

REPUTATIONAL IMPACTS OF INTERNATIONAL RESEARCH AND INNOVATION

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2.1. Company-focused international collaborative R&D projects

R&D-intensive firms, including small and medium-sized and large companies, collaborate with other international companies, customers, supply chains, universities, and public sector bodies to produce new knowledge, research output, products, processes, and/or services (Appiah-Adu & Singh, 1998; Laforet & Tann, 2006; Laforet, 2008, 2009; Salavou et al., 2004). These international collaborations highlight the R&D strengths, scientific capabilities and financial robustness of UK companies, while also demonstrating their ecosystem influence. The developed reputation could result in generating financial, relational, resource, and research and innovation impacts (Figure 2.1).

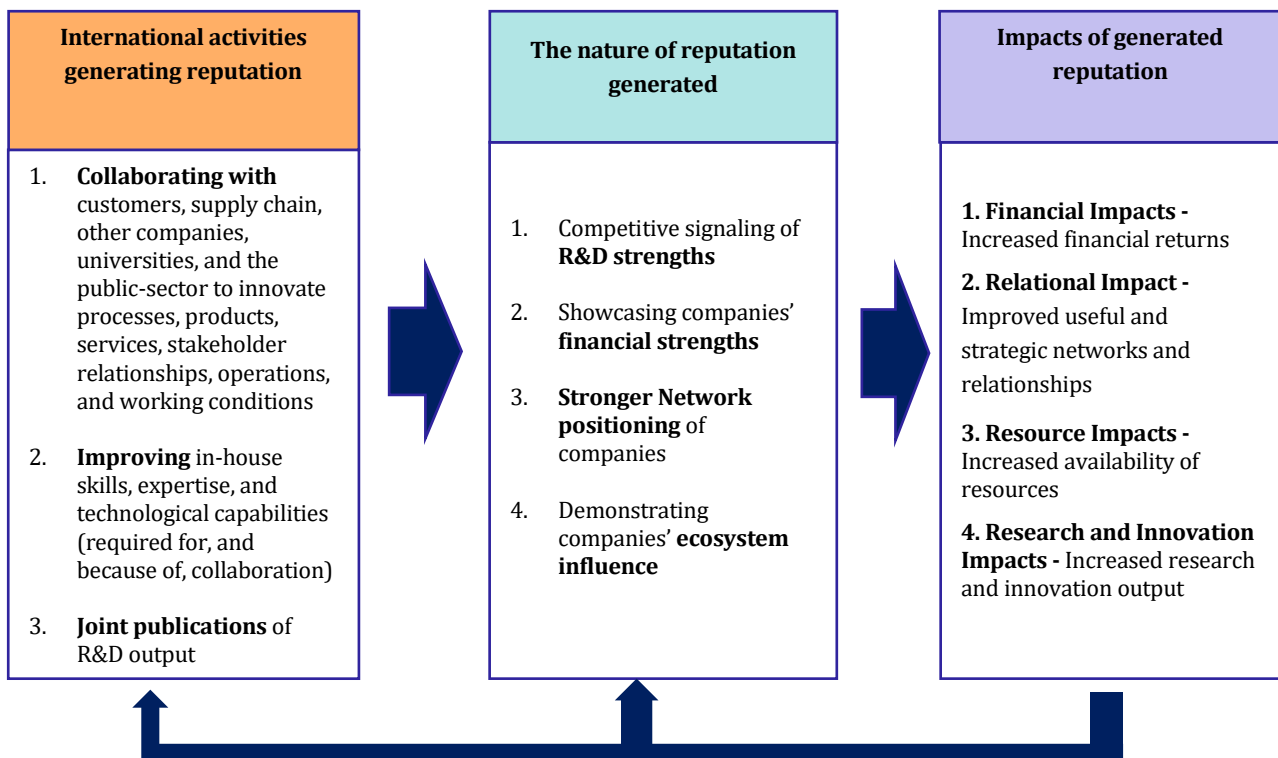


Figure 2.1: Company-focused international collaborative R&D projects generating reputational impacts

2.1.1 International activities

» Collaborating with international customers, supply chain, other companies, universities, and public sector to innovate processes, products, services, stakeholder relationships, operations, and working conditions.

International collaborations for R&I are critical for R&D-intensive firms as they provide access to external knowledge, skills, networks and resources. Firms are required to converge many sources of complementary international knowledge and expertise and develop useful networks to facilitate innovation (Salman and Saives, 2005). Firms engage in international collaboration with both the public and private sectors for their innovation purposes, which includes innovating processes, products, services, stakeholder relationships, operations, and working conditions (Laforet, 2008, 2009; Salavou et al., 2004)

The most critical sources of information for innovation are market-based, which is provided through collaboration with customers, suppliers, and competitors. In the UK, firms tend to collaborate with international customers and suppliers which are the most commonly used sources of information for innovation (Freel & Harrison, 2007). Collaboration with international customers is important to generate new ideas and has a significant impact on product development, which is reflected in new product ideas, product launches, process innovations, cross-functional teamwork, interdepartmental connections, and, to a lesser extent, business strategy (Appiah-Adu & Singh, 1998; Laforet & Tann, 2006; Laforet, 2008, 2009; Salavou et al., 2004). Collaboration with suppliers has been used to shorten time to market, enhance product quality, and lower development costs (Johnsen, 2009). Consequently, companies are increasingly seeking to harness their suppliers' innovation potential in the collaborative innovation of their products (Smals and Smits, 2012).

Firms' engagement with public research institutes for R&I is more limited. According to Freel and Harrison (2007), public sector knowledge infrastructure is the least commonly used source of information for innovation, while private sector knowledge infrastructure is more commonly utilised by firms. However, the extent of use varies significantly across different sectors. Firms also collaborate with international universities in joint projects and spinouts (Laforet, 2011).

The combination of various sources of innovation and leveraging networks have been acknowledged to have differential positive effects on a firm's innovative performance (Barnett and Storey, 2000; Birchall et al., 1996; Chandler et al., 2000; McAdam et al., 2004). For instance, UK firms' collaboration with international customers and public sector entities has been more positively associated with the success of product innovations, while cooperation

with suppliers and universities is more positively associated with process innovation success (Freel & Harrison, 2007).

» Improving in-house skills, expertise, and technological capabilities for international R&I

Continuous improvement of in-house skills, expertise, and technological capabilities is crucial for maintaining a competitive edge in international R&I. This is achieved through training, hiring skilled employees, and investing in new technologies. Improvements in in-house capabilities lead to improved financial performance and attracting a skilled workforce, which is important to sustain international R&I (Laforet, 2011). Conversely, a significant barrier to SME engagement in international R&I is the shortage of adequately skilled or trained personnel (Scott et al., 1996; Freel, 2005; Laforet & Tann, 2006). Inhouse skill development increases a firm's absorptive capacity, which is crucial to engaging with diverse international partners. Improving technological capabilities, skills, training, and education underscores the company's dedication to developing a highly skilled workforce, essential for successful international R&I (Laforet, 2011).

» Publishing joint research

Some collaborative R&D output is jointly published with international collaborators. Corporate R&D centres gain international visibility through joint publications in popular science, and business media. Publishing international joint research in academic journals and conference proceedings significantly enhances an R&D organisation's international visibility. This demonstrates the company's commitment to contributing to scientific knowledge (Gassman et al., 2009). For instance, Rolls-Royce has published several research papers based on their joint R&D activities with national and international academics in journals such as the Journal of Power Sources, European Journal of Innovation Management, and Research Technology Management.

2.1.2 The nature of the reputation generated

Companies' engagement in international R&I results in generating different types of R&D-focused reputation.

» Competitive signalling of R&D Strength

By engaging with international customers, supply chain partners, other companies, universities, and the public sector, firms can generate reputation as collaborative, strong, adaptive, and capable of leveraging external partnerships to achieve innovation breakthroughs. Active international partnerships thus position the firm as a key player in the

international scientific and industrial community (Freel & Harrison, 2007; Gassman et al., 2009). Co-creating with international customer enhances their trust and loyalty of R&D strengths of the company (Iglesias et al 2020).

» Showcasing companies' financial strengths

International collaboration helps firms understand international market needs and develop products that meet specific requirements, thereby enhancing their reputation as responsive and customer-oriented innovators. This leads to successful international innovations reflecting strong financial health and resource management of companies since international R&D is possible through relatively large financial investment (Appiah-Adu & Singh, 1998; Laforet & Tann, 2006; Laforet, 2008, 2009; Salavou et al., 2004). Even when they win grants from the government, required co-investment by the firm indicates financial strength. In particular, the outcome of the grant is likely to portray the company as a financially strong entity due to the financially scalable output developed through the government grant (Knapp 2024).

» Stronger network positioning of companies

Continuous improvement and engagement in international R&D collaborations solidifies the firm's standing in the scientific community and enhances its network positioning. This in turn attracts top talent and demonstrates the firm's competitiveness and long-term viability, enhancing its image as a leader in the market and associated networks (e.g. Abreu et al., 2007; Freel and Robson, 2004; Freel, 2005; McDonald et al., 2007).

» Demonstrating companies' ecosystem influences

The innovative international R&D collaborations that impact stakeholder and supply chain relationships and operations highlight the firm's influence on its ecosystem (Oke et al. 2013).

2.1.3 Impacts of generated reputation

Table 2.1: Impacts of reputation generated through international collaborative R&D projects

| Types of Impact | Specific Impacts |
|--|---|
| 1. Financial Impacts - Increased financial returns | Improved market access and associated advantages Improved profit through new products, process, services etc |
| 2. Relational Impact - Improved useful and strategic networks and relationships | Enhanced employee satisfaction and opportunities to recruit high-profile staff members |
| 3. Resource Impacts - Increased availability of resources | Enhanced access to resources and networks |
| 4. Research and Innovation Impacts - Increased research and innovation output | Increased opportunities to collaborate with sources of knowledge and skills e.g. universities, research institutes, and other innovative firms Increased opportunities to engage in new product development and radical and sustainable innovation Reduced risk of innovation and greater willingness for risk taking |

Case Study: GSK's Reputation building through International Research and Innovation in Vaccine Development

GlaxoSmithKline plc (GSK), the oldest continuously operating British pharmaceutical company, has played a crucial role in global health since its inception in 1715 with the establishment of the Plough Court pharmacy in London. Through its dedication to international collaboration, investment in internal capabilities, and the sharing of research findings, GSK has cemented its position as a leader in international research and innovation (R&I). This case study highlights how GSK's activities across its global R&D locations and international collaborations contribute to its reputation, particularly in developing vaccines and medicines.

»» *International R&I activities:*

Through the acquisition of Affinivax, Inc. in Cambridge, Massachusetts, GSK has leveraged its in-house capability through Affinivax's MAPS (Multiple Antigen Presenting System) technologies to create vaccines that can target several pathogens at once, helping to tackle complex health issues such as pneumococcal disease.

In 2023, GSK invested S\$343 million to expand its state-of-the-art vaccine facility at Tuas, reinforcing its presence in Singapore, where it has operated for over 60 years. This facility produces drug substances for vaccines that prevent Hepatitis B, contributing to global public health efforts and reinforcing its international R&I.

GSK's global network of R&D locations is essential for maintaining its leading position in vaccine and medicine development. These sites are not only centres of innovation but also hubs for enhancing the company's technological capabilities and expertise. GSK operates several R&D hubs across the world, including China, Germany, India, Italy, Japan, and Poland. These locations are integral to GSK's strategy of advancing international R&D in key therapeutic areas. GSK's international collaborations often result in joint research publications in peer-reviewed journals.

»» *The nature of reputational impacts generated:*

When analyzing the GSK's activities in international R&I using the conceptual derivations discussed in the chapter, it is possible to argue that these activities contribute to generating reputation across several key areas. GSK's extensive global R&D network, signals its robust capabilities in research and development. The company's significant financial investments in international R&I highlight its financial stability and commitment to long-term R&D. It also demonstrates GSK's capacity to sustain large-scale projects that contribute to global public health.

GSK's collaborations with leading academic institutions and biotech companies underscore its influence within the global R&D ecosystem. Its collaborations with top-tier partners and integration of advanced technologies, joint ventures, and licensing agreements across international R&D hubs also position GSK as a key player capable of driving significant advancements in healthcare, and enhance GSK's visibility and reputation as a leader in scientific research. Publication of joint R&D activities builds its reputation as a reliable and experienced leader in the pharmaceutical industry.

Based on the literature and classification of activities that generate an international R&I reputation and the nature of the generated reputation, the following impacts are expected as a result of the generated reputation for GSK: Improved market positioning, market access, market share, and associated advantages, enhanced access to national and international resources, funding, capabilities, infrastructure, knowledge and networks, increased opportunities to engage in new sustainable innovation, reduced risk of innovation

Sources :

<https://www.gsk.com/en-gb/innovation/>

<https://www.nature.com/nature-index/institution-outputs/united-kingdom-uk/glaxosmithkline-plc-gsk/5139074134d6b65e6a002305>

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