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"Rough Diamonds": Four Cs for Sustaining High Performance in BRICs[1]

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by

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[1] This is an abbreviated version of a full report that will be forthcoming as an Issue Report prepared by SKOLKOVO business school – Ernst & Young Institute for Emerging Markets Studies (IEMS). Please do not copy, quote, or reproduce any part of the report. For comments, please contact Seung Ho Park at spark@skolkovo.org.

Introduction

"Rough diamonds" (RDs) are the best performing firms in the BRIC (Brazil-Russia-India-China) countries. While chronicling breakout firms is neither new nor novel, this level of performance differs from the experiences of previous fast-growing firms in both developed and emerging markets. Placed in perspective, these RDs have grown at an average rate of 43.12% over 10 years. In other words, they double their sales every 1.93 years. In the case of Chinese RDs, the time to double their growth is an astonishing 1.45 years. But growth alone cannot capture the full significance of this stellar performance. These same firms compare favorably with the top 500 firms in their respective countries, as well as the top 25 manufacturing firms in their countries and comparable firms worldwide - exceeding them in terms of profit margins and return on assets over an extended time period.

Who are these exemplary firms? How did they achieve these levels of performance? And can they sustain these advantages in the future?

Unlike some of the leading-edge firms in each of these countries – Gazprom and Rosneft (Russia), Infosys Tech and Tata Consultancy (India), Petrobras and Embraer S.A. (Brazil), and Sinopec and China Telecom (China) –RDs have yet to attract much attention. They are currently under-represented in academic journals and the business press, despite being exemplary business practices in emerging markets.

Transforming real-world rough diamonds into priceless gems involves a meticulous and continuous process of cutting and polishing that creates the value of the final product. In the gem-cutting diamond industry, value is defined according to the Four Cs (*cut, color, clarity*, and *carat*). In our study, we find that RDs employ a similar rigorous and progressive process, ranging from entrepreneurial ventures to developing core competencies in marketing and operations, and fostering profitable growth. We describe this process as the Four Cs for Sustaining High Performance. But there are significant patterns that differ from those seen in firms in developed countries, or even in incumbent market leaders in RDs' respective countries. The point of emphasis is these RDs' sustained performance over time. Much like a track sprinter, it is noteworthy to win one race, and even better to win two. But it is the exceptional athlete who can win races continuously over a period of time. In this study, RDs have been able to sustain an exceptionally high level of performance,

using stringent and multiple measures, for close to 10 years. This is what separates RDs from the rest of the pack.

But why pay attention to these RDs? In this report, we suggest three reasons. First, their success and future growth trajectory foreshadows the "rules of the game" not only for firms in developing, but also developed countries. Understanding their performance provides important clues about how to succeed in an era of late development in emerging markets.[2] Second, these RDs might well be formidable competitors or strategic partners for other firms in the foreseeable future. Hence, disregarding or undermining them might lead to vulnerability in one's business strategy should they become direct competitors; while understanding their motivations and aspirations might be of benefit should these firms become complementary partners or key suppliers in the future. Third, knowing these RDs also reveals important changes within the BRICs, notably developments in institutions, changes and transitions in industrial development, recent government policies, and growing shifts in the balance of competitive standings among firms.

Setting the stage: accelerating privatization

Opportunities for firms occasionally arise from events in the macroeconomic environment. Prior to the recent market liberalization, the industrial landscape of emerging markets consisted largely of state-owned enterprises (SOEs) and heavily regulated firms. The confluence of three factors – market liberalization, technological advances, and globalization – has accelerated the trend for integrating developing economies into the global economy. In the early 1980s, the bulk of these initiatives were export-driven and undertaken by SOEs but, with growing pressure for greater efficiency, private firms have since emerged and become more prominent. Unlike SOEs or state-supported firms, private firms, including some former SOEs, are typically profit-driven, efficiency-focused, and market-oriented. Collectively, they have been the driving force of economic development in emerging markets, and could well define the contours of a new "BRIC 2.0."

[2] In this report, "late development" is the period following the initial industrialization that led to growth within the BRICs in the 2000s. In regard to RDs, late development thus describes the time of their rapid growth (2000–2010), rather than the date of their founding.

Accordingly, in this study, private firms provide the appropriate unit of comparison for market and industry leaders, both in their respective countries and the rest of the world. In the case of China, private firms did not exist until the economic reforms which started in 1978. Many private enterprises have emerged since China began to move toward a more market-oriented economy. In 1990, the number of people employed by private firms was 1.7m. This number increased to 86m in 2009. Currently, private firms make up more than 90% of all firms in China and they employ in excess of 60% of total employees. The total output from private firms also exceeds 50% of GDP. All in all, private firms have become an integral component of China's economy.

Compared with China's gradual transition, Russia's history of privatization is more radical. From 1992 to 1994, the period of mass privatization, 41% of the country's 120,000 large enterprises were privatized; 50% of all small enterprises were privatized; and 20,000 joint stock companies were established. From 1994 to 1997,important enterprises were sold through cash sales or auctions to employees in order to create funds to close federal deficits. After 1997, privatization was characterized by closer selection of previously public- or state-owned firms on a case-by-case basis, in which tender auctions were transacted only after careful pre-sale preparation that was governed by regulation. As in China, private enterprises have since become an important sector of the Russian economy. By the start of 2010, there were over 4m private enterprises in Russia, accounting for 84% of all firms – compared with only 63% in 1996. Similarly, these private firms employed 68% of total employees in 2009, compared with 31% in 1992.

The longer-term privatization experiences of India and Brazil stand in sharp contrast to those of China and Russia. The share of GDP of private firms in India grew from 82.5% in 1993-94 to 86.9% in 2006-07. At present, private firms dominate certain industries. Specifically, in 2005-6, private firms accounted for 97% of total GDP in the agricultural sector. In the same period, private firms accounted for over 85% of total GDP in manufacturing.[3] During these decades of growth, many private firms in India have been transformed into large business groups. As in India, private firms in Brazil have long been an important part of the national economy. In April 2011, the

[3] Ministry of Statistics & Programme Implementation (Government of India, New Delhi), National Accounts Statistics: 2007–2008.

private sector in Brazil employed 13.36m people, accounting for 77.27% of its total workforce[4].

Despite the dynamism associated with privatization, it is not a panacea, and, in fact, it poses new competitive challenges for start-up firms in an era of late development. Since the 1980s, globalization, market liberalization, and a growing middle class have prompted the need for greater integration with the global economy.[5] These forces gave rise to early market leaders in the BRIC countries that were largely state-owned or supported by government, as in China and Russia, or have had the benefit of a long-standing historical legacy, as in Brazil and India.

During the growth spurt of the early 2000s, incumbents bolstered their market presence and competitive positions with exports to both developed and developing countries. Taken in this context, new entrants that were primarily private firms would have to reconfigure their value-chains in a distinctive way in order to compete with incumbents. New firms have to be particularly discerning of market signals relating to industry developments, or to changes in government policies that are favorable to them. They would have to co-align any decisions on market entry with their investment in internal resources.

Even so, such "windows of opportunity" for start-up firms can be fleeting and intractable. Timing of entry into local and international markets becomes a critical element of any firm's strategy. Entering a market prematurely exposes the enterprising firm to fledgling and inchoate market segments or niches that might require it to make significant investment. Moreover, they face potential retaliation from incumbents. On the other hand, entering too late or doing nothing can render the firm inconsequential because competitive positions and profit sanctuaries would already have been established. The risk associated with new market ventures cannot be underestimated.

[4]Banco Central do Brasil. http://www.bcb.gov.br/?AR2009

[5] For a narrative on these trends, see Uri Dadush and William Shaw, *Juggernaut: How Emerging Markets Are Reshaping Globalization* (Washington, D.C.: Carnegie Endowment for International Peace, 2011).

To place this risk in perspective, it is widely accepted that the market institutions of developing economies are generally underdeveloped and present daunting challenges for current and prospective competitors. Specifically, the absence of market intermediaries gives rise to "institutional voids"[6]that can limit demand, mute market signals, hamper infrastructure, and obviate market incentives. In this study, however, we found that RDs, far from being dissuaded from entry, used these elements as both motivation and rationale for their activities. This factor distinguishes them from the rest of the pack. In this sense, RDs are distinctive in successfully building the opportunities arising from macroeconomic changes into their strategies at the micro-operational level.

A brief note on methodology

In this study, the selection of RDs was based on a fairly rigorous process with stringent standards. Multiple measures were employed to evaluate performance: growth, market share, profitability, and efficiency. In addition, we developed an exacting set of selection criteria for RDs (see Appendix 1) against a pool of comparable firms from the Top 500 List in 2009, and we conducted field interviews with most of the firms. Taken collectively, our selection of RDs in each of the BRIC countries outperforms their comparison groups and their respective top 500 firms. We also compared growth rates and return-on-assets (ROAs) of these RDs against the top 25 manufacturing firms in their respective countries, as well as against comparable top firms worldwide (see Table 2). The RDs compared favorably with these groups, but were even more impressive in terms of posting significantly higher growth rates.

Assessing performance in emerging markets is a daunting task for many reasons. To account for the lack of consistency and reliability in stock prices, we used more conservative accounting measures, instead of the financial market data that is typically used in studies of developed economies. Moreover, to avoid errors of misplaced aggregation, we used individual firm data, as opposed to the business group level. While business groups are prominent in emerging markets and many

[6]Tarun Khanna and Krishna Palepu, *Winning in Emergent Markets: A Roadmap for Strategy and Execution* (Boston, MA: Harvard Business School Publishing, 2010).

firms are group-affiliated, firms within the same business group tend to have different levels of performance. Combining firms in very different businesses can make it difficult to interpret their individual performance.

Selecting the RDs for the study

Applying the selection criteria in the data described above, we identified and selected 16 Chinese firms, 16 Russian firms, 22 Indian firms, and 16 Brazilian firms. In this study, they represent the most promising firms, i.e., RDs in the BRIC countries (see Tables 1a-1d). As a final process check, we consulted with Ernst & Young to validate the data used to select the RDs and the soundness of their management and strategies. Based on this assessment, we added five firms (one in Russia and four in India) that are regarded by field experts as the best companies in their own sectors. With the information collected from these multiple sources, we arrived at our final selection of RDs. To pursue an in-depth assessment of each firm, we augmented our data-set with qualitative information using well trained researchers to collect all available secondary sources, including company websites and media reports. After developing a template for each firm, we deliberated on the data and the activities of each firm. Following these deliberations, interviews with selected senior managers of these firms were conducted by researchers from each country. Interviews were transcribed and used to enrich our description and analysis of each firm.

Table 1a. Rough Diamond Firms in China

Name	Industry	Average efficiency[a]	Average growth[b]	Average profit[c]	Market rank[d]
Anhui Ying Liu Group	Precision steel casting	0.38	62.76%	10.41%	2
Beingmate	Baby products	0.43	77.23%	7.75%	5
DongyingTransis Textile	Textile	0.35	40.19%	10.10%	6
Hanking Group	Iron Smelting	0.41	54.80%	7.10%	6
Hebei Risun Coking Group	Coking	0.41	64.24%	8.28%	7
Jin Luo Group	Meat products	0.61	68.94%	12.69%	6
Jing Long Group	Solar photovoltaic	0.61	90.42%	17.90%	4
KTK Group	Locomotive parts	0.38	62.57%	11.13%	3
Lin Yang Group	Smart electric energy meters	0.47	68.05%	9.14%	1
Mindray Medical International	High-tech medical equipment	0.84	42.74%	29.51%	1
Qing Hua Refractories	Refractory materials	0.51	75.12%	9.34%	1
Shandong Kingenta	Chemical fertilizer	0.36	58.95%	7.43%	3
Molong Petroleum Machinery	Oil and gas field machinery	0.37	56.62%	11.35%	1
Shengli Highland	Petroleum exploring equipment	0.76	49.79%	7.95%	1
WellhopeAgri-Tech	Animal feed processing	0.57	41.17%	10.90%	1
Xiwang Group	Starch and starch products	0.41	68.18%	6.88%	2

[a]The efficiency score is computed as the distance from the optimal allocation of resources using frontier analysis: the higher the score, the higher the efficiency. [b]Growth in sales over the study period. [c]Growth in profit margin over the study period. [d]Rank is determined by market share.

Table 1b. Rough Diamond Firms in Russia

Name	Industry	Average efficiency	Average growth	Average profit	Market rank
OZNA	Oil and gas equipment	0.37	37.32%	12.86%	6
Komsomolskaya Pravda	Publishing, printing, and equipment	0.37	35.00%	9.88%	1
Mariinskii LVZ	Distilled and blended liquors	0.49	51.44%	18.81%	3
Sitronics Telecom	Telephone and telegraph apparatus	0.56	67.00%	11.14%	2
Sady Pridonya	Canned fruits and vegetables	0.70	75.00%	25.45%	3
TAVR	Sausages and other prepared meat	0.47	53.52%	8.13%	1
Topkinskii Tsement	Cement, hydraulic	0.72	44.89%	23.58%	4
Mordov Tsement	Cement, hydraulic	0.46	36.68%	19.45%	2
MIUZ	Jewelry, precious metals	0.54	38.41%	22.45%	4
Velkom	Sausages and other prepared meat	0.68	75.00%	12.50%	3
NEP LL	Roasted coffee	0.42	36.00%	11.47%	1
Niiefa - Energo	Relays and industrial controls	0.49	37.03%	14.90%	3
Furniture Factory Maria	Furniture manufacturing	0.41	69.73%	8.37%	2
United Metallurgical Co.*	Steel pipes and tubes	0.45	36.86%	22.43%	2
Slavyanka Plyus	Candy and other confectionery	0.57	62.00%	13.53%	2
Vimm-Bill-Dann Napitki	Canned fruits and vegetables	0.46	54.00%	8.37%	1

* Due to data availability the profit rate covers between 2004-2009.

Table 1c. Rough Diamond Firms in India

Name	Industry	Average efficiency	Average growth	Average profit	Market rank
Amara Raja Batteries	Storage batteries	0.45	27.10%	15.47%	2
Amtek India	Automotive components	0.50	42.60%	29.40%	6
Bombay Rayon Fashions	Cloth	0.54	70.04%	13.20%	3
Chettinad Cement	Cement	0.45	19.00%	25.00%	8
Godawari Power & Ispat	Power-driven hand tools	0.47	66.73%	15.79%	1
Lakshmi Machine Works	Textile machinery	0.49	17.85%	15.61%	1
Parekh Aluminex	Aluminum and aluminum products	0.65	37.77%	13.39%	4
Parle Biscuits	Bakery products	0.74	19.29%	14.91%	1
Ratnamani Metals & Tubes	Steel pipes and tubes	0.41	34.59%	13.77%	2
Sudhir Gensets	Motors and generators	0.50	29.00%	14.00%	5
Tata Metaliks	Pig iron	0.64	31.56%	15.18%	2
Thermax	Boilers and turbines	0.76	22.94%	12.11%	1
Vijai Electricals	Power, distribution and transformers	0.54	38.57%	14.98%	1
Biocon	Pharmaceutical preparations	0.57	28.21%	28.50%	8
Sun Pharmaceutical	Pharmaceutical preparations	0.68	25.33%	36.61%	5
Godrej Consumer Products	Household and personal care products	0.99	33.32%	19.54%	8
Asian Paints	Paints, varnishes, and allied products 0.45		23.14%	14.66%	1
Sintex industries	Plastic products	0.50	46.93%	18.34%	6
Tata steel	Steel pipe and tubes	0.47	80.29%	25.39%	1
Hindalco industries	Primary production of aluminum	0.44	52.68%	23.51%	1
Titan industries	Watches and clocks	0.33	30.56%	10.19%	3
Marico	Household and consumer products	0.45	20.67%	12.08%	7

Table 1d. Rough Diamond Firms in Brazil

Name	Industry	Average efficiency	Average growth	Average profit	Market rank
Açotubo	Steel pipe and tubes	0.68	32.23%	8.82%	2
Arezzo	Women's footwear, except athletic	0.66	41.23%	10.10%	2
Berneck	Special industry machinery	0.50	21.72%	20.84%	3
Cbc Cartucho	Small arms ammunition	0.83	21.42%	7.75%	1
Cinpal	Iron and steel forgings	0.56	23.48%	21.90%	2
Ciser	Bolts, nuts, screws, rivets, and washers	0.58	24.05%	14.21%	2
Itambé	Cement, hydraulic	0.70	24.19%	47.80%	7
Coniexpress	Canned fruits and vegetables,	0.56	21.77%	6.09%	1
Esmaltec	Household cooking equipment	0.62	40.52%	9.46%	1
Forjas	Small arms	1.00	23.86%	11.77%	1
Renner	Women's, misses', and juniors' outerwear	1.00	25.81%	9.21%	1
Magnesita	Nonclay refractories	0.98	22.52%	9.57%	1
Natura	Perfumes, cosmetics, and toilet preparations	0.81	30.31%	19.54%	1
Randon	Truck trailers	0.89	25.70%	12.80%	1
Schulz	Air and gas compressors	0.99	24.06%	6.05%	1
Weg	Motors and generators	0.84	25.82%	18.99%	1

Table 2. Comparison of RDs and Top 25 firms*

	Average Sales Growth	Average ROA
Chinese RD	61.83%	16.01%
Chinese Top 25	41.10%	7.27%
Russia RD	50.62%	21.36%
Russia Top 25	20.62%	8.83%
India RD	34.72%	19.80%
India Top 25	31.02%	8.82%
Brazil RD	26.36%	15.41%
Brazil Top 25	37.75%	4.34%
US Top 25	8.50%	8.84%
Worldwide Top 25	9.45%	4.92%
Fortune 500	12.90%	3.70%

*The time period includes 10 years for China and Russia, 7 years for Brazil, and 9 years for India.

As impressive as these statistics are, how do the RDs fare against the Top 25 manufacturing firms in the BRICs, in the US, and worldwide? Table 2 summarizes the comparison. The growth rates for the RDs relative to the top leaders in their countries are stellar. In the case of Chinese RDs alone, the 10-year average of 61.83% suggests that sales will double approximately every 1.45 years. Similarly, the doubling of average sales growth for Russian RDs is about every 1.69 years; for India, about 2.33 years; and for Brazil, about 2.97 years. But growth has not been realized at the expense of profitability. In all cases, return on assets (ROAs) averaged over 10 years is higher than for their respective counterparts.

In all four countries, RDs outperform the Top 25 firms in both sales growth and profit, except for Brazilian RDs, which have slower average sales growth but much higher profitability. The slower growth rate of Brazilian RDs might reflect the fact that these RDs are older firms, with limited opportunities for fast growth. They are, however, more profitable, indicating that their core competencies might have already developed during their long history. RDs have both higher sales growth and profit in the other three countries. Given that many of the large firms in BRIC (the Top 25) are

generally SOEs that have been supported or state-owned, it is notable that RDs outperform the Top 25 firms in their respective countries. How did these RDs achieve significantly high performance?

"Rough diamonds" (RDs): the Four Cs for sustaining high performance

Not unlike real-world rough diamonds, the transformation of rough diamond (RD) firms in the BRIC countries entails meticulous, strategic and purposeful actions. After careful assessment of our case studies and interviews, we propose a trajectory comprised of four sequential factors – what we term the Four Cs for Sustaining High Performance.

These four strategic factors comprise a total progressive structure. In other words, all RDs have pursued each of these factors, though in varying degrees. The extent to which an RD excelled in each strategic factor also determined its overall financial performance.[7]

[7] While it might be customary to attribute high growth rates to emerging fast-growth industries, such as technology, this was not the case in this study. Although Jin Long confirms this finding as being situated in a fast growing semiconductor industry, other firms, notably China's Qing Hua and Beingmate are in refractory and baby products, respectively. Similarly, Russian RDs Velkom and Sady Pridonya, are in sausages and canned foods; India's Godawari Power & Ispat Ltd is in power-driven hand tools; and Brazil's Arezzo Indústria e Comércio s/a. is in women's apparel.

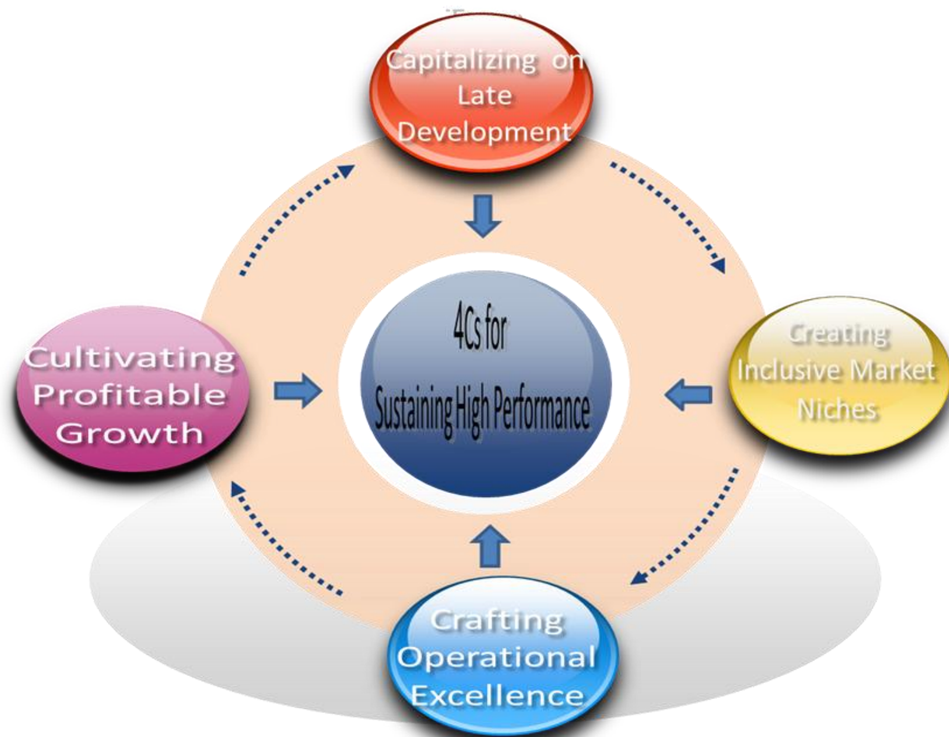

Figure 1. The Four Cs for Sustaining High Performance

4.1 Capitalizing on late development

In order to convert any given condition into an advantage, a firm has to be aware of this condition and be willing to invest in it as an opportunistic venture. In this regard, RDs are particularly adept at recognizing market signals that occur with market liberalization and import substitution in the latter phase of industrialization. Such opportunities can arise from favorable government regulations and policies (such as market liberalization, incentives for privatization, or import substitution), and from industry transitions (maturation dynamics that impel market leaders to abandon or de-emphasize some current segments). More so than any average firm, RDs are able to discern propitious market segments and niches that provide the motivation for their market entry.

However, this is far from a straightforward process. These segments or niches are not readily visible, nor are opportunities readily exploitable. In other words, RDs have to be discerning trend-spotters, not in the sense of identifying radically new markets or

product applications, but investing in market segments or niches that have been previously ignored and neglected. To do this successfully, they have to muster expertise at accessing resources at an early stage, as well as to adopt entrepreneurship, either through relational capital or a technological advantage. In this sense, RDs conform to the traits of an exemplary entrepreneur: they are visionary risk-takers who are focused on their intended market ventures. The focus on visionary entrepreneurship and market orientation differentiates RDs from the rest of the pack. Some exemplary examples include: [8]

> Velkom, a leader in meat processing in Russia, was formed based on two founders' long-term experiences in the same sector. While they had the insiders' view about the market and production process and extensive international experience, their entrepreneurial zeal led to the early success of the company. But its superior long-term performance through the 2000s was a result of its ensuing market orientation. For example, the company noted a departure from established market trends in that their customers were getting tired of sausages that had doubtful quality and origin. Because the company was able to spot this trend early, it re-organized its services into small meat-processing operations that catered exclusively to manufacturing premium products. In addition, the company boosted its marketing orientation with a "client first" value proposition that focused on customers who sought diverse, unique tastes, and high expectations regarding quality, responsiveness and store aesthetics. After deliberation on increasing quality, the company rejected soybean and other GMO-ingredients that were considered lower quality, and worked only with proven domestic and international suppliers. Over time, the company became widely regarded for its strong consumer loyalty and trust. In all, the early legacy was characterized by visionary entrepreneurship. The firm's responsiveness to a growing consumer-segment became the hallmark of its success.

Unlike legendary entrepreneurs in the Western world, such as Microsoft founder Bill Gates and Facebook's Mark Zuckerberg, who started their firms before they graduated from college, indigenous entrepreneurs in RD firms typically work for many years before venturing on their own. Prior work experience affords opportunities to study the market; assess changing demand and consumption patterns; nurture important local connections; and gain access to core resources.

[8] All cases and examples provided in this report were constructed and partly abstracted using information from secondary sources, company websites, and, in some cases, actual interviews.

Unlike entrepreneurs in developed countries who can readily tap the resources of a sophisticated equity or venture market, RDs have to muster resources on their own - though some have been supported by government.

Lu Yonghua, the founder of Linyang Group in 1997, was already a successful manager of a computer firm with an annual salary of over RMB1m. After learning that a joint venture project he had recommended, Linyang Electronics, had lost over RMB1m in its first year and was at the brink of bankruptcy, he quit his job and bought out the equity shares of this joint venture. At that time, it was a brave decision: the firm had no technology, no capital and no customers. Undaunted, Mr Lu bought a second-hand van and traveled extensively around the country to explore patterns in consumer tastes and demands that could be accommodated within his new vision for Linyang. After a year of extensive study, he concluded that more households in China would upgrade their electric meters – so he decided to build a smart single-phase electronic meter. His hunch was a prescient one as his new meter met the needs of the country's rising middle-class. But not wanting to sit on his laurels, in 2004 Mr Lu decided to enter another industry with great potential: solar energy. Given the rapid development of China's infrastructure, his new venture, Linyang Solarfun, was again a timely response to the demands of this new market. In just two years, Linyang Solarfun's revenue reached =US$60m and, on December 21, 2006, Linyang Solarfun went public on the NASDAQ, raising US$150m. On August 3, 2010, Mr Lu sold all of his shares in Linyang Solarfun and has since entered another promising industry: power storage. Never one to sit idly, Mr Lu capitalized on his rich experience to leverage his next successful business venture.

For Brazil's Forjas Taurus S.A., nurturing close relationships with the national government has been beneficial. Arms can be considered a matter of national security, in which case governments like to see a strong local supplier. Forjas has therefore delivered a continuous stream of products that are aligned with national interests. Founded in 1937 as a tool manufacturer to produce small revolvers, the company initially acquired its knowledge from Smith & Wesson. In fact, much of its initial capital had come from Smith & Wesson when that company acquired Forjas shares. Eventually, the Brazilian firm Polimeta reacquired the shares and effectively renationalized the company. With some level of independence in the ensuing decades, the company systematically diversified its product offerings and became a major supplier to the Brazilian government. Over time, Forjas has forged even stronger bonds with the government. Not only does the company provide arms, it also now offers technological skills and know-how

4.2 Creating inclusive market segments and niches

Conventional marketing in advanced countries focuses on generating demand for an established or new product. More often than not, entry is based on the size, viability and growth of a given market segment. In maturing industries, in particular, established firms can monitor consumption patterns and assess growth prospects before escalating their activities in a market segment or niche. RDs have less discretion than their counterparts in advanced economies. They have to consolidate or aggregate pockets of demand in already established markets that are ignored because of their fragmentation or that are too geographically dispersed to justify the costs of servicing them. Timing becomes a critical factor for success. RDs are adept at nurturing local connections, consolidating previously fragmented market niches, or broadening the scope of coverage in a market segment. To do so, RDs "blanket" the segment or niche with aggressive programs to build the brand, create deep awareness of their products and services, and foster consumer loyalty.

> Titan is India's leading producer of watches, Its primary driver for growth is tapping into unexplored Indian market segments. Titan saw the opportunity for quartz technology watches in India. The company combined this vision with exceptionally good design, branding and distribution at the local level. While quartz technology was well accepted globally, the Indian watch market was still comfortable with mechanical watches. Titan was dependant on a radical market transformation which was a big leap of faith. Titan says: "*We created a need and space for [our] product offering. While we knew that India was still comfortable with mechanical watches, we gave our consumers a chance to upgrade and in turn changed the shape of the market we operated in. It was a risk, and we had the conviction that this had the potential of turning into a highly successful business proposition. This [decision], supported by exceptionally good design, branding and distribution has made Titan what it is today. . . .*

> For a long time, Brazil's white goods appliances manufacturers offered standard products for the mass market at low prices, but with little attention to special features such as interior lights in ovens and ice makers in refrigerator doors. This strategy for the mass market worked well for a time because the middle class in Brazil was small. But with the middle class on the

rise, preferences for more features in appliances provided an opportunity for Esmaltec S.A., a Brazilian manufacturer of kitchen and domestic appliances. While other competitors waited for the middle class to grow, Esmaltec seized this opportunity to "build ahead of demand" by specializing in quality features for its appliances at affordable prices. It adopted the motto "Esmaltec, you can count on" to emphasize its brand identity. It developed product features that appealed to its target customers. For example, two-door refrigerators might not raise any eyebrows in Europe or North America, but in Brazil these are features that appeal to many low-to-middle class families. Its pricing strategy was also distinctive. Esmaltec changed production from one-door to two-door refrigerators and also added its frost-free technology without a large increase in price. By building ahead of demand, it was able to reduce its costs in order to maintain relatively constant market prices. For consumers, this was a win-win scenario: more features at similar prices. In establishing its market position over time, Esmaltec also lowered the energy consumption of its products - another feature in its enhanced value proposition.

4.3 Crafting operational excellence

After securing market position, it is critical that the RDs build additional competencies in order to prepare for the next phase of market expansion. Without operational excellence, moving to the next phase of market expansion is nearly impossible. RDs have to design and employ drivers at all stages of the value chain, including network efficiencies, supply chain logistics management, operational efficiencies, stringent quality standards, collaborative innovation, and dynamic and resilient organizational structures and processes. Among RDs, there is no uniform approach; each RD will use whatever combination of the above to meet the requirements of its strategy. What underlies these efforts as a common denominator, however, is a purposeful learning strategy that includes coordinated research with universities and a strong commitment to quality.

Two Chinese RDs are exemplary in developing operational excellence. In the case of Jinglong, a solar photovoltaic manufacturer, it formulated and positioned innovation as its long-term strategy. First, the firm spent 6% of its revenues annually on R&D, a relatively large amount for an embryonic firm. Second, it collaborated with universities and institutions in China, the

US, the Netherlands, and Australia to develop new technology. Third, it invested RMB150m to set up its research center. Moreover, the firm held seminars regularly and sent employees to countries such as Japan and Switzerland to receive training. Jinglong completed more than 600 innovation projects, and it is the only company in Hebei Province to be listed in the National Technology Innovation Pilot Enterprises. In the case of Mindray Medical International, a Chinese manufacturer of medical equipment, it used its strengths in R&D to develop new local products that outperformed leading foreign brands. When the firm started operation, it was focused on the Chinese medical equipment industry, which was then already dominated by foreign products. Undaunted, Mindray continuously invested in research and development until it was able to produce a number of "Chinese first" products in the area, such as the first blood oxygen monitor, the first multi-parameter monitor and the first automatic blood cell analyzer. What the firm then emphasized was that these were locally manufactured products that were priced lower than the same products produced by foreign firms. Once the consuming public realized this level of equivalence, the price-differential that had been an advantage for foreign firms in the past ceased to be significant. Today, Mindray Medical International is one of the dominant players in the Chinese medical equipment industry, having made locally produced products preferable to foreign ones.

Russian RDs have improved their operations by establishing quality assurance laboratories (e.g., MLVZ, a leading liquor manufacturer) and service quality departments (e.g., Mordov Tsement, a cement manufacturer), and by acquiring ISO quality certifications. Most RDs maintain a high level ISO quality certification, but MLVZ is the only company in its region with a Passport of High Quality Enterprise issued by the Russian quality control agency. In contrast, their competitors often experience claims and product recalls due to low quality problems. A statement by an executive in Mordov Tsement, a cement manufacturer, sums up a common belief among most RDs: *"[Our] quality management system enables us to reach a new level of operation through higher customer satisfaction, market competitiveness, and improved position in a rapidly changing market. Our quality certification assures consumers that they are dealing with a company that has a modern material-technical base and skills [that] conform to international standards."*

While operational excellence is generally considered essential to long-term success, it cannot be achieved without adequate and supportive organizational structures and processes that are underpinned by a strong commitment from senior management. It is becoming more widely believed that implementation is as important as formulating

strategy and is, in fact, the critical driver of excellence. To achieve this phase of operational excellence, RDs enact a variety of measures that include guiding principles as integral components of corporate culture, cross-functional collaboration, and top management support for continuous quality improvement.

> Two of India's RDs demonstrate the importance of implementing corporate values and cultures. Many industries rely on high quality stainless steel tubes, Ratnamani built its competitiveness in this sector through a corporate-wide commitment to quality management. This program not only monitors the manufacturing processes, but also encourages workers to be strictly accountable for product quality. The guiding strategy of Vijay Electricals is to maintain the highest standards of quality control and assurance in line with changing and challenging customer needs. It has focused on employing the most suitable materials, the best design and the most effective processes to maintain high quality in designing, manufacturing and supplying customized power transmission and distribution equipment. An important aspect of its quality management is cross-functional collaboration that incorporates suggestions from different units. This integration effort is made possible by the corporate commitment to quality management and the culture that makes quality the prime responsibility of every employee. Vijay Electricals has been recognized by accreditations from all prominent international quality agencies.
>
> Similarly, in the cement industry in Russia, Mordov Tsement's dominance is based on its management's attention to operational efficiency. As the cement market became more competitive in the late 1990s, the company realized that it needed to reconstruct and modernize its operations. Reflecting this decision to improve efficiency, the period 1998–2002 saw the company significantly increase its production and reach 6.2% of the market share. By 2009, this was further increased to 7.5%, with an annual production of 6.5m tons. By harnessing new technologies, the company boosted efficiency - improving the quality of its cement while minimizing the consumption of fuel, electricity and materials. This passion for continuous operational improvement differentiates this company from the rest.

In our study of operational excellence, we noticed important differences between the stereotypical cultural depictions of Russian management systems and the managements systems used by the RDs. Many commentators focus on the authoritative and centralized structures of Russian management. In contrast, Russian RDs have the unique capability to combine unitary direction with new organizational

processes that generate loyalty, commitment and flexibility. In our analyses, their management systems ranked as the *most* important explanation for their success.

> When Topkinskyi Tsement, a leader in the cement industry, joined a holding company, it had become an internal management training school for other subsidiaries in the company. Its CEOs systematically rotated other subsidiaries every 2–3 years in order to share the company's advanced managerial know-how with other units. In contrast to the traditional Russian system of tightly controlled bureaucracy that can stultify good management, Russian RDs emphasize openness and people development - which leads them to be receptive to creative ideas and responsive to market changes.
>
> MLVZ, a leading liquor manufacturer, reorganized its plant to adapt quickly to market changes by joining the Sinergia Group. This provided access to specific information about market trends that affected the Group's supply chain management. This strategy is not limited to MLVZ. An executive of Velkom explains this strategy succinctly: *"The strength of our company lies in the ability to quickly respond to market threats and opportunities. We do not hesitate to review the basic assumptions in our operations."*

4.4 Cultivating profitable growth

Once operational excellence has been achieved, the next challenge is scaling up operations to a level that is both manageable and profitable. All too often, even hifh-profile firms, such as Walmart, Microsoft, Phillips, Sony and Google faced difficulties when expanding the scope of their operations. In such cases, expansion activities were not aligned with the firm's competencies and resources. Moreover, it is not possible for the aspiring firm to anticipate all possible contingencies that will affect its expansion activities. Thus, learning is an important element not only for the first foray, but also for subsequent market entries.

What distinguishes the RDs from the rest is their ability to use market expansion and internationalization to leverage their competences while focusing on world class standards. Reflecting the need to balance opportunities against risks, there are different approaches to their overall growth strategies, depending on competitive advantages and constraints. Some approaches are more aggressive than others,

though most take a balanced approach that does not overly tax their internal resources nor entail unnecessary risks. Despite these differences, what binds RDs together is their singular attention to managing growth wisely and profitably.

Screw manufacturer Ciser, founded in 1959, is a prime example of extensive diversification. In its early years, the scope of Ciser's products was limited to furniture, electric hardware and civil construction. In 1967, Ciser extended its business to screws and nuts for civil construction, railroads and metal-mechanic fields. In the 1970s, it further expanded its product range. In 1978, Ciser opened a sales office and a distribution center in Sao Paulo, which gave it a formidable market position for standardized screws and nuts in Brazil. Only then did the company start to seriously consider other expansion possibilities. Since 1980, it has been aggressively pursuing the transportation business sector, which also transports a wide range of products and components produced by Ciser. After vertically integrating its entire value chain and learning from this experience, the firm explored new terriroty. In 1981 it acquired 166 hectares of land in Araquari, in the north region of Santa Catarina, to breed wild boars, buffalos and cattle. In 1984, the company managed and sold land, houses, apartments, and areas for commercial, industrial and agricultural use in the city. While the firm started exporting as early as 1972, its current products are sold to more than 20 countries around the world, such as China, the US, Japan and Canada. The company's growth reflects a balance between adequate control (vertical integration) and opportunistic market ventures (unrelated business).

Russian RDs took different paths to success. Nevskie Porogi, the market leader in tea and coffee production, was able to set the foundation for its sustained high performance when Leningrad's regional government helped the company to expand its tea production volume from 14,400 tons to 30,000 tons between 1999 and 2001, while doubling the coffee capacity during the same period. This strategic partnership was an important guide to future expansion. In contrast, MLVZ pursued brand diversification within different price segments Velkom the producer of several hundred food products, pursued complex within-product diversification covering a wide range of quality and income levels within each product item, which involved learning at each phase of expansion.

Bombay Rayon Fashions Limited, established by Janardhan Agarwal in 1986, started by manufacturing woven fabric in Maharashtra. In 1998, the firm not only opened another manufacturing facility for woven fabric, but also started to export its products. In 2001, the

firm became vertically integrated by starting its garment business. In 2003, the firm started exporting its garment products. Two years later, the firm became publicly listed on all the stock exchanges in India. It expanded its manufacturing capability by setting up seven garment manufacturing facilities in Bangalore with 7,000 machines. It also acquired UK-based DPJ Clothing and started supplying to high-end retailers in the UK. In 2007, it acquired Leela Scottish Lace, one of the largest garment manufacturing firms in India, making Bombay Rayon Fashions one of the largest apparel firms in India. In the same year, it acquired LNJ Apparel. In 2008, the firm acquired the iconic brand Guru. The growth of Bombay Rayon Fashions Limited reflects the limited growth path of most Indian RDs. Only after a period of exporting experience do they begin more radical internationalization by conducting foreign direct investment.

Studying growth management patterns is complex because of the diverse paths to success taken by the RDs. Chinese and Brazilian RDs pursued aggressive diversification and internationalization into unrelated product areas, and across advanced and emerging markets with local investments. Russian and Indian RDs were more conservative and focused on local settings as their primary business. Even so, this gradual process of internationalization should not be interpreted as exhibiting weak management. Quite the contrary, the growth path of RDs is a product of their management strength. Disciplined growth management, focused diversification, and the quest for synergy rather than risky international business opportunities are all prudent practices that can combine growth with profitability.

CONCLUSION

How are RDs different from other firms? What enabled them to grow profitably at a scale that is almost unfathomable in our modern age? The answer, as described in this study, is defined in four sequential factors that build progressively on one another - the Four Cs for Sustainable High Performance. What then are some implications for managerial practice, both in the BRICs and for the rest of the world?

1. One implication is that the global “rules of the game” might have to be reassessed to take into account the future trajectory of the RDs. Should they continue to succeed, it is not simply products at lower costs that will prevail - as is so commonly believed by industry pundits - but also differentiated products at lower costs. The RDs in this

study do not see themselves as purely low-cost providers; perhaps they do so at their current stages, but certainly not in the long run. They exhibit a steep learning trajectory that is underpinned by supportive structures, processes and ideologies. In short, learning will continue to be the critical determinant of future success in the world economy.

2. Another implication is the importance of local conditions as the breeding ground for current and future strategies. All too often, much emphasis has been placed on the attainment of global status. Hence "going global" is a popular mantra. Yet, with a deepening of regional ties and the enhanced diversity of local populations, this global focus has to be tempered by the consideration of local priorities and interests. The success of RDs in uncovering hidden niches and including them in the market is graphic testimony of the growing pre-eminence of local conditions, including a rising middle class of consumers. For global strategists, it might not be a trade-off between the global and the local, but integration of the two.

3. It would serve developed countries well to rethink some underlying conceptions about emerging markets – such as that they suffer from institutional underdevelopment. In our study, the lack of institutional development is, in fact, prominent, but instead of having a passive and reactive disposition towards this lack of development, RDs found it to be a source of motivation and sense of urgency.

While our case studies present the processes and trajectories of these RDs in emerging markets, they also peer into the dynamics that create future RDs. So the Four Cs can be prescriptive as well as descriptive. Those soon-to-be RDs, some of which are already represented in our comparison group, might be well served by observing the rise of the current RDs and, to the extent possible, replicating some elements of their developmental strategies. Admittedly, because our focus is on successful firms, the overall tone is a highly optimistic one. Even so, this should not detract attention from the fact that these RDs succeeded in very difficult environments and often pursued strategies or adopted systems that do not conform to stereotyped conceptions of firms and individuals in these countries.

Developing economies are taking firmer root on the world stage. By weaving together these different experiences from across the BRIC countries, we can see how the new "rules of the game" are taking shape.

Appendix 1. Study Methodology

The Selection of RDs Adopted an Exacting Criteria, Using Growth, Profitability, Market Share, and Efficiency, as well as a Comparison Analysis:

1.The company should be a privately-owned company in the manufacturing sector with at least 10 years of history;
2.The company should be included in the 2009 Top 500 largest private company list;
3.The 10-year average efficiency score (calculated from frontier analysis) should be higher than the average of annual Top 500 firms' scores;
4.The 10-year average sales growth rate should be higher than the average of annual Top 500 firms' sales growth rate;
5.The 10-year average profitability should be higher than the average of annual Top 500 firms' profitability;
6.The 10-year average sales growth rate is not lower than the Top 500 yearly average more than three times;
7. It should be one of the top 10 private companies in terms of sales in each market sector (defined by four-digit SIC code) in 2009;
8. No more than two companies are selected from the same sector to avoid industry effects (defined by four-digit SIC code).

Variable	Top 500 Firms	RDs
China	Mean	Mean
Capital	11.82	11.41
Employee	7.60	7.47
Age	15.63	15.31
Efficiency	0.33	0.47
Sales growth	39.44%	61.83%
ROA	11.25%	16.01%
Profit margin	6.71%	10.96%
Market share	1.61%	1.96%
Russia		
Capital	9.52	9.22
Age	29.31	18.36
Efficiency	0.33	0.51
Sales growth	29.63%	50.62%
ROA	10.83%	21.36%
Profit margin	6.59%	15.21%
Market share	5.98%	4.29%
India		
Capital	3.20	3.56
Age	33.48	25.59
Efficiency	0.40	0.55
Sales growth	16.99%	34.72%
ROA	9.04%	19.80%
Profit margin	11.27%	18.26%
Market share	9.56%	15.90%*
Brazil		
Capital	4.31	4.78
Age	31.67	49.60
Efficiency	0.50	0.77
Sales growth	21.15%	26.36%
ROA	7.79%	15.41%
Profit margin	5.34%	14.68%
Market share	3.18%	6.55%*

Comprehensive Quantitative Data Sources

RDs in China, Russia Brazil, and India were selected because these countries are among the largest emerging markets in the world. Specifically, we focused on the Top 500 private firms for each year. For Chinese and Indian firms, we identified a list of Top 500 firms by sales value each year from 2000 to 2009. For Russian firms, we identified a similar list each year from 2001 to 2009. For Brazilian firms, the time period is from 2003 to 2009, due to data availability. Our objective was to determine the best performers among Top 500 firms. Although not all large firms are high performers, we believe the best performers are among the larger ones. Because high performers have the ability to grow continuously, they eventually rank among the Top 500 firms over a given time period.

Sources of Data and Information

The data for Chinese firms was obtained from the Database of Industrial Firms in China (DIF), an annual industrial firm census conducted by China's National Bureau of Statistics (NBS). The *China Statistical Yearbook* offers aggregate statistics at the provincial and industry levels.

The data for Russia and Brazilian firms was obtained from ORBIS, a global database that has information on over 60m companies.

The data for Indian firms was obtained from CMIE (Prowess). The coverage of Indian firms in Prowess is significant as it encompasses a fairly large proportion of the business conducted in India. For example, the total income of all companies in the Prowess database is about 78% of India's GDP. The value of output of all manufacturing companies in Prowess is 79% of the value of output of the registered manufacturing sector of the country during 2008-09. Prowess companies cover more than half of India's external trade. They cover about 62% of India's exports and nearly 82% of India's imports.

*The market shares for Brazilian and Indian RDs are based on the ORBIS and CMIE data, which may not necessarily include the population of firms in each sector.