

EN ARTIKEL UR:

MANAGEMENT

Nr 3 Oktober 2014

of Innovation and Technology

THE ROLE OF BRAZILIAN SUBSIDIARY R&D IN SWEDISH MNES:

– towards tropicalized innovations?

by Henry Lopez-Vega, Fredrik Tell and Roberto Sbragia



The role of Brazilian subsidiary R&D in Swedish MNEs:

– towards tropicalized innovations?

Emerging economies has received much interest lately, and perhaps most the so-called BRICS (Brazil, Russia; India, China, South Africa) markets due to their sheer size and economic growth. However, the importance of these markets have been further highlighted in technology-related phenomena such as frugal innovations at the bottom of the pyramid and reverse innovation patterns where products and services invented in emerging markets are diffusing around the globe.

by *Henry Lopez-Vega, Fredrik Tell and Roberto Sbragia*

New innovative clusters are emerging in cities such as Bangalore, Yizhuang, and São Bernardo do Campo. Increasingly, BRICS economies not only serve as outlets for products developed in the west, but also as wellsprings of innovation. This new situation creates a challenge for MNEs (Multinational Enterprises), who may have had sales and manufacturing for decades in these countries and regions, and now ponder whether they should also establish local R&D. The Brazilian market is a good case in point. Brazil has since long been an attractive market for many Swedish MNEs. Yet, it is unclear if these firms will allocate also R&D activities in their Brazilian subsidiaries. This article presents an initial response to the burgeoning question of if and how Swedish MNEs launch R&D subsidiaries in Brazil and what role subsidiaries may have in relation to corporate R&D.

MNE subsidiaries in Brazil: From sales and manufacturing to innovation?

According to a survey conducted by the Swedish-Brazilian Chamber of Commerce (2012), the main reason for most Swedish firms to operate in Brazil is the size and growth rate of the Brazilian market. The second reason is the affordable manufacturing cost and, the third, to attend customers that they already had in Brazil. Thus, apparently, most Swedish MNEs do not consider Brazil as an attractive country for conducting innovation. The survey also revealed that out of 79 Swedish companies operating in Brazil, 37 firms produced between 70-100% of the products commercialized in Brazil, while at the same time 18 firms did not have any production facilities in Brazil. While suggesting that many Swedish MNEs manufacture products in Brazil, this study provides little insight into if this also implies R&D activities. To find out more about this, we conducted an interview study of six Brazilian subsidiaries to Swe-

dish MNEs operating in manufacturing and engineering industries. Albeit limited, our findings reveal a common rationale to initiate R&D activities in order to satisfy specific product requirements and stronger national quality requirements in the growing Brazilian market. Indeed, some R&D activities resulted in high quality outputs i.e. new products, technologies, complementary services that generated new patents and scientific knowledge. Yet, on the other hand, we also noticed that some of the subsidiaries struggled with their R&D activities, partly due to limited support from headquarters with regard to, for instance, resources, but also concerning low expectations from corporate headquarters as they did not express confidence in sufficient advanced and qualified scientific knowledge.

Roles of Brazilian subsidiary R&D activities

Drawing upon Bartlett and Ghosal's (1988) seminal work, and subsequent extensions by Rugman, Verbeke and Yuan (2011) on subsidiary roles in MNEs, we analysed the role of the six Brazilian subsidiaries in Swedish MNEs. In Brazil, Swedish MNEs adopted four types of strategies for initiating R&D activities in their subsidiaries (see Figure 1). We name the first type of subsidiaries 'implementer' because it has low competences to perform innovation activities and is located in a market that is not interesting for headquarters. Frequently, this type of subsidiary is in an early phase of their research activities, which could be triggered by significant Brazilian tax incentives for R&D. For example, although an acquired subsidiary developed a unique product type was developed in Brazil during the 80's and 90's and had been the industry leader between 1997–2006, this subsidiary was not considered as a potential source of scientific and innovative knowledge for the headquarter for a long time. Not until 2006, it has received the global design

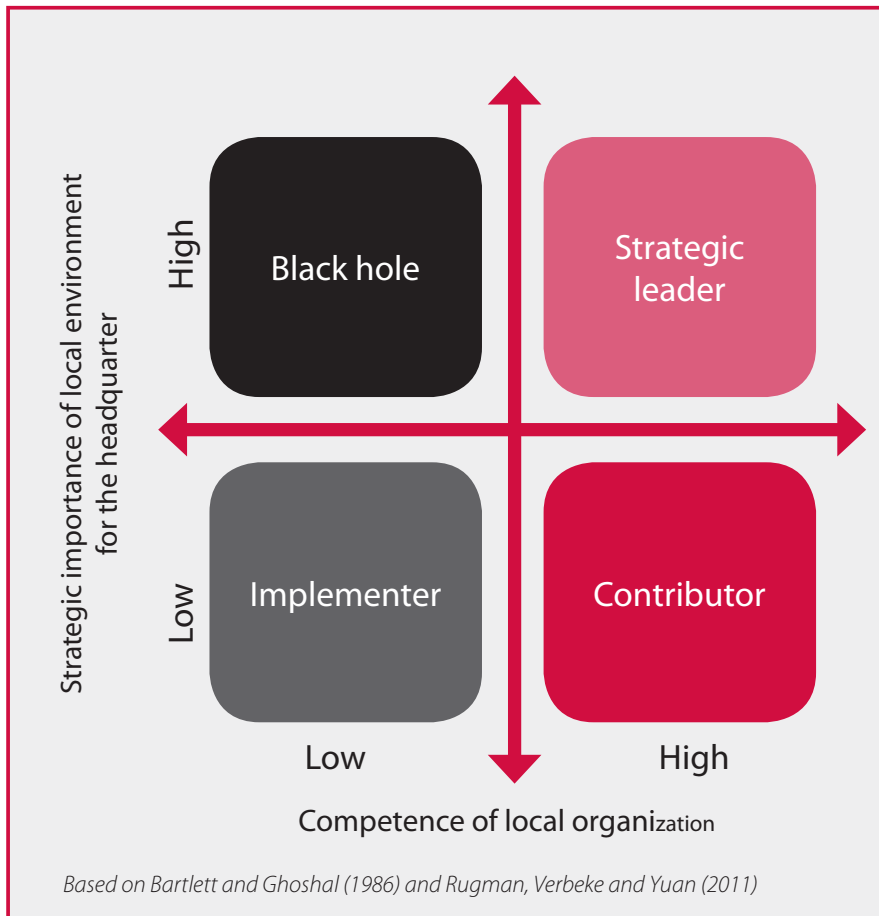


Figure 1: Strategic roles of subsidiary R&D activities

software that could boost the production and design of new products.

A second type of subsidiary is the 'black hole' that has a high strategic relevance for headquarters but does not have the necessary innovation capabilities. For this type of subsidiaries, although the growing market sales was the main motivator to operate in Brazil, the country regulations and specifications helped to speed up the incentives to conduct R&D activities. This decision can result in product innovations customized for the local market. We observed that this type of subsidiaries tend to open proprietary R&D laboratories to develop specific process and products for Brazil. For example, one MNE decided to open a large Latin American R&D Center to establish new collaborations with Brazilian universities and suppliers to reinforce and compensate the lack of R&D experience, although this Center was later discontinued when investments dried up.

A third type of subsidiary is the 'contributor' that acquires or develops innovation capabilities and conducts innovation activities in an unattractive market for headquarters. For this reason, far from the headquarter, this type of subsidiaries seek collaborations with local Brazilian universities and suppliers to satisfy customer requirements, identify new market opportunities, and develop necessary competences to improve its performance. For example, at one subsidiary, the collaboration with universities represented an alternative way to compensate the lack of internal resources and engineers to face increasing international competition.

Finally, the 'strategic leader' is a type of subsidiary that has developed or acquired innovation capabilities and is operating in an attractive market for headquarters. For example, this kind of sub-

sidaries is considered centred of excellence and tend to globally lead the R&D activities of products that have a global impact. Strategically leading subsidiaries tended to collaborate more with local universities and suppliers, and were less dependent on corporate R&D.

Towards tropicalized innovation in Brazilian subsidiaries?

A key activity of R&D in domestic subsidiaries is to address local innovation needs i.e. developing new products or services, offering process adaptations for emerging economies, etc. Ideally, some of developed product could allow for intra-firm knowledge sharing and knowledge-combination across boundaries. This suggests that the headquarters' innovation activities that dominated international activities remain present and important. However, many subsidiaries in Brazil have to work in country specific scientific or technical needs where processes of standardization are elusive; that is, they promote innovation challenges that resist any form of standard incremental innovation that is common in developed economies.

The discussed R&D activities explained in this paper could be named as 'tropicalized innovations' that due to

the different technical specifications and preferences have to be adapted to the Brazilian and Latin American context to be successful. Tropicalized innovations refers to the effort from Swedish and global MNEs to adapt their products or services to some emerging Latin American markets that do not only share similar climate but most important consumer preferences. For this type of adaptations, we noted the Swedish subsidiaries' need to collaborate with universities, national suppliers and other innovation actors to harness the local scientific and technological knowledge; as an attempt to reduce the internal lack of scientists and engineers at the subsidiary.

At a lesser extent, tropicalized innovation for MNEs with initial R&D facilities represents a test of products without investing large resources on R&D to develop disruptive innovations. Although some of these subsidiaries have a key role on manufacturing highly advanced products and/or testing machines, their contribution to headquarters' R&D or other subsidiary activities was not substantial. Finally, tropicalized innovation, for some R&D subsidiaries combine a mix of activities dedicated to new product development and advance development that will depend on the target segment and spectrum of products for the local market. Ideally, successful achievement of these activities will gain the attention of the headquarters that will decide to give a larger R&D role to Brazilian R&D unit. Similarly, this group of subsidiaries will harness their stronger connections with local scientific and technological partners to compensate the lack of R&D capabilities.

For Swedish MNEs bridging across heterogeneous countries and institutional logics remains a challenge. As innovation in BRICS economies is increasing, MNEs face a growing number of

international competitors with equal access to growing markets. Currently, production and R&D adaptation in local economies have become a competitive necessity and it no longer automatically confers competitive advantage. Currently, R&D activities in BRICS economies are a powerful force for understanding local needs and future trends. So, to earn returns from R&D internationalization in emerging markets, MNEs need to ensure collaboration with local scientific and technological partners, hire scientists and engineers and receive the support from headquarters. Such actions also imply adaptation to fast-changing trends in BRICS countries, responding to growing competition with domestic/regional competitors as well as other MNEs. The companies that succeed in internationalizing their R&D activities will adapt their innovation processes and organizations in line with the new opportunities offered by emerging BRICS markets, such as Brazil. ●

This paper is the result of generous funding from the Joint Brazilian-Swedish Research Collaboration program. STINT funded this research for researchers at Linköping University and CAPES funded the researcher at University of Sao Paulo.

References

- BARTLETT, C. A. & GHOSHAL, S. 1998. *Managing Across Borders: The Transnational Solution*, Boston, MA, Harvard Business School Press.
- RUGMAN, A., VERBEKE, A. & YUAN, W. 2011. Re-conceptualizing Bartlett and Ghoshal's Classification of National Subsidiary Roles in the Multinational Enterprise. *Journal of Management Studies*, 48, 253-277.
- SWEDISH-BRAZILIAN CHAMBER OF COMMERCE. 2012. *Panorama das Empresas Suecas no Brasil - 2012*

Henry Lopez-Vega



Post-doctoral researcher in Business Administration at the department of Management and Engineering at Linköping University, Sweden.

His research contributes to the burgeoning discussions on the implementation of open innovation at MNCs and role of foreign subsidiaries in BRICS economies. Also, Henry has initiated a large research collaboration that investigates the determinants of reverse innovation, in South America, for foreign R&D subsidiaries.

Fredrik Tell



Professor in Business Administration at Linköping University and Director of the KITE Research Group (<http://www.liu.se/kite>).

His research revolves around implications of innovation and knowledge integration for firm strategies, competitiveness and organization. Current research projects includes: internationalization of R&D activities to emerging economies, IPR strategies, open innovation intermediaries and markets for technologies, project-based firms and strategy, knowledge integration and innovation.

Roberto Sbragia



Full professor and director of the Department of Business Administration (FEA) at the University of Sao Paulo (USP), Brazil, where he is member of the Superior Council of the Center for Technology Management and Policy (<http://www.fea.usp.br/npgtusp/>).

His main areas of research include policy and innovation management, international management and project management.

Posttidning B

Ny läsare/Adressändring

Vid adressändring var god skicka sista sidan utan kuvert till
Stiftelsen IMIT, Jennie Björk, 412 96 Göteborg
Adressändring kan även göras via www.imit.se

Namn:

Företag:

Adress:

Postnr:

Postadress:

HUVUDMANNORGANISATIONER

Chalmers tekniska högskola, Chalmers
Lunds Tekniska Högskola, LTH
Institutet för företagsledning vid
Handelshögskolan i Stockholm, IFL
Kungliga Tekniska högskolan, KTH

HUVUDMÄN

Per-Jonas Eliäson, IFL vid Handelshögskolan i
Stockholm, professor
Roland Fahlin, Roland Fahlin AB
Göran Harrysson, AB Tetra Pak
Staffan Håkanson, Staffan Håkanson Konsult AB
Anders Karlström, Chalmers
Karin Markides, Chalmers, rektor
Stephan Mächler, Sydsvenska Industri- och
Handelskammaren
Joakim Nelson, Sony Mobile
Hans Persson, AB Volvo Technology
Henrik Pålsson, Ericsson Consumers Lab
David Sonnek, SEB Venture Capital, professor
Fredrik Vernersson, Booz & Company

STYRELSE

Hans Sjöström, SKF, ordförande IMIT
Anders Axelsson, LTH, rektor
Björn Härsmann, KTH, professor
Per Ewing, IFL vid Handelshögskolan i Stockholm,
affärsansvarig
Magnus Karlsson, Ericsson, professor
Martin Sköld, IMIT, föreståndare
Per Svensson, Chalmers, prefekt
Eva Wigren, Teknikföretagen, avdelningschef

Revisorer:

Hans Gavin, Ernst & Young AB
Maria Sköld, Ernst & Young AB

IMIT-FELLOWS

Sverker Alänge, Chalmers, docent
Lars Bengtsson, LTH, professor
Ola Bergström, GU, professor
Mattia Bianchi, HHS, docent
Tomas Blomquist, UmU, professor
Sofia Börjesson, Chalmers, professor
Erik Bohlin, Chalmers, professor
Mats Engwall, KTH, professor
Johan Frishammar, LTU, professor
Ove Granstrand, Chalmers, professor
Tomas Hellström, LU, professor
Merle Jacob, LU, professor
Staffan Jacobsson, Chalmers, professor
Christer Karlsson, CBS, professor
Anders Kinnander, Chalmers, professor
Jens Laage-Hellman, Chalmers, docent
Jan Lindér, Chalmers, doktor
Åsa Lindholm Dahlstrand, LU, professor
Jan Löwstedt, SU, professor
Mats Magnusson, KTH, professor
Thomas Magnusson, LiU, docent
Maureen McKelvey, GU, professor
Annika Olsson, LTH, professor
Magnus Persson, Chalmers, doktor
Birger Rapp, IMIT, professor
Anders Richtné, HHS, docent
Sören Sjölander, Chalmers, professor

Martin Sköld, HHS, docent
Per Svensson, Chalmers, doktor
Jonas Söderlund, BI/LiU, professor
Fredrik Tell, LiU, professor
Lotta Tillberg, IMIT, doktor
Lars Trygg, Chalmers, docent
Mats Winroth, Chalmers, professor
Rolf Wolff, EBS, professor
Pär Åhlström, HHS, professor
För en komplett förteckning över alla
IMIT-fellows se: www.imit.se

Adjungerade:

Armand Hatchuel, Ecole des Mines, professor
Astrid Heidemann Lassen, Aalborg University,
associate professor
Anders Ingelgård, AstraZeneca, DU, docent
Paul Lillrank, Aalto University, professor
Bertil I Nilsson, Resursbruket AB, tekn lic
Rami Shani, Cal Pol Tec, professor

ORGANISATION

Föreståndare:

Martin Sköld

Stabsfunktioner:

Redovisning: Carina Blomkvist
Projekt- och ekonomistyrning: Bengt Karlsson
Kontorschef Göteborg: Lucas Hörte

Möjlighet att ansöka om satsningsmedel för nya forskningsprojekt

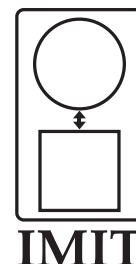
Du som är forskare inom området "Innovation and Technology Management" vet väl att du kan ansöka om satsningsmedel från IMIT för arbete med större ansökningar, pilotprojekt, eller andra typer av aktiviteter som syftar till uppstart av nya projekt och som kan vara svåra att finna annan finansiering för. IMIT har ingen formell utlysning av dessa satsningsmedel utan ansökningar kan lämnas in när som helst under året. Ansökningar innehållande projektbeskrivning och budget bör ej överstiga tre sidor och skickas till IMITs föreståndare Mats Magnusson (mats.magnusson@imit.se). Beslut om finansiering fattas vanligen vid påföljande styrelsemöte. Några exakta undre eller övre gränser avseende projektomslutning finns ej, men en vanlig nivå på hittills beviljade ansökningar är 100-300 kkr.

Stiftelsen IMIT är ett forskningsinstitut

Stiftelsen IMITs målsättning är att bedriva och stödja forskning och utveckling inom teknisk, industriell och administrativ förnyelse, samt att utföra utbildningsinsatser inom detta område. Bakom stiftelsen IMIT står IFL vid Handelshögskolan i Stockholm, Chalmers tekniska högskola, Kungliga Tekniska högskolan och Lunds tekniska högskola.

IMITs forskning behandlar först och främst hur teknisk utveckling kan nyttiggöras genom tillförsel av industriell och ekonomisk kunskap, exempelvis inom områdena projektledning, produktionsledning, samt ledning och organisering av innovationsverksamhet. IMIT bidrar till att sprida kunskap genom forskningsprojekt, magasinet "Management of Innovation and Technology", och genomförande av seminarier, workshops och konferenser för såväl forskare som verksamma i industrin.

För mer information om IMITs verksamhet se www.imit.se



Vi berättar gärna mer om vår verksamhet och vad vi kan göra i samarbete med er.

Stiftelsen IMIT, 412 96 Göteborg. Besöksadress: Chalmers, Vera Sandbergs Allé 8. Telefon 031-772 12 20

LÄS MER PÅ WWW.IMIT.SE