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LEVERAGING AND CONTRIBUTING TO ECOSYSTEMS IN DEVELOPING MARKETS: THE INTEGRATIVE ROLE OF SWEDISH COMPETENCE-CREATING SUBSIDIARIES IN BRAZIL

Promoção de ecossistemas em mercados em desenvolvimento: O papel integrativo de subsidiárias suecas que criam competências no Brasil

Apalancamiento y contribución a los ecosistemas en mercados en desarrollo: el papel integrador de las subsidiarias suecas creadoras de competencias en Brasil

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ABSTRACT

We analyze the role of Swedish competence-creating subsidiaries in the upgrading of local ecosystems within the Brazilian context. Using multiple cases we highlight the role of subsidiaries for job creation and economic development – via spillovers of knowledge and the critical role of subsidiary learning developed from sustained interactions with local actors. Highlighting how, after the initial investment by the MNE, interactions between competence-creating subsidiaries and institutions, organizations, and individuals in Brazil play a critical role in the emergence and development of local ecosystems. Subsidiaries form networks with both market and non-market stakeholders, contributing to the technological, economic, environmental and societal development in Brazil through both spillovers and their own requirements to collaborate with ecosystem actors to fulfill their competence-creating mandate. We provide managerial implications focusing on the scope of local businesses to collaborate with foreign organizations, to bridge resource and knowledge gaps to foster robust and collaborative business environments.

Keywords: Brazilian ecosystem development, Swedish competence-creating subsidiaries, spillovers, interactions, subsidiary mandate development.

RESUMO

O estudo analisa o papel das subsidiárias suecas que criam competências para o aprimoramento de ecossistemas locais no contexto brasileiro. A pesquisa apresenta múltiplos casos, destacando o papel das subsidiárias na geração de empregos e no desenvolvimento econômico – por meio de transbordamento de conhecimento e do crítico papel desempenhado pelo aprendizado das subsidiárias, obtido a partir de interações sustentadas com atores locais. Ainda, o estudo destaca como, após o investimento inicial da empresa multinacional, as interações entre subsidiárias que criam competências e instituições, organizações e indivíduos no Brasil assumem um papel crítico no surgimento e desenvolvimento de ecossistemas locais. As subsidiárias formam redes com stakeholders do mercado ou fora dele, contribuindo para o desenvolvimento tecnológico, econômico, ambiental e social no Brasil. Esse processo ocorre por transbordamento e como consequência dos requisitos que devem atender ao cumprir com seu mandato como criadoras de competência, o que envolve a colaboração com atores do ecossistema local. O estudo apresenta implicações gerenciais com foco nas oportunidades de colaboração entre empresas locais e organizações estrangeiras, no sentido de preencher lacunas em termos de recursos e conhecimento e promover ambientes de negócios robustos e colaborativos.

Palavras-Chave: *desenvolvimento do ecossistema brasileiro, subsidiárias suecas que criam competências, transbordamentos, interações, desenvolvimento do mandato subsidiário.*

RESUMEN

Analizamos el papel de las subsidiarias suecas creadoras de competencias en la mejora de los ecosistemas locales en el contexto brasileño. Utilizando varios casos, destacamos el papel de las subsidiarias para la creación de empleo y desarrollo económico, a través de los spillovers de conocimiento y el papel fundamental del aprendizaje subsidiario desarrollado a partir de interacciones sostenidas con actores locales. Destacamos cómo, después de la inversión inicial de empresas multinacionales, las interacciones entre las subsidiarias creadoras de competencias y las instituciones, organizaciones e individuos en Brasil desempeñan un papel fundamental en el surgimiento y desarrollo de los ecosistemas locales. Las subsidiarias forman redes con stakeholders tanto del mercado como de fuera del mercado, contribuyendo al desarrollo tecnológico, económico, ambiental y social en Brasil a través de spillovers y de sus propios requisitos para colaborar con los actores del ecosistema para cumplir con su mandato de creación de competencias. Ofrecemos implicaciones de gestión centradas en el alcance de las empresas locales para colaborar con organizaciones extranjeras, para cerrar las brechas de recursos y conocimientos para fomentar entornos comerciales sólidos y colaborativos.

PALABRAS CLAVE: Desarrollo del ecosistema brasileño, subsidiarias suecas, creadoras de competencias, spillovers, interacciones, desarrollo del mandato subsidiario.

THE ROLES OF COMPETENCE-CREATING SUBSIDIARIES IN BRAZIL

There is growing research focusing on the role of foreign subsidiaries in emerging markets (Röell et al., 2024), highlighting the importance of subsidiaries for job creation, economic development, and contribution to local ecosystems via spillover of knowledge (Grosse, 2019). Studies have recognized that the competencies of multinational enterprises (MNEs) are increasingly developed at the subsidiary level (Birkinshaw & Hood, 1998; Cantwell & Mudambi, 2005; Reilly & Scott, 2014; Rugman & Verbeke, 2001) and that embeddedness in local markets can be mutually beneficial for both MNEs and for the local market (Ferraris et al., 2020). Researchers have begun to examine how subsidiaries interact and engage with key stakeholders in local ecosystems to develop their role and drive innovation. For example, Ivarsson and Alvstam (2017) demonstrate how the innovation activities of Swedish MNEs are increasingly spread across emerging economies, while Lopez-Vega and Tell (2021) examine how competence-creating subsidiaries of Swedish MNEs in Brazil can benefit from knowledge transfer and embeddedness when developing their roles and upgrading their mandates. The growing presence of Swedish foreign direct investment (FDI) in emerging markets is evidenced by the substantial number of subsidiaries in Brazil. According to data from the Swedish-Brazilian Chamber of Commerce (2020) and contained within the Swedish Business Climate Survey, approximately 200 Swedish subsidiaries were operational in Brazil during 2020, with activities spanning across industries such as telecommunications, transportation, machinery, defense, healthcare, and pharmaceuticals. Table 1 shows prominent Swedish subsidiaries currently operational in Brazil and contributing to ecosystem development. It is worth noting that many of these competence-creating subsidiaries, which form the basis for this study, were established over a century ago - demonstrating their long-term embeddedness and commitment to the Brazilian market.

The increasing prevalence of competence-creating subsidiaries is dependent upon a variety of factors, such as corporate global strategies for innovation (Athreye & Cantwell, 2007; Lopez-Vega & Tell, 2021), the degree of the subsidiary's embeddedness in its external environment (Andersson & Forsgren, 2000; Andersson et al., 2002; Meyer et al., 2011), and the opportunities borne from that external environment. For example, the scope to 'tap into' local ecosystems provides strong motivation to set up competence-creating operations in close proximity. The subsidiary's scope to tap into local knowledge and engage in knowledge exchange with local actors is further influenced by the nature of its current and projected activities (Birkinshaw, 1997) and the configuration of global value chain activities in which the subsidiary is engaged (Gilmore et al., 2018; Rugman et al., 2011; Ryan et al., 2020). Broadly, we know that foreign MNE involvement in host countries is beneficial via knowledge spillover (O'Donnell & Blumentritt, 1999), employment (Reilly et al., 2023), and enriching the sources of new knowledge (Ryan et al., 2021). However, our understanding of the central role of competence-creating subsidiaries in facilitating the development of ecosystems within host countries is still nascent.

Table 1. Prominent Swedish Subsidiaries in the Brazilian Market

Subsidiary	Year Established	Location	Responsibilities	Industry
Scania	1957	São Paulo	Production, R&D, Sales, Regional admin	Heavy trucks, buses, and engines
Dynapac	1958	Sorocaba	Production & Sales	Construction equipment
Tetra Pak	1978	Monte Mor	Production, R&D, Sales, Regional admin	Packaging solutions
Electrolux	1926	Curitiba	Production & Sales	Home appliances
Ericsson	1924	São Paulo	Production, R&D, Sales, Regional admin	Telecommunications and technology
SKF	1915	Cajamar	Production & Sales	Manufacturing industry
Alfa Laval	1959	São Paulo	Production, R&D, Sales, Regional admin	Industrial equipment and machinery industry
Atlas Copco	1966	Barueri	Production, R&D, Sales, Regional admin	Compressors, generators, and mining automotive equipment
Sandvik	1948	São Paulo	Production & Sales	Mining and construction equipment
Husqvarna	1978	Itaquaquecetuba	Production & Sales	Power and construction equipment
ABB	1912	Sorocaba	Production, R&D, Sales, Regional admin	Automation and power
AkzoNobel	1974	Santo André	Production & Sales	Chemicals and coatings
Trelleborg	1999	São Paulo	Production & Sales	Polymer technology

In this essay, we advance the underlying mechanisms that facilitate competence-creating subsidiaries in playing a key integrative role in the economic and technological evolution of ecosystems within emerging markets. Building upon research on ecosystems, knowledge generation, and spillover (Awate et al., 2015; Cho et al., 2022; Ha & Giroud, 2015), this research explores the effects of entrepreneurial output and networking of competence-creating subsidiaries and their contribution to the development of ecosystems in Brazil. Building on several case studies of competence-creating subsidiaries operating in Brazil, we demonstrate how an understanding of their role and impact on the emergence and development of local ecosystems is paramount. Further, while developing markets can present opportunities to MNEs concerning accessing low-cost labor, resource acquisition, and innovation, there is also an impetus from local governments for subsidiaries to engage with and contribute to the growth of these ecosystems. We assert that examining the networking activities of competence-creating subsidiaries in local ecosystems provides additional and important insights - given that these activities and the extent of local embeddedness can provide diverse strategic benefits that enhance the subsidiary's ability to

compete, innovate, and grow in the local market and beyond (Andersson et al., 2002; Dimitratos et al., 2009). Further, through these relationships and networking activities, competence-creating subsidiaries act as anchor businesses in the ecosystem, connecting organizations and providing legitimacy and resources that would otherwise be absent (Ryan et al., 2021). This essay aims to elucidate the extent to which competence-creating activities and networking activities impact the contributions of subsidiaries to the development of ecosystems in the host country. We define the development of ecosystems as comprising technology and management know-how transfers, enhancement of the innovativeness of other firms, and company spinoffs within the country (Dimitratos et al., 2009; Dunning & Lundan, 2008).

Noting how competence-creating subsidiaries are strategically positioned to leverage unique regional resources, skilled labor, and innovative potential (Cantwell & Mudambi, 2011; Reilly et al., 2023; Rugman & Verbeke, 2001), we highlight how this strategic alignment allows competence-creating subsidiaries to foster relationships that benefit both the subsidiary and the host environment (Holm et al., 2003). By attracting FDI, competence-creating subsidiaries stimulate local economic growth through job creation, increased demand for local suppliers, and enhanced productivity and competitiveness in the host country (Dunning & Lundan, 2008). Additionally, the establishment of competence-creating subsidiaries often catalyzes the development of local infrastructure, such as transportation networks, communication systems, and utilities - which further enhances the attractiveness of ecosystems for additional investments as they evolve (Mudambi & Navarra, 2004).

Competence-creating subsidiaries can play a pivotal role in fostering an environment conducive to innovation and knowledge spillovers (Meyer & Sinani, 2009). For example, Cantwell and Mudambi (2005) emphasize the role of subsidiaries in global innovation networks, where they act as nodes of knowledge creation and dissemination. These subsidiaries may engage in collaborative projects with local universities, research institutions, and other firms, promoting an open innovation ecosystem (Barcellos & Kruglianskas, 2016; Santangelo, 2009). Through such collaborations and "asset recombination" (Lee et al., 2021), competence-creating subsidiaries contribute to the development of new technologies and products that benefit both the MNE and the local economy. Additionally, the entrepreneurial output of competence-creating subsidiaries can significantly contribute to the development of local talent (Mudambi & Navarra, 2004), for example, by providing advanced training and development opportunities to enhance the skill set of the local labor market. This upskilling can boost the employability and career prospects of local workers, leading to the creation of a local talent pool that attracts other companies to the region, fostering a cycle of innovation and economic growth. The development of such vibrant ecosystems can increase location advantages for competence-creating subsidiaries embedded within that environment while making the market more attractive for other MNEs to enter (Marin & Bell, 2006).

Competence-creating subsidiaries in developing markets can be particularly transformative when local innovation and entrepreneurial activities are fostered to help bridge the gap between developed and less developed areas - thereby promoting a more balanced approach to regional

development (Marin & Bell, 2006). As a complement to indigenous firms, which can also be a key source of innovation in emerging markets (Lopez-Vega & Lakemond, 2022), we highlight the critical role of competence-creating subsidiaries within local ecosystems that can further drive innovation and co-location advantages (Mudambi & Navarra, 2004; Narula & Santangelo, 2012). The contributions of competence-creating subsidiaries can extend far beyond the boundaries of the MNE - significantly impacting local environments by fostering economic growth, enhancing innovation ecosystems, and contributing to societal and environmental well-being (Liou & Rao-Nicholson, 2021; Marchi et al., 2022). In this essay, we argue that such subsidiaries can play a critical role in shaping (or reshaping) the development of emerging markets such as Brazil via sustained engagement with key actors in the local ecosystem. In the next section, we demonstrate the key underlying mechanisms used by subsidiaries to foster greater engagement with the actors within the ecosystem - demonstrating how competence-creating subsidiaries build the embeddedness that serves as a foundation for subsequent collaboration and knowledge sharing.

CASE ILLUSTRATIONS OF THE ECOSYSTEM SUPPORTING ACTIVITIES OF SWEDISH COMPETENCE-CREATING SUBSIDIARIES IN BRAZIL

The authors have benefited from longstanding research relationships with Swedish multinationals and have spent over twelve years studying and collecting data from across thirteen competence-creating subsidiaries currently operating within Brazil (see Table 1 for the MNEs included within the study). While noting variances in how long each subsidiary has been in Brazil, they all exhibit behaviors and engagement that contribute to the emergence and diversity of ecosystems in Brazil. To highlight this, we draw on illustrative examples of how these competence-creating subsidiaries have contributed to ecosystems' development within Brazil.

Notably, the Tetra Pak subsidiary in Brazil was responsible for R&D, manufacturing, product testing, and recycling. This subsidiary was responsible for new packaging technologies and product modifications. It became an anchor firm in the ecosystem for packaging and beverage processing technologies in Brazil and continues to contribute to the sustainable transformation of this industry. Specifically, Tetra Pak works with the local universities Universidade Estadual de Campinas and Pontifícia Universidade Católica de Campinas in the Monte Mor area when developing packaging and beverage processing technologies that are more recyclable (more fully recyclable components) than previously used materials. As government regulation in Brazil dictates policy around product recycling, Tetra Pak collaborated closely with the Brazilian government to align and enforce local regulations where they could share and deploy their practices in packaging, waste management, and recycling with other actors and stakeholders in Brazil.

This required Tetra Pak to collaborate with local organizations to develop recycling technologies. They worked with dairy and beverage companies Itambé and Piracanjuba to develop solutions for packaging their products – making it possible to recycle cartons into new

materials, such as paper products, roofing tiles, and plastic components. Further, Tetra Pak works with recycling companies SIG Combibloc and Papirus, as well as various local recycling cooperatives that handle the collection, sorting, and processing of used Tetra Pak cartons. Tetra Pak's environmental director expressed the following:

> We developed our recycling technologies and processes in Sweden over a long period of time. Each of our markets has different systems for recycling processes, facilities, and collection, so we have to adapt to the recycling process in Brazil. We have people with a very strong technical background in recycling, and we are happy that we can play a central role with our partners in Brazil.

The technology strategies of Swedish competence-creating subsidiaries in Brazil typically involved knowledge sharing of novel technologies between the subsidiary and their local partners. The Swedish competence-creating subsidiaries had product development competencies based on long-term production and R&D guidelines developed in Sweden, which, akin to MNE firm-specific advantages, could be re-combined and adapted locally (Lee et al., 2021). The leveraging of this historic, path-dependent knowledge and integration with the wider MNE innovation activities ensured competence-creating subsidiaries were in a leading position to nurture new collaborations with local actors. These competence-creating subsidiaries rely on these links with Brazilian counterparts (e.g., universities, engineering consultants, or suppliers) to boost their innovation capabilities. However, these collaborative activities often led to both intended and unintended spillover into the local ecosystem (Mudambi & Navarra, 2004). For example, Scania's and Ericsson's competence-creating subsidiaries have built relationships with local technology actors to support their innovation projects by conducting them on the subsidiary's site and co-working with the local actors on their sites. The incentives offered by the Brazilian government when these subsidiaries originally entered the market were not static and tended to be renegotiated over time to attract new and advanced technologies into certain regions. Subsidiaries were expected to engage with local science and technology actors, and there was also the expectation that knowledge transfer would occur with local ecosystem actors.

These subsidiaries' local activities were an important stimulus for the emergence of Indigenous entrepreneurial activity –predominantly focused at the levels of suppliers, subcontractors, and service provider companies in the ecosystem. These Indigenous subcontractors and service providers have been in longstanding collaborations with Scania and Ericsson in Brazil and have emerged as global actors based on knowledge spillover and the acceleration of their quality control processes due to these collaborations. For example, Dataprom is a Brazilian company specializing in intelligent transportation systems and traffic management solutions. It has been collaborating closely with Ericsson on Smart City Projects. These collaborative projects and the strategic partnership with Ericsson have complemented Dataprom in their objective of expanding operations into Europe as they continued to expand services in traffic management and public transportation solutions.

Another illustrative example is Scania's subsidiary in Brazil, which assumed global manufacturing responsibility for producing standardized trucks and various truck components. For Scania's subsidiary in Brazil, knowledge sharing in its local ecosystem was firmly by-design and based on technology projects, which increased integration with local ecosystem actors while maintaining integration in the MNEs' global operations and manufacturing to ensure standardized global production. This orientation allowed Scania to take advantage of the local ecosystem partners while reciprocally allowing local partners to "tap into Scania's global network" and sell their products and services in Latin America and other countries as they became more recognized internationally. Scania's Brazilian general manager explained:

> We have noticed that it is only possible to survive if we work toward a standardized product globally. This involves starting locally and making use of the subcontractors and providers to maintain this excellence so we can contribute to the global product. We have worked with our local partners for a long time, and they have grown as well through exposure to our standards and international requirements.

Ericsson's competence-creating subsidiary in Brazil manufactured a range of products characterized by the need for local adaptation (e.g., software and hardware developments) related to relay and charging solutions. Ericsson's director of R&D in Brazil expressed to us that:

> When applying our research competencies in the development of wireline networks and software for mobile networks with local partners, we have seen how these partnerships with national institutes and research centers have developed to a point where we have decided to construct a radio base system to support the Brazilian government's national technology goals with Brazilian technology.

The initial motivation for Ericsson to invest in production and R&D activities in Brazil was increasing sales, complying with national regulations, and unique location characteristics. Over time, however, the subsidiary's central role within its ecosystem and engagements with ecosystem actors served as a trigger to adapt products and R&D processes to the local market. Ultimately, technology development activities led to these local actors upgrading their technological capabilities based on collaborations with Ericsson, where they could maintain their role in the ecosystem while commercializing and scaling up their services beyond Brazil.

MECHANISMS FACILITATING COMPETENCE-CREATING SUBSIDIARIES' INTEGRATIVE ROLE IN THE EVOLUTION OF ECOSYSTEMS

Many MNEs are drawn to the opportunities and potential economic growth in emerging markets such as China, India, Mexico, and Brazil (Cavusgil, 2021; London & Hart, 2004). However, these markets exhibit significant cultural, geographical, religious, ethnic, and linguistic diversity (Gaur

& Lu, 2007) - presenting fundamentally new challenges for competence-creating subsidiaries to engage with market actors. The external networks of MNE subsidiaries encompass relationships with many different counterparts (Andersson & Forsgren, 2000; Andersson et al., 2002). Birkinshaw and Hood (1998) found that the most entrepreneurial subsidiaries within emerging markets tended to be those highly embedded locally within market industry clusters. Local networks can also support new forms of creative entrepreneurship (Kurt et al., 2020; Nijkamp, 2003) by fostering growth activities with local firms in the host country (Gaur & Lu, 2007; Gaur et al., 2007). External embeddedness in local networks also allows subsidiaries to access valuable resources available in the local environment (Andersson et al., 2002), which may otherwise be difficult to acquire. Besides business networks, Andersson et al. (2001, 2002) argue that external technical embeddedness enhances subsidiaries' ability to assimilate knowledge from suppliers and customers, thereby improving product and production process development. Moreover, subsidiaries' integration into the local technology ecosystem, including technology ventures, universities, and research institutes, fosters collaboration for generating local innovations (Ryan et al., 2021).

Doh and Lucea (2013) highlight that evolving market and non-market environments encourage subsidiaries, governments, and non-governmental organizations (NGOs) to strengthen their collaborations to address market growth and societal issues (Mellahi et al., 2016). Recent research (e.g., Lopez-Vega & Lakemond, 2022) indicates that competence-creating subsidiaries in emerging markets engage with non-market actors to mitigate institutional voids and enhance the business environment through relational activities. These activities may involve cultivating legitimacy with local stakeholders and engaging in infrastructure-building efforts to support business operations. Subsidiaries in emerging markets also participate in socio-cultural bridging activities to address cultural differences, develop resources, and gain legitimacy and social approval (Doh et al., 2012; Marquis & Raynard, 2015). Such collaborative non-market activities are essential for enhancing competence-creating subsidiaries' capacity to co-develop and transform resources and processes and attract and bolster technologies from other emerging market actors, including competitors, universities, and suppliers (Mellahi et al., 2016).

CASE ILLUSTRATIONS OF COMPETENCE-CREATING SUBSIDIARIES NETWORKING ACTIVITIES IN BRAZIL

The network configuration of the Swedish competence-creating subsidiaries we observed involved business and socio-political actors. It was interesting to observe that the focal subsidiaries used in this study typically acted as lead firms within their networks - which influenced how they contributed and collaborated to develop technologies and create value within the ecosystem. In the case of ABB's competence-creating subsidiary in Brazil, they had been involved in smart city projects - focused on smart grid initiatives aimed at modernizing

the electrical infrastructure of Brazilian cities, making them more resilient and efficient. Additionally, ABB developed electric vehicles (EV) charging networks and EV charging stations in major Brazilian cities to support the adoption of EVs across the country. For ABB, collaborating with Brazilian companies and city authorities was an integral part of these projects, which aimed to develop customized smart city solutions that needed to be heavily tailored to the local market.

ABB's competence-creating subsidiary's networking activities have been multifaceted - they set up innovation hubs and labs in Brazil to foster regional collaboration with startups, universities, and industry experts. These centers serve as focal points for developing cutting-edge technologies and solutions together with local stakeholders - where ABB has implemented programs to transfer technology and knowledge to local partners, enhancing the capabilities of Brazilian companies and fostering local innovation. ABB also uses softer networking opportunities to reach out to and support its ecosystem partners. For example, ABB is a key organizer, sponsor, and participant of the Brazilian Energy Conference - a major event that brings together leaders (from both the public and private sectors) in the energy sector to discuss trends, technologies, and policies. ABB also runs unique educational programs aimed at developing the next generation of engineers and technicians in Brazil. They partner with Brazilian universities to offer specialized courses, internships, and research opportunities focused on automation, robotics, and electrical engineering. The R&D manager from ABB's Brazilian subsidiary stressed the importance of their networking activities and continued engagement with stakeholders within Brazil:

> We like to reinforce the trust local companies and the government have in our strategic partnerships and policy initiatives by promoting our ongoing collaboration. An example of this is our Industry 4.0 Roadshows. We host events at our facilities and roadshows across Brazilian cities like Curitiba and São Paulo to demonstrate our competencies in digitalization and automation in industrial sectors. These roadshows are especially good at reminding our partners of our commitment to these technologies.

Another illustrative example of a Swedish competence-creating subsidiary employing sustained and multifaceted networking activities is Atlas Copco. The subsidiary collaborates closely with Companhia Siderúrgica Nacional (CSN), Petrobras, local government bodies, and universities in São Paulo to develop equipment and services, including drilling rigs, rock excavation tools, and compressors for Brazil's mining and construction sectors. Subsidiary managers discussed how this requires a range of relational skills, which encompasses leadership, fostering open information flow within the network, and the critical role of lobbying to overcome skepticism about project ideas. Additionally, Atlas Copco's engagement with local government and universities is integral to their strategy, as evidenced in their approach to networking in Brazil - and captured by the innovation manager of the Brazilian subsidiary:

> We work closely with these public and private stakeholders to ensure alignment of objectives and to secure necessary permissions and support. We like to be open to engaging with these stakeholders and embrace opportunities to explain ongoing project details, inform them about future plans, and address concerns to build trust and cooperation.

This approach helps integrate technical insights and governmental expertise into their development processes, ensuring the project's relevance and successful execution in the local context. Throughout this process, engaging with collaborative partners and non-market actors was seen as critical in mitigating skepticism, encouraging participation, and validating the benefits of their proposed projects.

COMPETENCE-CREATING SUBSIDIARIES AND THEIR CONTRIBUTION TO ECOSYSTEMS' DEVELOPMENT IN EMERGING MARKETS

UN Trade and Development's (UNCTAD, 2023a) report emphasizes that firms from developed markets play a crucial complementary role in the development of emerging markets, extending beyond what local policies alone can achieve. Subsidiaries from developed markets can bring advanced technologies, managerial expertise, and access to international markets - essential for the sustainable growth and integration of emerging economies into the global economy (Dimitratos et al., 2009). Competence-creating subsidiaries can also contribute significantly to local capacity building through knowledge transfer, skill development, and by setting higher standards in business practices and environmental sustainability (Zhou & Wang, 2020). For instance, the 2023 World Investment Report highlights the substantial investment gap in renewable energy within emerging markets such as Brazil, stressing the need for USD 1.7 trillion annually to meet sustainable development goals, yet only USD 544 billion was attracted in 2022. This shortfall illustrates gaps in local policies in emerging markets and the importance of foreign direct investment (FDI) stemming from developed economies - which can bridge these investment gaps and facilitate the adoption of technologies and sustainable practices that local firms may not be able to implement on their own (UNCTAD, 2023b).

It has been argued that emerging markets should focus on creating attractive environments for competence-creating subsidiaries that can bridge gaps in local policies by attracting FDI and stimulating economic growth (Mudambi & Santangelo, 2016). By creating a conducive environment in the market and non-market setting, emerging market countries like Brazil can be better positioned to leverage advanced technologies, managerial expertise, and the global market access that competence-creating subsidiaries bring to complement formal FDI policies (Cantwell & Mudambi, 2005; Mudambi & Navarra, 2004). This influx of external resources and knowledge fosters local innovation, enhances productivity, and boosts competitiveness – all deemed essential for sustainable development (Dimitratos et al., 2009). Additionally, competence-creating subsidiaries

can help address infrastructure deficiencies, improve regulatory standards, and contribute to human capital development through collaboration across market and non-market sectors and via training and skills transfer. This approach complements local policies and may propel emerging markets toward long-term economic stability and growth (Dunning & Lundan, 2008).

The government at both national and sub-national levels has played a key role in not just attracting FDI but, more critically, in maintaining an environment conducive to co-location advantages (Monaghan et al., 2018). To benefit from such co-location advantages, it is imperative that non-market actors, including the government, are receptive to the needs of MNEs in navigating institutional barriers and ensuring local environments remain attractive to bring in new investment within local ecosystems. Competence-creating subsidiaries engage in creating robust local networks and ecosystems by partnering with local businesses, universities, and research institutions (Andersson et al., 2002; Ryan et al., 2018). These collaborations can foster innovation and enhance the local technological landscape, enabling emerging market firms to move up the value chain (Kummritz et al., 2017). Therefore, while recognizing that local policies are critical for creating a conducive investment environment, we also stress the importance of the contributions of competence-creating subsidiaries for the development and sustained evolution of ecosystems in emerging markets (Cho et al., 2022).

THEORETICAL CONSIDERATIONS & FUTURE RESEARCH

Noting how emerging markets have grown into critical hubs for FDI (Contractor et al., 2020; Dimitratos et al., 2009; Dunning & Lundan, 2008; Filatotchev et al., 2007; Meyer, 2003), this essay suggests several valuable avenues for further research into the evolving role of MNEs in emerging markets. Given the substantial role of MNE subsidiaries in these markets in transferring capital, knowledge, and values (Barcellos & Kruglianskas, 2016; Meyer & Nguyen, 2020), exploring how competence-creating subsidiaries interact with and support local ecosystems presents a promising area for further inquiry.

Research could further examine how these subsidiaries, through entrepreneurial and relational practices, act as conduits for transferring best practices, facilitating learning, and attracting FDI within local contexts. Future research could explore the extent of their local embeddedness or examine how having "skin in the game" through external technical embeddedness impacts the integrative roles that competence-creating subsidiaries adopt in developing local ecosystems. Such research could also aid a better understanding of how these subsidiaries share local resources and knowledge to create mutually beneficial value that sustains economic growth and fosters FDI cycles (Barcellos & Kruglianskas, 2016; Mudambi & Navarra, 2004). Additionally, this essay extends Birkinshaw's (1997, 1998) theory of subsidiary initiative by proposing that competence-creating subsidiaries play pivotal developmental roles in complex regulatory environments (Hansen et al., 2011). Further research could illuminate how these subsidiaries embed themselves within networks of local market and non-market

stakeholders, thereby contributing to our understanding of technological, economic, and societal development through spillovers and strategic collaborations (Meyer & Nguyen, 2020; Mudambi & Navarra, 2004).

Managerial considerations

In this essay, we have highlighted a number of areas that should be of interest to managers in the Brazilian market. The emphasis on innovation within Swedish subsidiaries and efforts to develop shared value creation within local ecosystems can offer opportunities for local businesses to collaborate with foreign organizations to bridge resource and knowledge gaps and foster a robust business environment. Our examples in this essay highlight that Swedish MNEs prioritize open knowledge-sharing platforms, allowing for co-creation and joint innovation with local actors. This approach encourages diverse ideas, accelerating solution development and adaptation to local needs - a model that Brazilian managers can choose to foster, leverage, and emulate. By learning from best practices within subsidiaries in technology development and environmental responsibility, Brazilian managers can play greater roles in building resilience within their domestic ecosystems. Additionally, we observed how Swedish subsidiaries in Brazil actively engage with local supply chains, promoting sustainable practices and knowledge sharing. This collaboration strengthens regional economies, encourages ethical business practices, and supports the growth of resilient local ecosystems. Critically, we observed how linkages and relationships with established MNEs (such as Scania) at the local level could be leveraged and may provide the necessary platform and legitimacy for smaller Brazilian firms, including suppliers, to tap into global networks - ultimately providing the opportunity to expand operations into new countries as they became more recognized on the global stage.

We demonstrated how Swedish competence-creating subsidiaries work across sectors in Brazil, combining technology, manufacturing, and education to address complex challenges. More broadly, Brazilian managers can leverage linkages with MNEs and replicate this approach by creating cross-industry networks that leverage complementary expertise for ecosystem growth.

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CONFLICTS OF INTEREST

The author have no conflicts of interest to declare.

AUTHORS' CONTRIBUTION

Ulf Andersson: Conceptualization; Formal analysis; Methodology; Project administration; Validation; Visualization; Writing – original draft; Writing – proofreading, and editing.
Edward Gillmore: Conceptualization; Data curation; Formal analysis; Investigation; Methodology; Project administration; Validation; Visualization; Writing – original draft; Writing – proofreading, and editing.
Marty Reilly: Conceptualization; Formal analysis; Methodology; Project administration; Validation; Visualization; Writing – original draft; Writing – proofreading, and editing.

