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Internationalization from Emerging Nations: Evidence of Strategic Entrepreneurship

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EVIDENCE OF STRATEGIC ENTREPRENEURSHIP

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Abstract

This study focuses on firms from emerging economies competing in global markets. Such internationalization initiatives are intensely risky because of certain characteristics specific to emerging nations such as resource scarcity. Drawing inferences from our case based research on two firms from the Indian pharmaceutical industry, we propose that firms need to exhibit entrepreneurial behaviour in order to grapple with the risks that they confront while entering and competing in highly advanced global markets. Specifically, firms were found to adopt a strategy of 'fund as you go' to overcome resource constraints over and above the model of 'learn as you go', as suggested by incremental models of internationalization. Case analysis, however, reveals that entrepreneurial behaviour must be complemented by strategic behaviour. Strategic entrepreneurship, i.e., an integration of entrepreneurial and strategic behaviour was found to create sustainable competitive positions in advanced international markets. Propositions are developed pertaining to internationalization efforts of firms from emerging markets that contributes to theory building on this relatively unexplored domain of international business.

INTERNATIONALIZATION FROM EMERGING NATIONS: EVIDENCE OF STRATEGIC ENTREPRENEURSHIP

Introduction

Increasing cross border flows of products, services, investment and factors of production has made globalization a defining feature of modern business environment. Emerging nations like India have, during the past two decades, gradually liberalized their economies. This created opportunities for several Indian firms to participate in international markets, even as they had to contend with increased competition from foreign firms in their domestic market. Over the years, the nature and character of engagement of Indian firms with global markets underwent significant changes. While in their early periods of internationalization these firms were engaged in export of commodity products, in the last decade, many of them, especially from the software, pharmaceutical and auto-component sectors have been successfully participating in global markets that are knowledge intensive and technologically sophisticated. Even though the competitiveness of these firms has largely been anchored in country specific advantages of low-cost labour, several of them have created unique organizational competencies that enabled them to move beyond cost competitiveness and create sustainable positions in global markets, including the most advanced markets of the world.

In this paper, we analyze the internationalization efforts of two firms from the Indian pharmaceutical industry, Ranbaxy Laboratories Limited (Ranbaxy) and Dr. Reddy's Laboratory (DRL). Certain inherent features of emerging economies such as resource constraints substantially increase the degree of difficulty in internationalization for firms from India. Their individual cases describe how these firms recognized an opportunity in developed markets and

went about exploiting it. Their vision of becoming an international pharmaceutical company motivated these firms to undertake the risky process of internationalization and the novelty that they exhibited in execution provided them with success in these highly competitive markets. However, such initial success made the incumbents in these markets sensitive to the new challenge and they adopted tough competitive postures. How Ranbaxy and DRL were able to cope with their challenges, how they were able to convert the initial opportunity into a viable business proposition, notwithstanding their limitations, make their journey a compelling example of firms competing in global markets from emerging economies.

This paper is broadly divided into the following four sections. In the first section we describe the unique challenges faced by firms from emerging economies in their efforts of internationalization. This is followed by case studies and analysis of Ranbaxy and DRL's internationalization. We then compare and contrast the two cases and analyze the reasons for their differences. In the fourth section, we introduce the notion of strategic entrepreneurship to locate the efforts of two firms and to derive lessons for firms competing in global markets from emerging economies. We conclude by discussing our contributions and scope for future research.

Competing in Global Markets from Emerging Economies

Internationalization involves a firm entering a new market that is geographically distinct from its home market with existing or new products. Doing business in a foreign country, especially by owning physical assets, is inherently risky. The business environment in a foreign country might pose unanticipated commercial and political challenges (Kogut, 2002). As a result, business methods that had led to success in the domestic market might not lead to similar results in a foreign environment (Zahra & Garvis, 2000). Such risks would be enhanced if the target

foreign market has a large 'psychic distance' from the home market of the firm (Johanson & Vahlne, 1977). Nevertheless, international markets provide firms with large opportunities for growth. When firms are able to bring unique products and competencies to international markets, they are able to gain supernormal profits that more than compensates for the risks involved in foreign operations. Overall, experience of multinational organizations suggest that internationalization leads to competitive advantage and wealth creation (Contractor, Kundu, & Hsu, 2003) provided firms are able to mitigate the risks of entry and ongoing risks of operating in foreign locations.

Risk mitigation strategies that multinational firms adopt when they enter international markets have resulted in the process theory of internationalization (Autio, Sapienza & Almeida, 2000). The process theory is a model of incremental commitment to international markets, where firms start off with low commitment, learn from their experience in international markets, gain confidence about their ability to handle uncertainties and then escalate their commitment. While experiential learning has been found to be an effective way of reducing uncertainties and thereby minimizing risks, it can be a time consuming process. Firms often expedite their learning about international markets by entering into alliances with customers, suppliers and even competitors (Johanson & Vahlne, 2003). Thus, incremental commitment led experiential learning and learning from alliances have been the two dominant risk reduction strategies for firms venturing into international markets. 'Born global' firms, because of certain characteristics of their industries have been found to possess ' learning advantage of newness', thereby not suffering from some of the risks of established firms (Autio et al., 2000).

Most of the theorization on internationalization, such as that mentioned above has been made in the context of firms from developed nations entering other developed markets. Of late,

there has been a growing interest about markets in emerging economies (London & Hart, 2004) leading to analysis and prescription for multinationals on how they should operate in emerging markets that are characterized by unique institutional context and purchasing patterns that differ from developed markets. However, there has not been much research or theorization done on firms from emerging economies that intend to participate in the advanced markets of the world. One of the reasons for this might be that this is a relatively new phenomenon and internationalization efforts of firms from emerging economies, if at all, has been dominated by export strategies (Aulakh, Kotabe, & Teegen, 2000). But this trend has been changing and today we find firms from emerging economies like India, China and Latin America expanding in the global market through foreign direct investment and investment in physical assets. This creates an opportunity for international business researchers to look at such initiatives with an analytical lens and determine whether corresponding analysis and theory building can enhance our learning about internationalization.

Firms from emerging economies typically have low cost advantage in factors of production. Markets in developed economies offer them with large potential for growth and profitability. However, these markets are characterized by powerful incumbents and strong regulatory and institutional framework – creating high barriers of entry. A long history of free-market economic philosophies and the ability of resource-endowed incumbents to frequently introduce innovative products make these markets intensely competitive (Aulakh et al., 2000). Firms from emerging economies do not posses the technological competencies necessary for product and process innovations, thereby limiting their scope of activities to mature or commoditized products (Vernon-Wortzel & Wortzel, 1988). Moreover, consumers from developed markets often have a negative perception about products from emerging economies,

associating them with low price and poor quality (Cordell, 1993). Therefore firms from emerging economies need to make significant investments at multiple fronts such as brand building and technology upgradation if they intend to participate in advanced markets. However, coming from emerging economies, they are typically small in size and resource constrained. Their domestic operations are unlikely to generate enough surplus that can finance the high investment necessary for competing in advanced markets, leading to a vicious cycle of small-scale confronting high entry barriers requiring heavy investment, which is hamstrung by resource constraint. Therefore, for firms from emerging economies, the task of breaking into developed markets and creating sustainable competitive advantages poses significant challenges, which are an order of magnitude more and different from the challenges that firms from developed economies face when they internationalize. This leads us to propose

Proposition 1: The challenges faced by firms from emerging economies, when they intend to participate in advanced global markets are significantly higher than those faced by firms internationalizing from developed economies.

Our research indicates that firms from emerging economies need to grapple with three kinds of risks when they internationalize. These are technology risks – i.e., can they produce what is needed in the advanced markets; market risks - i.e., can they sell in the advanced markets by creating complementary assets; and financial risks - i.e., can they financially sustain the entire cycle. Specifically for firms in the pharmaceutical industry, our focus in this paper, mitigation of technology risk would involve developing skills in chemistry for discovery and manufacture of pharmaceutical products conforming to the regulatory norms of advanced market

institutions, while overcoming market risks would involve creating complementary assets such as brands and distribution network.

Certain events in the regulatory environment, in India and in US, provided Ranbaxy and DRL with opportunities that they were able to capitalize on to minimize their technology and market risks. The Indian Patent Act, 1970, recognized only process patents for pharmaceuticals thereby permitting firms to reproduce foreign-patented drugs provided they were manufactured in a novel way. Therefore, like all other Indian pharmaceutical firms, Ranbaxy and DRL had focused on developing process technologies that are non-infringing and unique in order to manufacture drugs for the Indian market. Consequently, they had developed high degree of proficiency in synthetic chemistry such that even large multinational firms like Eli Lilly set up a joint venture with Ranbaxy in the early nineties for manufacturing its blockbuster antibiotic Cefaclor, which Ranbaxy had re-synthesized using an alternate process. Their skills in synthetic chemistry, developed and perfected over the years, provided them with the technical competence that was necessary for entering the US generics market.

Till the mid eighties, innovator pharmaceutical companies dominated the US market. Innovation and more specifically drug discovery, is a resource intensive process requiring investments to the tune of billions of dollars. As a result, only large companies who are resource rich can afford it. Since innovations are protected by patents in advanced markets, innovator companies, typically large multinationals, have a stranglehold over the market because of the exclusivity that they enjoy up to expiry of their patents. Such companies typically extend their patents by filing for additional patents before expiry of their original patents, a practice commonly known as 'evergreening'. In effect, advanced markets such as that of USA were inaccessible except to the innovator drug companies. This precluded the participation of firms

like Ranbaxy and DRL in the advanced markets, because being resource constrained, these firms were not in a position to invest in the process of drug discovery. This however changed with the promulgation of Waxman Hatch Act in 1984.

Aimed at reducing healthcare costs in the US by increasing availability of generic drugs, this Act created a generic drug approval process called the Abbreviated New Drug Application (ANDA), which allowed generic drug manufacturers to refer to the safety and efficacy data supplied by the innovator drug company rather than proving safety and efficacy of the bio-equivalent generics themselves. This significantly reduced the time required and cost incurred for filing ANDAs when compared to filing for New Drug Application (NDA), enabling even companies with limited resources to manufacture and compete in the generic markets after patent expiration of blockbuster drugs. With the market becoming contestable, multiple generics manufacturers would launch the same drug, leading to price erosions of 70-80% within one year of patent expiration. It also implied that the distributor of the product, the pharmacist, could substitute a prescribed drug with another so long they were bio-equivalent. This shifted the bargaining power, post patent expiration, from the innovating drug companies to the distributors and price and availability became the driver of competitive advantage.

While the Waxman Hatch Act made the US generics market accessible to and contestable for companies like Ranbaxy and DRL, it was still a difficult market to break into. Typically, the distributors' criteria for vendor selection are price and breadth of products. Ranbaxy and DRL adopted two different strategies in order to break into the US distribution network. While Ranbaxy went about developing its portfolio through a combination of acquisitions, leveraging of alliance relationships and filing of ANDAs, DRL went for patent challenges, which if successful, would have granted it marketing exclusivity for 180 days. Both these routes,

however, called for legal skills in order to navigate the regulatory environment, which for the pharmaceutical industry, was stringent and highly complicated. Since neither Ranbaxy nor DRL possessed such skills, they had to develop them either through experience or through alliances – both of which added to the degree of difficulty of their internationalization initiatives. Moreover, since the generics opportunity created as a consequence of the Act was unprecedented in nature, there were no dominant business models for the firms to follow or learn from, making the nature of opportunity inherently risky and necessitating iterations and experimentation. The fact that each such experimentation required intensive resource commitments compounded the risks involved.

Making commitment intensive choices that are risky in nature is extremely challenging for firms such as Ranbaxy and DRL that have limited resources at their disposal. Moreover, the ability of these firms to mitigate financial risks is constrained because of lack of availability of venture capital in their domestic markets. This forces them to access traditional capital markets, which have limited appetite for risk. The Indian business milieu has low tolerance for failure (GEM 2001) and setbacks in international venture can adversely impact a firm's reputation even in the domestic market. This was evident when Ranbaxy's performance came under intense scrutiny from the domestic financial analysts, because in the process of large investment in the international market, Ranbaxy's ROCE had declined steeply in 1998. However, Dr. Singh had persisted with Ranbaxy' initiative in spite of pressures from the analyst community and commented, "It is highly unlikely, almost crazy to think that one can make profits from international operations in the second or third year. I believe that if you do it the right way, it will take longer. It will be costly, even tortuous. But if you stay with it, the returns will come".

Apart from such dogged persistence both Ranbaxy and DRL employed an innovative strategy to raise finance for their internationalization efforts. Anticipating their future needs, both of them raised capital in the international market long before they actually needed it, but just after they had some kind of success that could have impressed the investor community. Riding on the back of their successful synthesis of Eli Lilly's blockbuster Cefaclor that had resulted in Eli Lilly getting into a joint venture with them, Ranbaxy raised $ 100 million from the international market. Around the same time, DRL raised $ 48 million in the international equity market, commenting on which Mr. Vasudevan, DRL's Chief Financial Officer, said, " We had the opportunity to raise capital on the back of our strong performance in the formulations market both in Russia and India. The investment bankers told us that we were a good story. Therefore we adopted a policy of raising capital several years before we actually needed it". However, they found such an effort to be quite challenging because of their small size and the apprehensions that international capital markets had about corporate governance practices of firms from emerging economies such as India.

Competing in international markets is a challenging proposition for any organization, howsoever successful it might have been in its domestic market. Firms overcome such risks arising out of uncertainties of international markets by adopting an incremental approach, where they learn from their own experiences or from that of alliance partners (Johanson & Vahlne, 1977, 2003). As our analysis above indicates, the risks of internationalization for firms from emerging markets are significantly higher because of their unique context and constraint in resources that they own or that they can acquire. Mitigating these risks and overcoming concomitant challenges requires them to innovate, have an evolved sense of anticipation and

pursue opportunities with dogged determination regardless of the resources at their disposal - all of which can collectively be termed as entrepreneurial behaviour.

McDougall & Oviatt (2000) defines international entrepreneurship as ' a combination of innovative, proactive and risk-seeking behaviour that crosses national borders and is intended to create value in organization'. We believe that firms from emerging markets need to exhibit a high degree of entrepreneurial behaviour in order to break into and compete successfully in advanced international markets. The formidable challenges that they face because of their origins from emerging economies can only be met through a combination of risk-seeking, proactive and innovative behaviour, more than that is necessary for firms originating from developed economies. This leads us to propose

Proposition2: For firms from emerging economies, success in global markets will be directly related to the degree of their entrepreneurial behaviour, i.e., their ability to proactively identify opportunities, to innovate, to anticipate possible difficulties and to seek and mitigate high degree of risk.

Entrepreneurial behaviour has been found to thrive in situations where there is resource slack (Ireland et al, 2003) because slack resources provide entrepreneurial actors the buffer in case of contingencies. However, firms from emerging markets have perennial shortage of resources instead of having slack resources. Therefore, as noted before, they need to deploy innovative options for raising capital that can finance their internationalization. Over and above the incremental model of 'learn as you go' suggested in international literature, they would need

to follow the principle of incremental financing or 'fund as you go' in order to overcome their financial resource constraint, which leads us to propose

Proposition 3: Firms from emerging economies overcome their financial resource constraints by following a model of 'fund as you go', i.e., raising capital incrementally at opportune instances of their success.

We next describe the evolution of Ranbaxy focusing on the key events leading to and during their internationalization initiatives.

Ranbaxy Laboratories Limited (Ranbaxy): 1954-2003

Ranbaxy Laboratories was founded in early 1950s. It begun operations as distributors of pharmaceuticals and started to manufacture drugs in 1961. In 1970, after promulgation of the Indian Patent Act, Ranbaxy decided to become an integrated pharmaceutical company and started commercial production of bulk drugs. Over the next few years, Ranbaxy developed a large portfolio of bulk drugs, many of which were manufactured through novel technologies. In the process, Ranbaxy became renowned for its R&D skills in manufacturing and design improvements of pharmaceutical products.

Ranbaxy started exporting at a modest scale in 1971, mostly to unregulated markets of Asia and Africa. In the 1990s, it entered bigger markets like Soviet Union and China emerging as India's largest foreign exchange earner from the pharmaceutical industry. Simultaneously it became a leader in the domestic market, displacing the Indian subsidiary of British multinational Glaxo Plc. In 1993, Dr. Parvinder Singh took over as chairman and managing director of the

company. It was also the year when India became a signatory to the TRIPS[1] agreements under GATT[2] and decided to grant product patents to pharmaceuticals from January 1st, 2005. Dr. Singh viewed this as the perfect opportunity to transform Ranbaxy into a multinational organization and enunciated a new vision to become " a research based international pharmaceutical company".

With an eye to realizing his vision, Dr. Singh launched a series of initiatives. He restructured the organization into four global regions, which were to function as independent profit centers and relocated the regional headquarters to their respective geographies. He initiated the process for getting US Food and Drug Administrator (FDA) approval for Ranbaxy's manufacturing facilities and accessed the international financial markets to raise capital in anticipation of its internationalization efforts. Ranbaxy decided to concentrate on six core markets of US, UK, Germany, Brazil, China and India. In order to have a strong local presence in US – the market with the largest revenue potential, Ranbaxy signed two agreements with Eli Lilly. The first was to set up an R&D and manufacturing joint venture in India while the second was a marketing joint venture in the US that would provide it access to Eli Lilly's distribution network. Even though Eli Lilly pulled out of the marketing joint venture, they transferred the rights of eight of their generics products to Ranbaxy and liberally helped them to break into the distribution network. In 1995, Ranbaxy acquired New Jersey based Ohms Laboratories who were manufacturers of generic formulations. In 1998, Ranbaxy launched its portfolio of generics in the USA covering several therapeutic categories. By the end of the year, it had achieved a turnover of $ 15 million in the USA while its subsidiary, Ohm Laboratories achieved another $ 20 million

[1] Trade Related Aspects of Intellectual Property Rights
[2] General Agreement on Tariffs and Trade

from sales of OTC[3] products. Simultaneously, it scaled up operations in China through a joint venture, in Russia through an acquisition, entered the UK market through an acquisition in Ireland and set up subsidiaries in Poland, South Africa, Mauritius and Egypt.

Dr. Singh wanted to model Ranbaxy after the generics company Teva of Israel known for introduction of research based products. While Ranbaxy already had a strong heritage of R&D, Dr. Singh invested heavily to upgrade the facilities. Process engineering and process development laboratories were set up, followed by the establishment of Ranbaxy Science Foundation in 1998 to conduct medical and pharmaceutical research. In October of 1998, Ranbaxy's New Drug Discovery Research (NDDR) team filed its first Investigational New Drug (IND) application for RBx 2258, a molecule targeted at the Benign Prostatic Hyperplasia (BPH) segment estimated to be $ 3 billion by 2003.

In 1999 the mantle of the company passed on to Mr. D S Brar. By this time, Ranbaxy had established itself in the US market with its large volume low margin commodity generics products. It augmented its portfolio by successfully launching a series of niche products, which due to their low volume did not attract attention of large generics players and correspondingly provided higher returns to Ranbaxy. A larger portfolio also eased Ranbaxy's access to all major marketing channels. Riding on its domestic and international success, Ranbaxy reached revenues of $ 507 million in 2000. Yet Mr. Brar was in still in search of a breakthrough that would catapult Ranbaxy's revenues beyond a billion dollars.

This was made possible through Ceftin, Ranbaxy's version of Glaxo Smithkline's (GSK) Cefuroxime Axetil. Ranbaxy worked for nearly seven years and developed its crystalline bio-equivalent that was stable and did not infringe GSK's patents – a feat that many other generics manufacturers had tried unsuccessfully. When Ranbaxy filed an ANDA with the FDA, GSK

[3] Over The Counter

filed several petitions challenging Ranbaxy's claim. Ranbaxy successfully defended its claims and won a protracted legal battle against GSK, earning its right to sell Ceftin. Ceftin achieved an impressive 90% market share in the first year of its launch, providing Ranbaxy with $ 115 million in sales. Since it was difficult to manufacture, Ranbaxy did not face much competition from other generic manufacturers and Ceftin did not witness drastic price erosion as is typical for generics. Subsequently, Ranbaxy continued with its strategy of producing difficult-to-develop-and-manufacture generics and had significant success with launches like that of Sotret – the generic version of Roche's Accutane. During this period, Ranbaxy also consolidated its position in other international markets such as UK, Germany and Brazil through a combination of strategic alliances and acquisitions.

Meanwhile, Ranbaxy's NDDR programme met with significant success when in 2002 it filed IND for RBx 7644 and followed it up with two more applications in 2003 in the area of BPH and Urinary Incontinence. It complemented its NDDR programme by research on Novel Drug Delivery Systems (NDDS). NDDS research focused on developing platform technologies and products in the area of oral controlled release systems. Within a span of five years, the NDDS programme launched several products using its patented platform technology. Some of these products were licensed out to the original inventors for significant up-front payments. Success in its research programme and its specialty generics in advanced markets like USA convinced Mr. Brar that Ranbaxy would need to evolve into a specialty pharmaceutical company with a portfolio of drug delivery based products and difficult-to-develop-and-manufacture generics. Following discussions with senior management, the company took on a target of $ 5 billion by 2012 with 40% of revenues coming from proprietary products.

By December 2003, Ranbaxy was all set to touch revenues of $ 1 billion, a target that it had taken for itself a decade ago. By this time, it emerged as the tenth largest generics pharmaceutical company of the world having product sales in more than 100 countries and operation in 34 countries. Its 16 manufacturing facilities were spread over 7 countries and its foreign employees numbered around 2500. Over three-fourth of its turnover was generated outside India with US market being the single largest. In 2003 alone, Ranbaxy filed 17 patent applications in USA, 21 in Patent Cooperation Treaty Countries and 108 in India bearing testimony to its strong research programme. Thus, Ranbaxy was well poised to attain its target of $ 5 billion by 2012 even though it might involve many battles for market share and proactive initiatives of organizational transformation during the intervening period.

The Systematic Nature of Ranbaxy's Internationalization

In an earlier section we have argued that firms from emerging economies need to be risk seeking and entrepreneurial in order to internationalize. Ranbaxy's evolution in international markets provides evidence of the challenges firms from emerging economies face in their efforts to break into advanced markets and the intense risks that they have to grapple with in order to overcome such challenges. In their definition of 'entrepreneurial orientation' among firms, Lumpkin and Dess (1996) added the variables of 'competitive aggressiveness' and 'autonomy' to the three elements of innovativeness, risk taking and proactiveness, originally suggested by Miller (1983). While there might be conceptual overlaps between these parameters, presence of some or all of them in an initiative qualifies it to be an entrepreneurial initiative. Ranbaxy's internationalization initiative, which at several stages was characterized by a high appetite for risk, amply demonstrates its entrepreneurial character. However, Ranbaxy had consistently

complemented its risk seeking entrepreneurial behaviour by efforts on two fronts – that of preparing its organization and people for challenges in the international markets and actively seeking options for risk mitigation.

In 1993, soon after Ranbaxy decided to become a multinational company, Dr. Singh articulated a new vision for Ranbaxy, which was to become 'a research based international pharmaceutical company'. This vision statement, which was consensually arrived after a series of discussions among Ranbaxy's senior management, was grounded in reality. Mr. Brar recounted, " At that time we could not aspire to be an inventor company. Ranbaxy's strength comes from its ability to make generics with superior proprietary processes. So we decided to focus on generics." As a first step, Dr. Singh restructured the organization since he believed that the success of internationalization would depend on Ranbaxy's ability to attract, retain, develop and utilize top quality talent and every country at region from where Ranbaxy would operate. He said, "We would need to have flatter structures, leaner manpower, delegation, enabling systems and a positive culture. Importantly, we need to define our organization structures, systems, procedures and cultures with an international mindset". In 1997, a leading Indian business publication commented, "Until 1993, Dr. Singh was a quintessential corner room dictator. Yet, it is this former, far from benevolent, dictator who has turned himself into a catalyst of consensus. Increasingly enlarging his inner circle, Singh now involves as many as forty of his senior managers in major decisions and seldom lays down the law himself".

Ranbaxy continued with its practice of aligning the organization structure and processes with its strategic objectives when, in 1999, after taking over from Dr. Singh, Mr. Brar singled out 'energizing our people and transforming mindsets' as his single most important task. He initiated leadership profiling exercise and redesigning of the performance management system. Based on

a global benchmarking exercise on compensation and performance management, the organization defined the core values, expectations and critical success factors for senior management of the organization. Mr. Brar was already laying the blueprint of a geocentric mindset (Perlmutter, 1969) when he said, " We realized that as we evolve into a multicultural and multiracial organization, integrating multiple ethnicities and cultures towards a solitary purpose while retaining our quest for new perspectives, would govern our future success".

Ranbaxy decided to enter the US generics market with a portfolio of high volume commodity generics in order to capitalize on the opportunity created by the Waxman Hatch Act. It adopted a multi-pronged strategy to break into the market that included leveraging its relationships with established pharmaceutical multinationals, acquisition of US based generic formulation firms and leveraging its process skills to file a series of ANDAs for the generic version of blockbusters. For reasons mentioned earlier, entry into the US generics market was a risky proposition for Ranbaxy. While it did not hesitate to capitalize on the opportunity created, Ranbaxy made a conscious effort to diversify its risks and thus create options for recovery in case things did not go as per their plans. After getting a foothold in the market with commodity generics, it systematically moved towards niche and specialty products, which were difficult to develop and manufacture so that it could earn greater returns even from generics.

From its very early days, Ranbaxy had been focused on research and development activities. Therefore a strong R&D was an important component of its international strategy. Ranbaxy's R&D concentrated on process engineering and process development, which built upon its traditional skills in synthetic chemistry. Even though Ranbaxy's NDDR team filed its first IND application in 1998 and made other successful discoveries subsequently, Ranbaxy maintained a balanced research portfolio comprising NDDR and NDDS projects. Compared to

high-risk NDDR projects that had 10-12 years gestation periods and back-ended cash flows, NDDS projects had low gestation periods of 3-5 years and front loaded cash flows. Even from its discovery programme, Ranbaxy licensed out molecules at various stages of development. In tune with their strategy of 'fund as you go', out-licensing provided upfront payments and steady cash flows. It also diversified, in an innovative way, Ranbaxy's discovery portfolio.

Ranbaxy's success with Ceftin enabled it to create a big impact in the US market, as well as provided it with first hand experience about navigating the regulatory framework in USA. However, when it came to launching the generic version of Glaxo's blockbuster Augmentin, Ranbaxy exercised caution. Since an appeal from GSK was pending, Ranbaxy decided not to 'launch at risk' even though other generics firms launched and garnered market share. Ranbaxy finally launched when Glaxo lost the appeal, but by that time the generic drug had had 45% price erosion. Even though Ranbaxy was able to achieve sales of $ 66 million from Augmentin in its first year after launch, this incident provides one more example of how Ranbaxy's tempered its risk-taking with circumspection. This stands as a sharp contrast to internationalization effort of DRL, which was overtly risk-seeking. But before we contrast the two approaches, we describe, in the following section, the key events in DRL's evolution as an international pharmaceutical company.

Dr. Reddy's Laboratories Limited (DRL): 1984-2004

Dr. Anji Reddy founded DRL in 1984. DRL started off by manufacturing bulk drugs for the domestic market. In 1986, DRL started to export bulk drugs, which helped it to build scale and reduce costs. With increased sales from exports, DRL had the necessary finance to develop other bulk drugs and build up a portfolio. In 1987, DRL received its first USFDA approval for

bulk drug Ibuprofen, which it manufactured using a unique process. It exported Ibuprofen to the developed markets of Europe, USA and Japan and emerged as the largest exporter of Ibuprofen out of India.

Driven by Dr. Reddy's dream of making drugs affordable to the common man in India, DRL entered the formulation market in 1989. It launched drugs at much lower prices compared to what was being offered by competitors and was able to rapidly grow the market and corner market share. Inspired by its success, DRL entered the international formulations market in 1992. Dr. Reddy came to know about large demand for imported formulations in the Russian market and decided to enter Russia, which being unregulated and fragmented, was similar to the Indian market in many ways. However, unlike its competitors who concentrated their efforts on securing government contracts, DRL decided to establish its own brand in the Russian market, filing for product registration and marketing them directly. This paid rich dividends and DRL became a leading player in the Russian pharmaceutical market. Soon after, DRL entered other international markets with high potential like China and Brazil. By the end of the decade, DRL was selling its bulk pharmaceuticals in over 50 countries and formulations in more than 30 countries. However, the bigger impact of success in the Russian market was DRL's decision to invest in discovery research.

In 1993, Dr. Reddy set up Dr. Reddy's Research Foundation (DRF) with the aim of conducting basic research in the therapeutic areas of metabolic disorders, cancer inflammation and bacterial infections. DRF would fulfill Dr. Reddy's long-term desire to push the envelope of scientific research and in the process, serve the needs of mankind. Success in the Russian market provided him with the necessary financial resources. While the setup costs were initially met through debt, DRL took advantage of the liberalized policy regime that was being introduced by

the Indian government to raise equity in the global market in 1994 and made the research programme debt-free. DRF had its first big success in 1997 with the discovery of insulin sensitizer molecule DRF 2593 that it out-licensed for clinical development to Novo Nordisk, the Danish pharmaceutical company who is a global leader in insulin and diabetes care. The worldwide sales of the product, after clinical development, were estimated to be around $ 700 million.

In mid 1990s, European nations adopted new patent laws that made it difficult for US firms to source bulk drugs from Europe. Since DRL was one of the few non-European suppliers of bulk drugs who had the requisite USFDA approval, its exports of bulk drugs to the US grew substantially and it emerged as one of the premier Active Pharmaceutical Ingredients (API) suppliers in North America. DRL's success with formulations in the Russian market and with bulk drugs in the US market made it venture into the generics market in US in 1994. The US generics market, which was made contestable and accessible as a consequence of the Waxman-Hatch Act, was estimated to $5-$7 billion in mid 1990s and was expected to grow to US$ 23 billion by 2010. DRL set up a state-of-the-art formulations facility dedicated to the US generics market and entered into a series of alliances with US firms to acquire and build requisite skills necessary to compete in these advanced markets.

DRL worked with Lederle Laboratories to gain an understanding of regulatory affairs and entered into a strategic alliance with Par Pharmaceuticals, New York in 1995 for marketing. It filed for its first ANDA in 1995 and entered into a joint venture with Schein USA. Schein specialized in patent challenges and helped DRL challenge Eli Lilly's patent for its blockbuster anti-depressant drug Prozac in 1998. The legal proceedings ended in 2001 with the USFDA upholding DRL's challenge and granting them 180-days exclusivity for marketing the generic

version of the drug Fluoxetine. In these 180 days of exclusivity, DRL earned revenues of $ 68 million as against their legal costs of $ 1 million. Even though its joint venture with Schein came to an end in 2001, DRL continued to establish itself in the US generics market by building its direct sales and distribution channels, and getting into alliances with other healthcare companies. In early 2002, DRL entered the European generics market by acquiring UK based BMS Laboratories that was a niche generics player with portfolio of over 100 products.

DRL ended FY 2004 with revenues of INR 20 billion. While its size was still small compared to global pharmaceutical giants, it had 39 ANDAs pending for approval by the USFDA. 26 of these were patent challenges, the combined sales value of which was estimated to be about US$ 22 billion. It had doubled its pipeline of APIs in the last three years and its discovery programme had yielded 6 New Chemical Entity assets at various stages of development. With presence in more than 40 countries and relationships with several top tier generics players, DRL is well positioned to take advantage of large scale patent expirations in the regulated markets scheduled from 2006, and thus emerge as a strong contender in the global pharmaceutical industry.

The Entrepreneurial Nature of DRL's Internationalization

DRL's internationalization can be conceptualized as a series of incremental decisions (Johanson and Vahlne ,1978). DRL started off by manufacturing bulk drugs for the domestic market, then exported bulk drugs to international markets, introduced formulations into unregulated international markets and finally made its entry into the regulated markets for generics. Since the generics market in USA is arguably the most competitive pharmaceutical market, DRL entered into a series of alliances with US firms to gain competencies that were

deemed necessary for it to compete successfully. While DRL had a low-cost manufacturing base in India and possessed chemistry skills necessary to develop and manufacture generics, it lacked the legal acumen necessary to navigate the regulatory framework in advanced markets, which it decided to learn from its partners – thereby following the network model of internationalization (Johanson & Vahlne, 2003).

However, it is difficult to overlook the unconventional approach that DRL adopted at various stages of its internationalization effort. In 1987, DRL decided to adopt a unique and complicated 'Nitrile' process for manufacturing its bulk drug Ibuprofen for exports to international markets. In the words of Dr. Anji Reddy, " We went through hell, many sleepless nights implementing the process with batch after batch failing. But once we got the process stabilized, it was the purest in the world". DRL was able to obtain USFDA approval for this process, which eventually was instrumental in making it the largest exporter of Ibuprofen to the advanced markets of US, Japan and Europe.

The first market that DRL chose to enter with its formulation drugs was Russia in 1992. This was the time when the erstwhile Soviet Union was disintegrating and there was considerable political and economic turmoil. Therefore, it was not the best of times for a new entrant in such markets. However, Dr. Reddy spotted an opportunity and in spite of problems in getting approvals, DRL decided to persist. Even within the Russian market, while the conventional route was to focus efforts on procuring government contracts, DRL decided to build its own brand. Eventually, both these strategies, i.e., entering Russian market at a time of political turmoil and creating its own brand enabled DRL to get a firm foothold in the market and provided DRL with the resources and experience for growth in other international markets.

The biggest example of DRL's appetite for risk and doing the unconventional is the establishment of its drug discovery programme. Drug discovery requires very high degree of resource commitment and as a consequence, only global pharmaceutical companies having revenues in excess of several billion dollars can afford it. Rational analysis would suggest that for a company of DRL's size, with revenues not exceeding a few hundred million dollars, discovery is way beyond its league. Dr. Reddy drew inspiration from the dictum of G W Merck, founder of the eponymous global pharmaceutical major that the fundamental business of a pharmaceutical company is not to make profits but to innovate and produce medicines that cure diseases. Being a scientist himself, he was acutely aware of the risks involved in drug discovery but that did not deter him from the task. He wrote to his shareholders, " I am often inundated by various facts and figures: for every new drug that is launched, some 10000 molecules fail...our response to such data has been that in the area of discovery research we cannot be a prisoner of averages. The test of a successful R&D driven pharmaceutical company should be its ability to consistently beat these so called averages". DRL was able to beat these averages fairly early into its research programme with the discovery of DRF 2593 molecule in 1997.

The final example of DRL's unconventional approach was its pursuance of US generics market by means of patent challenges. The Waxman Hatch Act provided the generic manufacturer with four options, called 'Paragraphs', in order to resolve disputes that might arise between the innovator and the generic manufacturer. While Para III i.e., approval sought for launch after patent expiry was the common choice for generics manufacturers, DRL chose to file for Para IV or patent challenges. Para IV challenges were attractive because the Act granted 180 days of marketing exclusivity for the successful first-to-file Para IV applicant. However, Para IV challenges were risky, especially for firms like DRL, since it lacked the legal skills and

regulatory knowledge that is necessary for making such challenges. But DRL found the Para IV option attractive for its potential of high returns and low downside risks, which in their analysis, were limited only to legal costs. It also tried to overcome limitations due to its lack of legal knowledge through a strategic alliance with Schein. DRL tasted success in its first Para IV challenge that resulted in a net earning of $ 67 million during the six-month exclusivity period.

Comparing Ranbaxy and DRL

Since both Ranbaxy and DRL belong to the same industry and both of them decided to venture into the advanced markets of US and Europe after establishing themselves in the domestic market, they present us with an opportunity for comparison. Even though the context in which the two firms operated was similar, their approach towards internationalization differed significantly from one another. If the dominant characteristic of DRL's internationalization was its 'risk seeking' behaviour, Ranbaxy's internationalization was characterized by a high degree of preparedness and systematic planning. This is especially interesting from a researcher's perspective because given the similarity in their context, the absolute risk that the two organizations faced due to external environmental and market conditions could not have been very different.

Therefore, the important question to ask is why did DRL assume such risky options when Ranbaxy's internationalization, though entrepreneurial in nature, was that of risk minimization through diversification, systematic planning and sequencing? We provide two explanations for the same. When compared to Ranbaxy, DRL was a late entrant into the advanced markets. Being a late mover, its degree of difficulty was higher, which made it necessary for it to assume greater risks. Since resources at their disposal are limited, firms like Ranbaxy and DRL cannot afford to

undertake initiatives that have a long gestation period. Therefore, they need quick wins that can provide them resources for the next endeavor. This is more so if the firm happens to be a latecomer in a competitive market, as was the case with DRL. Therefore while Ranbaxy could afford the time necessary for breaking into the distribution network and creating its portfolio, DRL felt the need of 180-days exclusivity that a successful patent challenge would provide. A patent challenge was also more distant from DRL's existing competencies in synthetic chemistry, and was therefore more risky when compared to Ranbaxy's approach of filing for ANDAs through Para III that built upon its existing skills in process technologies. However, DRL's needs for faster returns necessitated assuming enhanced risks. This leads to the following proposition

Proposition 4(a): Firms from emerging markets that are able to anticipate opportunities early would need to take lesser risks than those who are late.

Proposition 4(b): Firms from emerging markets that are able to exploit opportunities leveraging existing competencies would need to take lesser risks than those who attempt to build new capabilities for opportunity exploitation.

A second explanation of DRL's different behaviour is rooted in the difference that existed between the leaders of the two organizations. When entrepreneurship is discussed in the context of established firms, researchers have stressed the need for promoting 'autonomous strategic initiatives' (Burgelman, 1983). In large firms, it has been argued, new ideas that fuel entrepreneurial ventures, come from the lower levels of the organization and the task of the

organization is to ensure that such ideas get the attention of the decision makers or the leaders (Burgelman, 1983) However, we find a completely different context in cases of firms going international from emerging economies. Because going international is a strategic decision requiring considerable resource commitment, it is necessarily driven from the top and therefore bears the imprint of its leaders. Internationalization in this context is about recognizing an opportunity, aligning all resources at ones disposal to capitalize on that opportunity and creating a sustainable competitive position. While both Dr. Reddy and Dr. Singh identified the opportunity, their means of exploiting the opportunity was different, possibly because of difference in their sources of motivation and worldviews. This leads us to our next proposition

Proposition 5: For firms from emerging markets, internationalization would be an entrepreneurial effort driven from the top. As a consequence, the defining characteristics of internationalization, such as appetite for risks, would reflect the values and beliefs of the entrepreneurial leader.

Evidence of Strategic Entrepreneurship

The domain of strategic management comprises how firms develop sustainable competitive advantage that result in wealth creation. The two broad and complementary ways of achieving this are creating defensible positions in product market (Porter, 1985) and possessing valuable, rare, imperfectly imitable and non-substitutable resources (Barney, 1991). Entrepreneurship describes wealth creation through recognition and exploitation of profitable opportunities (Shane & Venkatraman, 2000) that includes novelty in the form of developing new products or process or seeking new markets (Lumpkin & Dess, 1996).

In the present day competitive environment, firms need to constantly seek and exploit new opportunities and build sustainable competitive advantage from such opportunities (Teece, Pisano & Shuen, 1997; Eisenhardt & Martin, 2000). This would involve reconfiguration of existing resources, acquisition of new resources and establishing superior positions in the markets through deft maneuvering of relationships with competitors, complimentors, customers and suppliers. In other words, firms need to exhibit opportunity seeking, i.e., entrepreneurial and advantage sustaining, i.e., strategic behaviour in order to create wealth (Ireland et al, 2003).

Our description and analysis of internationalization efforts undertaken by and Ranbaxy and DRL provide evidence of their entrepreneurial behaviour, which, we have argued, was essential to break into highly competitive developed markets with limited resources and experience that these firms had at their disposal. We however noted a difference in approach between the two firms – while DRL was aggressive and overtly risk seeking, Ranbaxy tempered its risk seeking and aggressive behaviour with systematic planning, sequencing and management of the structural context. In other words, while DRL was entrepreneurial in the true sense of the term, Ranbaxy was able to combine its opportunity seeking behaviour with advantage-sustaining actions and therefore presents an ideal case of strategic entrepreneurship.

For example, while Ranbaxy spent considerable efforts in evolving a suitable organization structure and transforming the mindset of its employees, we find little recorded evidence of DRL's focus on organization structure and processes until 2001, when, based on the advice of a leading strategy consulting firm, DRL structured itself around eight strategic business units. At the same time, DRL also articulated a new human resource policy and rolled out new performance management system and leadership development programmes. Realizing that the

newly adopted SBU structure resulted in creation of regional silos, it was further reorganized along DRL's main line of business. Change management processes were undertaken in various functions while templates and schedules for planning and performance reviews were specified. Overall, most activities of the organization was systematized after 2001, an effort that started nearly a decade ago at Ranbaxy.

One of the consequences of DRL's intense risk-seeking behaviour was the greater share of failures that it had when compared to Ranbaxy. Zahra & Garvis (2000) have talked about an upper limit to entrepreneurial behaviour and described situations such as excessive environmental hostility, when firms' pursuit of entrepreneurship approaches a point of diminishing returns. DRL's aggressive, innovative and risk-seeking behaviour provided it with rich dividends in the international market as a consequence of molecule discovery and a successful patent challenge. However, it suffered a series of setbacks in its subsequent attempts at patent challenges or drug discovery. DRL out-licensed its second discovery, DRF 2725, to Novo Nordisk and its third, DRF 4158, to Swiss pharmaceutical major Novartis. In July 2002, Novo Nordisk announced that it had suspended clinical trials on DRF 2725 because of harmful side effects while Novartis discontinued further development of DRF 4158 in January 2003. Such setbacks however failed to dampen DRL's spirit of innovation. It rationalized that failures are inherent part of any drug discovery process and such incidents provided DRL with opportunities for learning so that it could understand its weaknesses and remove the bottlenecks.

Given that Ranbaxy's internationalization efforts have resulted in greater success and it faced lesser number of setbacks compared to DRL, it is easy to conclude that the synthesis of entrepreneurship and strategic behaviour is a superior position than a dominantly entrepreneurial position. However, one needs to be cautious here on two counts. First of all, the process of

internationalization of Ranbaxy and DRL and its consequences are still unfolding. Given the degree of flux and vagaries of the global pharmaceutical industry, where a successful patent challenge or discovery of a molecule can significantly affect the performance of even large multinational firms, it is premature to draw definitive conclusions from performances of Ranbaxy and DRL. For example, in 2004, DRL won its patent challenge at US District Court against Norvasc, Pfizer's blockbuster with revenues of $ 1.6 billion in US. However, when Pfizer appealed at the US Federal Court of Appeal, the court reversed the earlier ruling by the narrowest possible margin and stopped DRL from launching. Had DRL won at the Appeal's Court, its generics sales could have catapulted it ahead of Ranbaxy! Secondly, as discussed before, DRL went to international markets later than Ranbaxy. Being a latecomer, it had to try harder to break into the competitive markets and in the process, had to take greater risks.

Towards the end of our study period, we find an interesting development in the form of convergence between the strategies adopted by Ranbaxy and DRL. On one hand, Ranbaxy started pursuing riskier options and filed for patent challenges, such as the one against Pfizer for its anti-cholesterol blockbuster Lipitor. On the other hand, DRL started to de-risk its business. Like Ranbaxy, it entered the specialty generics segment and acquired US based privately owned dermatology company Trigenesis Theraoeutics Inc, which owned proprietary drug delivery technology platforms for dermatology segment. While DRL continued licensing out NCEs, it also discovered a niche in drug discovery where because of the relatively smaller potential of the molecule, the economics made it attractive for DRL rather than for large multinationals to pursue clinical trials. In the process, DRL developed a well-diversified discovery portfolio. In March 2005, DRL entered into a $ 56 million agreement with India's largest private equity investor, ICICI Venture Funds for development and commercialization of ANDAs to be filed between

2004-06. While ICICI will fund the development, commercialization and legal costs, DRL will pay ICICI royalty on net sales for a period of five years. After navigating its way for five years in the turbulence of global pharmaceutical industry DRL was toning down its risk seeking behaviour by diversifying its portfolio and making use of financial intermediatories who can handle the financial risk that is inherent in the innovation process.

This leads us to conclude that while opportunity seeking and risk laden entrepreneurial behaviour is necessary for firms from emerging markets to break into highly competitive markets of the developed world, such behaviour is not sufficient for them to create sustainable positions of competitive advantage. Creating sustainable competitive positions out of opportunities involves designing the right organizational structure, implementing processes and policies, planning and sequencing of activities and mitigating the varied kinds of risks that are inherent in the process of internationalization. This is the stage where entrepreneurial firms need to be lot more strategic because their initial success would elicit competitive response from the incumbents. In the pharmaceutical industry this is evident when one finds large multinationals creating the new segment of 'authorized generics' while some others have decided to acquire firms from emerging economies in order to have access to their process skills and benefit from their low-cost advantage. For Ranbaxy and DRL, while competitive response from the incumbents is the strongest evidence of their success, it makes their task of consolidating their competitive position even more challenging. It also creates greater needs for combining risk seeking entrepreneurial behaviour with advantage sustaining strategic behaviour, leading us to the following propositions

Proposition 6(a): Firms from emerging economies need to balance their opportunity seeking entrepreneurial behaviour with those that create sustainable competitive positions in the market. This would involve means of risk mitigation such as portfolio diversification and alliance building. Firms that do not mitigate risks are likely to fail in their efforts in building sustainable competitive positions

Proposition 6(b): Firms from emerging economies need to balance their opportunity seeking entrepreneurial behaviour with those that align their organization with their global ambitions. This would involve managing the structural context and embedding a global mindset. Firms that do not manage their structural contexts are likely to fail in their efforts in building sustainable competitive positions

Conclusion

In this paper, have we described and analyzed the successful internationalization efforts of two pharmaceutical firms from India. In the process, we identified the unique challenges faced by firms from emerging economies when they compete in advanced global markets. Resource constrains, adverse perceptions, powerful incumbents and lack of business models that can be emulated make their internationalization effort a lot riskier than those undertaken by firms from developed economies. These enhanced risks compel firms from emerging economies to adopt entrepreneurial behavior, i.e., be innovative, proactive and aggressive so that they can successfully grapple with the challenges that they face. Specifically, they need to adopt a model of incremental funding or 'fund as you go' to overcome their financial constraints over and above the incremental learning or 'learn as you go' model that has been suggested in literature. We however noted that such entrepreneurial behaviour needs to be complemented by strategic

behaviour for the firms to grapple with competitive retaliations and to build sustainable positions in international markets.

Our work makes contributions at two levels. First of all, we fill a gap in international business literature that till date is largely rooted in the context of developed economies and does not engage adequately with internationalization of firms from emerging economies. By elucidating the unique challenges faced by firms from emerging economies we support Ghemawat's (2003) notion of 'semiglobalization' and the importance of location specificity. Hoskinsson et al, (2000) expressed their apprehension about theory development in emerging economies because existing research instruments are not suitable for the context of emerging economies. Therefore following Eisenhardt (1989) we adopt a case study approach to generate propositions about this relatively new phenomenon, which we believe can be used in future to develop research instruments that are suitable for this specific context.

Literature on international entrepreneurship is not explicit about how entrepreneurial organizations complement their 'innovative, pro-active and risk seeking behaviour across international borders' (McDougall & Oviatt, 2000) by risk mitigation efforts. Our case studies on Ranbaxy and DRL provide evidence of such risk mitigation efforts and we explain why risk mitigation is necessary for these firms. This is our second contribution. In the process we describe how entrepreneurial firms transit from the first phase of breaking into advanced international markets to the next phase of establishing a sustainable international operation, thereby answering the call of scholars for more of process driven research in the field of entrepreneurship (Jones & Coviello, 2005; Ven de Ven & Engleman, 2004).

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