coyol and the influx of component and contract manufacturers enhance the internal linkages of the cluster. Gereffi, Humphrey and Sturgeon (2005) assist in explaining the reason behind this. Supplier competence and process reliability in modular and relational value chains influences the location of lead firms in production. The ecosystem in Costa Rica lowers transaction costs and enhances responsiveness due to firms having access to services, talent and adjacent capabilities, since they can be found in a concentrated cluster instead of having to develop it internally.

Nonetheless, the situation of supporting-industry is asymmetrical. Costa Rica is still stronger in assembly, processing and special engineering work than in deep local ownership of lead technologies. The position of the country is good within the network, but it is not as good as having control over the network. This matters for resilience. Without a sufficient number of domestically-based design houses in the local ecosystem, equipment vendors or local medtech champions, then strategic decisions are more susceptible to decisions made at foreign headquarters. The difference between capability accumulation and technological dependence presented by Lall (1992) is thus very pertinent. Costa Rica has made significant progress, yet its innovation foundation still has a greater multinational character than national autonomy.

Competitiveness is also supported by firm strategy, structure and rivalry. Costa Rica medtech competition is fierce, however, it is in the form of competition over mandates, engineers, suppliers and operational excellence as opposed to direct retail competition. Multinationals compare their benchmark sites between peer firms and internally. A subsidiary which

constantly achieves quality, delivery and cost targets can attract more product families or new investment. The move by Boston Scientific to Cartago and subsequent growth in building capacity defines this type of competitive logic (CINDE, 2023). Competition consequently drives modernization. The subsidiaries are not in a position to stand still since the competition is not just external but also internal to the multinational enterprise.

The government has a relatively large enabling role, although Porter considered it as a minor factor. The free trade zone regime in Costa Rica is the core of the medtech competitiveness. The 2025 guide of PROCOMER demonstrates that the regime offers tax exemptions on imports, purchases and exports made locally, and staged benefits of profit-tax, especially favourable to manufacturing, not within the Greater Metropolitan Area (PROCOMER, 2025b). Evidence provided by OECD also indicates that free trade zones have played a major role in facilitating increased value-added exports and that the regulatory environment is comparatively favourable in FDI (OECD, 2025). This implies that the benefit of Costa Rica does not just emerge as a result of a natural market. Policy design, institutional continuity and administrative competence co-produce it. This is confirmed by the work of Farole and Akinci (2011) on special economic zones: zones are successful when they are part of larger competitiveness strategies, and not when they are considered as stand-alone tax havens. In comparison to the numerous countries, Costa Rica is more related to that integrated model.

Chance also matters. Costa Rica has benefited through global supply-chain reconfiguration, resilience issues post-pandemic, and the pursuit of diversification of production more in line with the U.S. market. OECD observes that the increase in U.S. outward FDI associated with global supply-chain reconfiguration has added to the strengths of Costa Rica, in part due to proximity providing resilience over Asia (OECD, 2025). But it would be dangerous to count on the benefits of chance too many. The opportunities of nearsourcing may end up disappearing as other nations do or the global policy of trade shifts.

All in all, the Diamond of Porter describes much of the medtech success in Costa Rica, particularly the interplay of skills, institutions, clusters and rivalry. Nevertheless, it is not enough in itself. Competitiveness in the industry can be seen more as a convergence of national advantage, special-regime governance and strategic integration to multinational production networks. The success of Costa Rica is not just national competitiveness in its traditional meaning. It is transnational corporate embeddedness and domestic institution-mediated competitiveness at the international level.

#### **4. Critical evaluation of Boston Scientific Costa Rica**

The company has a good case to examine how a foreign multinational translates national competitiveness into subsidiary success which is the case of Boston Scientific Costa Rica. In 2004, the company entered Costa Rica, grew into several facilities over the years, and in 2012, it announced a significant Cartago expansion that includes a project of approximately 40,000 square metres that was announced to be launched in early 2025 (Boston Scientific, 2019; CINDE, 2023). This direction indicates that Costa Rica is not a marginal location of the company. It is now a strategically significant production and capability base. The major question is not whether Costa Rica is appealing overall, but whether it continues to be appealing enough that Boston Scientific can continue to commit to it as compared to other destinations.

The first and persisting logic of investment can be explained with the assistance of the eclectic paradigm introduced by Dunning. Products, intellectual property, process expertise, regulatory systems and global distribution channels are ownership benefits of Boston Scientific (Dunning, 2000; Boston Scientific, 2025). Costa Rica has location advantages such as incentives provided by free trade zone, institutional stability, trained medtech labour force, cluster externalities and geographic proximity to the U.S. market. The internalisation benefits exist due to the fact that highly regulated production, process know-how and quality control are better managed in the multinational network than it is in arm-length outsourcing. Costa Rica thus is not an ideal fit to Boston Scientific as a low-cost location, but as a place where proprietary production can be further grown without loss of control unacceptably.

The general political and institutional conditions are favourable. Costa Rica boasts of democratic continuity, rule based governance that is comparatively strong on the basis of the region, and a long-standing policy commitment to export-oriented FDI. The analysis of both OECD and World Bank shows that macroeconomic resilience, good export performance and the maintenance of the FDI inflows continue to be high, even with the more challenging external environment (OECD, 2025; World Bank, 2025). In the case of Boston Scientific, this reduces a type of institutional risk that is particularly significant in medtech. Patient outcome related products such as quality assurance and traceability are dependent on predictable operating environments. In this industry, regulatory shocks, sudden changes in direction of policy or lax customs administration would prove more harmful as compared to less regulated industries.

But there should not be romanticisation of institutional attractiveness. The free trade zone regime still plays a major role in the competitiveness of Costa Rica in the continuity and credibility of the regime. The guide of PROCOMER clarifies that there are obligations of FTZ participation, processes and conditions of compliance associated with investment and operations (PROCOMER, 2025b). It is not a free-sailing world. The regime is beneficial to Boston Scientific but it has to bear the administrative discipline that comes with it. What is more important is that a model which relies heavily on special regimes may pose a risk of policy concentration. In the event that domestic politics or international tax regulations diminish the relative worth of these incentives, some part of the location advantage of Costa Rica would diminish.

Economic reasons are still attractive, but ambivalent. Costa Rica provides Boston Scientific with a ready-trained labour pool as well as cluster efficiencies created by the large number of other medtech firms located nearby. These are strong operating advantages. As demonstrated by Andersson, Forsgren and Holm (2002), external network ties enhance the subsidiary performance and competence development. This is exactly the environment that the operations of Boston Scientific have in Costa Rica: local suppliers, skilled labour, service providers, and national image that brings more medtech investment. The embeddedness of the company at the local level is also likely to increase the switching costs and Costa Rica will be more defensible within the global manufacturing footprint of the firm.

However, costs can be increased through the same embeddedness. Specialised clusters that have tight labour markets tend to create wage escalation, retention issues and engineer competition. Costa Rica is also not cheap as compared to other manufacturing sites with lower income, hence Boston Scientific cannot afford its presence based on cost only. Its success is based on productivity, quality, regulatory compliance and learning curves. This is in line with the argument by Zaheer (1995) who states that foreign subsidiaries are liable to foreignness unless they acquire local legitimacy and competency. Boston Scientific seems to have accomplished this in Costa Rica, however, to stay in that position it must continually invest in people and systems.

There is also the issue of logistics and geography. Costa Rica cannot compete with the scope of manufacturing that Mexico has, but it provides a viable near-market option to the Americas. OECD emphasises the benefit of Costa Rica in the reconfiguration of the U.S. supply chains and the resilience of shorter shipping distances than in Asia (OECD, 2025). In the case of

Boston Scientific, this enhances balancing of risks and diversification of networks within the network. However, Costa Rica remains a rather small economy with insufficient infrastructures. In the event that the company requires a very high scale, physical and labour capacity of the country might limit it. This translates to the fact that Costa Rica is extremely appealing to the chosen strategic mandates, but not all possible production expansions.

The legal and regulatory environment is core in medtech and is mostly favourable to Costa Rica. It is characterised by the free trade zone regime which provides tax exemptions on imports and exports and benefits in the form of phased profit tax on manufacturing companies and simplified customs and administrative processes due to a structured regime (PROCOMER, 2025b). In the case of a firm that is in the highly regulated international markets, a consistent legal framework where compliance is facilitated, predictability and quality-system discipline of customs are very valuable. The long history of regulated manufacturing of Costa Rica is thus not a symbolic competitive advantage, but a substantive one.

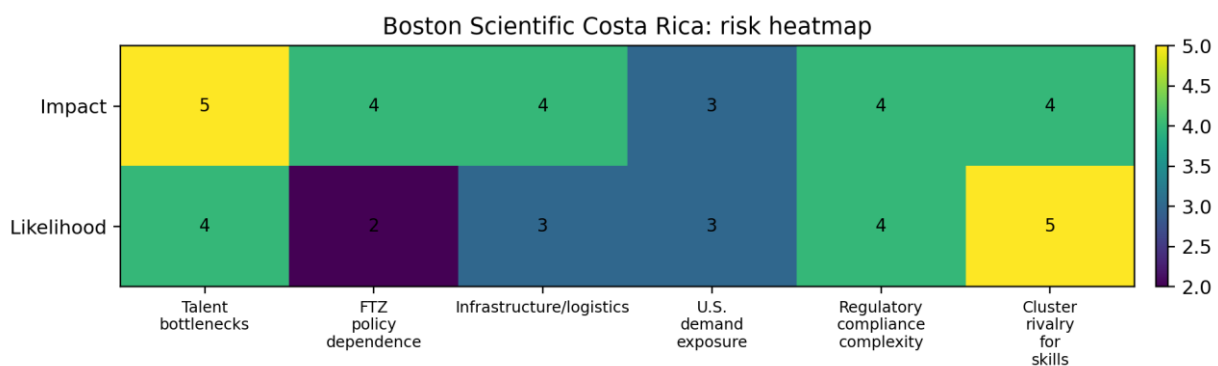


*Figure 5. Boston Scientific Costa Rica risk heatmap. Source: author's analysis based on OECD (2025), PROCOMER (2025b), World Bank (2025) and CINDE (2023; 2025a).*

Nevertheless, there is still legal complexity. Boston Scientific has to adhere to both the operating regulations of Costa Rica, international internal standards and regulation of its destination markets, in particular, the United States and Europe. This compliance overload may add to the cost and slow change. Furthermore, since the medtech industry in Costa Rica is an export-driven industry, the legal risk of the firm is influenced not by the local product-market law but rather by the transnational regulatory convergence. The only competitive factor of a plant in Costa Rica is the capacity to meet extra-territorial requirements. That increases the strategic importance of engineering, validation and documentation skills in the subsidiary.

Awareness should be taken when analysing cultural factors in international business as they are mostly analysed in a simplistic manner. The CAGE framework by Ghemawat (2001) does not become obsolete since it puts in mind that all of the aforementioned factors, administrative, geographic distance and cultural distance, influence international operations. The U.S.-based company will be cutting part of that distance with Costa Rica. It shares the same broad hemisphere, and is bonded with years of trade and investments, and well known to the U.S. investors. The export sector has a relatively developed business English capability and multinational management experience. These minimise the coordination friction. Nevertheless, it is equally important that McSweeney (2002) criticises national-culture models. We could do a feeble analysis by assuming that Costa Rica is a collection of predetermined national characteristics. More important in practise is organisational culture, local professional norms and routines that have emerged within the operations of Boston Scientific in Costa Rica throughout the course of twenty years. The success of the subsidiary may not be due to generic national fit but rather on the capability of the company to establish a common culture of operation across locations.

Strategically, cost minimisation is not the best argument to use in favour of Boston Scientific in Costa Rica but subsidiary upgrading. Costa Rican operation is not limited to simple manufacturing anymore, but is extended to larger scope of work, such as R&D and multi-division production assistance (Boston Scientific, 2019; CINDE, 2023). That is important since an up-order requirement renders the subsidiary more justifiable. The site may be substituted by one that is solely labour arbitrage. The accumulation of engineering competence, regulatory discipline and network knowledge embedded into a site makes it more difficult to remove. Coe and Yeung (2015) would view this as effective interlinking of a lead firm with a strong location.

Therefore, the principal strategic risks are tripled. To start with, talent bottlenecks may undermine the quality and growth possibilities of the subsidiary. Second, excessive reliance on policy incentives might expose the location to more vulnerability in case of change in tax or trade conditions. Third, the success of Costa Rica has drawn numerous medtech companies, which is advantageous to the cluster but adds to the competition over limited specialised resources. The response of Boston Scientific cannot be the trust in sunk investment. It needs to continue pushing the subsidiary up the value chain.

All in all, Costa Rica is a very appealing destination to Boston Scientific, but not because of straight forward reasons. It provides a platform of resilient and high quality and more sophisticated production of medtech. The most effective strength of the country is the policy support coupled with institutional trust and accrued capability. The vulnerability is that the same benefits are being strained by the issue of scale and concentration risk. The most compelling strategic decision is thus contingent: Boston Scientific must persist with further intensification of its presence in Costa Rica, yet only by incapability-intensive up-grading, automation, talent formation and more binding local innovation connexions. Such a direction is appropriate to both the benefits of ownership of the firm and the second industrialization phase in Costa Rica.

## **5. Conclusion**

The medical device manufacturing sector of Costa Rica illustrates that a small economy can develop a world-class level of competitiveness by forming cumulative capabilities as opposed to scale. The industry has come to be at the centre of export of the country since institutions like PROCOMER, COMEX and CINDE facilitated the process of aligning the policy on free trade zone and investment promotion with the needs of advanced manufacturing. Much of this success can be attributed to Porters Diamond particularly the interplay between the quality of factors, supporting industries, rivalry and enabling state. Yet, in the case it is also possible to see the drawbacks of a strictly national model. The strength of Costa Rica cannot be separated with multinational production networks, regulation of export markets and strategic choices of foreign lead firms.

The opportunity and tension in this model are exemplified by Boston Scientific. Costa Rica has also gained favour with the firm due to the fact it provides a disciplined manufacturing culture, robust labour forces, reliable medtech ecosystem and an ever-increasing sub-base. But the success of the country also puts a strain on it in terms of the competition of talents, the overload on infrastructure and the reliance on special-regime credibility. Its strategic implication is that both the country and the company cannot count on the original investment logic as long as it goes. Costa Rica needs to continue enhancing the capabilities in skills, logistics and ability to innovate, and Boston Scientific needs to continue enhancing the local mandate beyond the effective manufacturing. In that regard, there is a mutual reinforcing relationship but not a self-reinforcing one. Its sustainability lies in the constant modernization on both fronts.



## Section 2. Reflective account using Gibbs' reflective cycle

### Description

I began with selecting a country-industry combination that would enable a truly evidence-based report as opposed to a general discourse on international business. I chose the medical device manufacturing industry in Costa Rica since it presented a good mix of the existing official data, obvious multinational presence, and excellent theoretical relevance. The second move was to find a focal foreign multinational. The best option was Boston Scientific due to its deep-rooted presence in Costa Rica and many years of operation and repetitive presence in investment and sector publications as a reference company. I then structured the research in two strata. The initial layer gathered current evidence in the industry and policy based on official and semi-official sources including COMEX, PROCOMER, CINDE, OECD, the World Bank and Boston Scientific. The second layer was built using international business and economic geography academic frameworks, in particular, Porters Diamond, Dunning eclectic paradigm, institution-based view, global production networks and subsidiary embeddedness. Then I gathered all the evidence and constructed the report in accordance with the assignment brief: industry overview, Diamond analysis, critical evaluation of the foreign MNC, conclusion and reflective account.

### Feelings

My feelings at the start were positive, but also, I was apprehensive about the subject matter. The storey about medtech in Costa Rica is incredibly rosy to the eye of the reader and that posed a danger of writing a promotion report as opposed to a critical one. I also knew that investment-promotion agencies will make the country look as good as it can be. It meant that I would have to overcome the urge to discuss frequent sector growth and expansion announcements as evidences that the industry did not have any actual weak points. There was also a certain degree of uncertainty on my part as to how far Porters Diamond would be able to go to explain a small open economy in which competitiveness in exports relied so much upon the role of multinational firms and foreign demand. Rather than perceive that as a problem, I started to slowly conclude that as the analytical power of the subject. The conflict between the traditional national-advantage model and a network-based global production model provided the report with greater intellectual richness. I was more confident as the research went on as the evidence started to link across the sources. The same themes

continued to be repeated: free trade zones, skilled labour, cluster externalities, export concentration and capability upgrading.

## **Evaluation**

Triangulation of sources was the best part of my process. I did not use a single type of evidence. Recent data on exports, employment, incentives and sector growth was offered by official agencies, with the OECD and World Bank material offering further critical macroeconomic interpretation. It was academic literature that assisted me in transforming information into an argument and not description. This enhanced the quality of the report since it enabled me to shift to Costa Rica is successful to Costa Rica is successful due to certain institutional and network reasons, yet the same strengths create new limitations. The other good thing was that I decided not to consider Boston Scientific just as an example firm. I could connect firm-level strategy and national competitiveness more convincingly by analysing it as a subsidiary based in the country.

My disadvantageous aspect of the process was that I first collected too much information in a descriptive form and less evaluative structure. Investment lists, export shares and sector announcements were also early noted, but these alone did not respond to the question of the assignment. I also came to realise that I was in danger of over applying Porter since the model fits the brief in a very direct manner. That would have made a complete though partial explanation without qualification. It reached its climax when I specifically brought in Rugman and Verbeke, Coe and Yeung, and Andersson et al. to question a nationalist interpretation of competitiveness. That made the analysis more critical and more appropriate to postgraduate level.

## **Analysis**

In retrospect, the lesson that is most valuable is that effective international business analysis has to rely on the connexion between evidence selection and framework selection. Frameworks are not unbiased instruments that can be implemented once data has been gathered. They influence the very definition of relevancy of evidence. My initial consideration of the industry was primarily domestic capabilities of the industry in terms of skills and incentives and infrastructure due to the natural focus of the Porters Diamond. After I introduced the global production network theory, I started to observe alternative types of evidence, like the significance of anchor firms, the significance of export-market regulation,

and the constraints of domestic demand to explain an export platform. This transformed the report to a country profile to a more serious analysis.

A second lesson is that present official data require a critical distance. The agencies like CINDE and PROCOMER are very helpful as they present the information that is recent and specific to a certain sector, and they also promote the country. It implies that their information was best interpreted when compared to OECD and World Bank results that emphasised on concentration risk, reliance on U.S. FDI and the further relevance of policy credibility. This made me remember that critical reading does not mean denying the official sources. It is regarding the cognizance of their role, comparing and utilising them prudently.

The third lesson is that market attractiveness is not the sole way to explain the success of firms in international business. The presence of Boston Scientific in Costa Rica is not merely the reaction to low taxes or the favourable business environment. The case demonstrates how subsidiaries can be strategic in the cases in which they build capabilities and get rooted in the localities. This compelled me to go beyond a mere political-economic-legal-cultural checklist. Those are handy categories, however, when they are correlated with such concepts as internalisation, liability of foreignness and subsidiary embeddedness, they are much more potent. I would establish that connexion earlier in the research process in the future instead of introducing it later on as a refinement.

Another lesson that I learned in the reflective process was the significance of writing as an analysis tool. Not only reading but also redrafting helped me to understand better. In the older editions, the report divided the country factors and company factors too clearly. In the revision process, I realised that the best argument was to demonstrate how they interacted. The presence of Boston Scientific in Costa Rica was due to its competitiveness, but the presence of Boston Scientific also strengthened the development of the cluster in Costa Rica. Composing the paragraphs made me explain that mutual relationship in a manner that could not be explained by taking notes

## **Conclusion**

This project enhanced my skills of performing research and writing at a higher level within the postgraduate level. The primary success was being able to integrate existing policy and industry content with critical academic models rather than letting either take over the other. I also came to know that choosing a good topic is not everything. The harder part is to

determine what theory is most appropriate to explain the evidence and where that theory would be debatable. The case of Costa Rica and Boston Scientific taught me that both transnational networks and corporate strategy and institutional design create international business environments simultaneously. That knowledge is more advanced as compared to how I had initially tackled the task.

## **Action plan**

In the next assignment, I would do 4 things in practise. To begin with, I would develop a source map in advance, dividing promotional, analytical and theoretical content. That would lessen the time that will be spent subsequently in making decisions on which evidence was critical enough. Second, I would write the framework of analysis first and then gather a lot of descriptive facts in order to make my reading more focused. Third, I would maintain a brief research journal stating why each source is important and what is its limitation. This would enhance assessment in the process of writing and simplify the reflective part. Fourth, I would spend more time on perfecting visuals to ensure that every figure performs more analytical tasks and not necessarily data presentation. Altogether, it can be stated that I would keep the same basic strategy of triangulating sources and qualifying frameworks, as it was the most evident part of the process that enhanced the quality of the final report.

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