

Jaipur Rugs: Connecting Rural India to Global Markets

INTRODUCTION

The Jaipur Rugs case explores how a company can benefit the poor by connecting them with global markets. Jaipur Rugs makes this connection by building and orchestrating a global supply chain on a massive scale—one focused on developing human capability and skills at the grassroots level, providing steady incomes for rural men and women in the most depressed parts of India and connecting them with markets of the rich, such as the United States. Thousands of independent workers are organized to produce consistently a very high quality product, on a complex decentralized basis through a system of organization that is unique. The company not only uses traditional weavers but also teaches, in remarkably short time, the craft to people who do not have a tradition of weaving. Raw materials are sourced from around the world, processed into rugs with traditional and new designs in rural India while maintaining quality control of end products. Jaipur Rugs provides a unique and dynamic example of how a profitable commercial connection between the poor and the rich—across the world—can be done.

THE GRASSROOTS OF A GLOBAL SUPPLY CHAIN

Mr. Sakir Ali is a weaver in Sonbhadra district, who had been working directly for Jaipur Rugs since 2006. Within his first 1.5 years of working for Jaipur Rugs, he bought two new double looms, and said that he earned more income than he did previously when he worked for a middleman. His wife and two daughters were trained by Jaipur Rugs

Figure 1: The Ali family at home in Sonbhadra district, Uttar Pradesh



Foundation. He was happy that his two daughters were weaving because they could earn money in the home without having to work in the fields. His wife also said that she was happy because she could earn money for her family and work beside her two daughters.

The rugs made by Sakir Ali, his family, and thousands of people like them may wind up in a living room of a \$1.2 million home in Grosse Pointe, MI, or gracing a Soho loft in London. Such is the nature of Jaipur Rugs' knack for tapping the skills of people on the low end of the income scale to create a quality handmade product marketed to people at the opposite end of the income spectrum.

COMPANY HISTORY & DESCRIPTION

Nand Kishore (N.K.) Chaudhary grew up in a small town in Rajasthan, a state in northwestern India. After graduating from the University of Rajasthan, Chaudhary began his career in his family's shoe shop. However, he wanted to do something on his own, and heard that high quality rug weaving was in demand. He bought two looms and installed them in his home, and fell in love with the weaving business. He quickly learned the technical aspects of weaving from local weavers and expanded his business, adding six more looms in his house, and then more looms in six nearby villages.

Chaudhary's entrepreneurial drive ultimately led him to Jaipur, the capital of Rajasthan, to pursue a career in the rug export business. Chaudhary and his brother started exporting rugs in 1986. Both brothers remained in the rug industry but split up their business interests in 1999, and after several company name changes, Chaudhary registered his export company under the name of Jaipur Rugs in 2006.ⁱ

By 2008, Jaipur Rugs was the largest manufacturer and exporter of Indian hand knotted rugs, with fiscal year revenue of USD \$21.1M.ⁱⁱ It was a profitable and fast-growing company, with a Compound Annual Growth Rate of 38% from 2005-2008. Jaipur Rugs produces handmade area rugs, including the hand knotted, hand tufted, and flat woven styles. The company prides itself on the design and quality of its finished products.

Jaipur Rugs operates with the help of a complex web of human resources:

Approximately 300 direct, full time employees:

- A. 7 Family members
- B. 226 Headquarters employees
- C. 70 Regional branch office staff, including 40 area commanders

Approximately 40,000 contractors (indirect employees):

- D. 28,000 Weavers
- E. 12,000 Other laborers involved in the manufacturing process

THE ECOSYSTEM OF JAIPUR RUGS

The Jaipur Rugs operation is divided into four different entities: Jaipur Rugs Company, Jaipur Rugs Incorporated, Bhoomika Wools, and Jaipur Rugs Foundation. All entities are held accountable by a member of Chaudhary's immediate family.

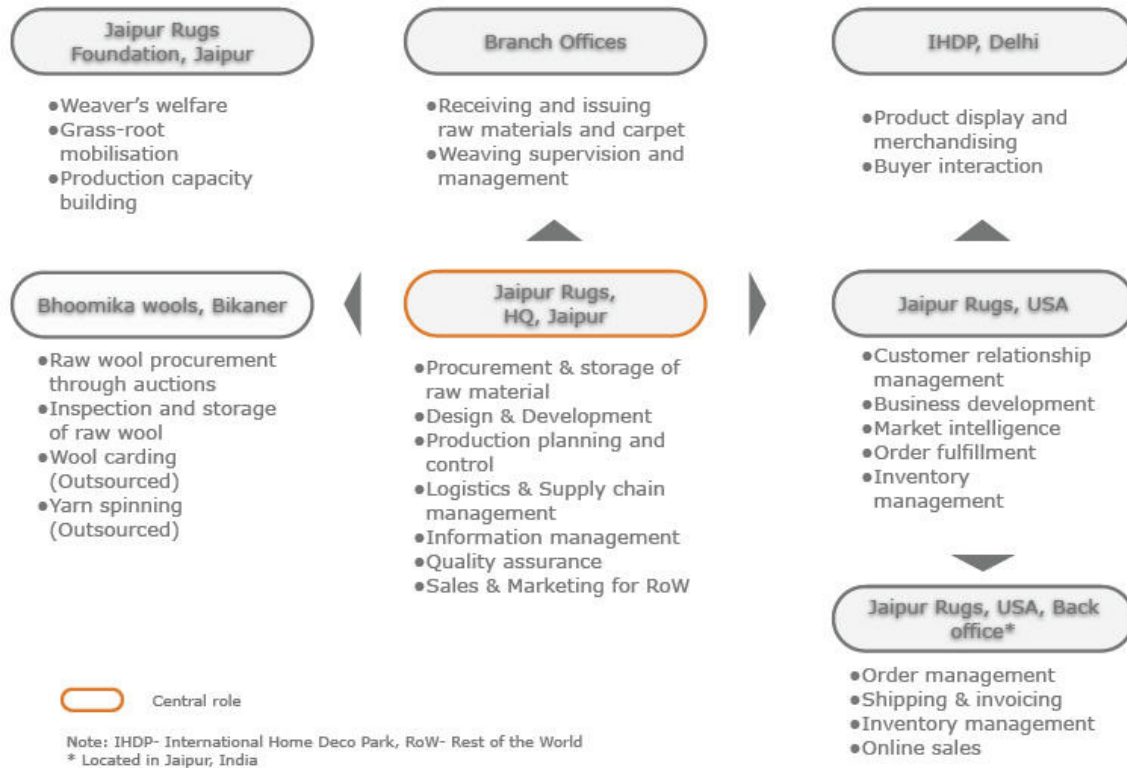
The coordination of activities across multiple legal entities gives Jaipur Rugs:

- A. Access, but not ownership, to specific skills

- B. Influence, but not control, over key processes
- C. Decentralization of investment

Below is a diagram of the various Jaipur Rugs entities and how they interactⁱⁱⁱ:

Figure 2: Diagram of Jaipur Rugs Entities



Jaipur Rugs Company (JRC)

JRC handles all the operations from raw material procurement to final sale for every market except the United States^{iv}. JRC is run by N.K. Chaudhary (CEO) and his eldest son, Yogesh (Director). In addition to the JRC headquarters in Jaipur and a showroom for final products in International Home Deco Park (IHDP) in Delhi, there are 22 branch offices throughout northern and western India.

Jaipur Rugs, Incorporated (JRI)

JRI, headquartered in Atlanta, Georgia, handles distribution, marketing and sales for the United States. JRI is run by Chaudhary's two eldest daughters – CEO Asha Chaudhary, and COO Archana Chaudhary. As of July, 2008, the company employed 17 people, mostly in sales positions.

Bhoomika Wools

Bhoomika Wools facilitates the wool acquisition process solely for Jaipur Rugs. Bhoomika Wools is run by Chaudhary's brother-in-law, Navratan Saraf.

Jaipur Rugs Foundation (JRF)

Jaipur Rugs Foundation is a non-profit organization established in 2004 to encourage grassroots mobilization of weavers and to improve the welfare of the company's weavers and their families. In 2008, the Foundation was run by Chaudhary, with five employees based in the Jaipur Rugs headquarters and twelve field employees working with the communities where Jaipur Rugs has operations.

BUSINESS SYSTEM BUILDING BLOCKS

Four foundational building blocks allow Jaipur Rugs to profitably influence quality and rapidly adjust to marketplace demands, while executing the extremely complex process of handing over raw materials to an autonomous group of individual contractors.

I. Deeply Rooted Relationships

Chaudhary built Jaipur Rugs by emphasizing family ties and strong personal loyalties. This foundation allows Jaipur Rugs to efficiently operate a highly decentralized manufacturing and logistics system. Besides the five Chaudhary children that head up different areas of the company, many of the area commanders and entrepreneurs who own the businesses that are key parts of the production processes got their start as weavers for Chaudhary.

By treating his workers fairly, Chaudhary creates a feeling of loyalty, which, combined with investments in logistics and quality control systems, and even personalized training in some cases, positively affects the quality of all the key production processes which are outsourced to virtual employees.

II. Driven by Social Values

The company's social values are reflected in its commitment to provide the following:

- A. **Competitive wages.** Wages paid by the company give people options to have a better quality of life than the alternative work available in villages.
- B. **Investment in skills training.** The main activities of the Jaipur Rugs Foundation are to recruit and train new weavers for the company. Because of the social impact that Jaipur Rugs has on many regions of the country, the government subsidizes the cost of looms and training in certain regions.
- C. **Access to healthcare and education.** The Jaipur Rugs Foundation leverages alliances with other NGOs that provide health care and education to the weavers.
- D. **Opportunities for aspiring entrepreneurs.** When he recognizes contractors who do good work and have the right attitude, Chaudhary believes in giving them loans so that they can become key links in the overall production process. As a result of his recognition of their talents, many contractors see their incomes, social standing, and capabilities multiply.

Because Jaipur Rugs demonstrates strong social values, its contractors recognize the difference in working for Jaipur Rugs versus other companies. This recognition elevates the relationship between contractors and the company from a contractual agreement to

one of multifaceted value for both. These strong relationships help Jaipur Rugs influence the quality of its products, despite utilizing such a highly decentralized production process.

III. Reducing Capital Intensity

Jaipur Rugs benefits from a business model focused on converting fixed costs into variable costs, which allows them significant flexibility.

- A. **Work is decentralized:** Rug production is done on a “pay for performance” basis, depending on the quality and the quantity produced. As a result, the company’s largest costs – labor and raw material – are variable.
- B. **Investment is decentralized:** By using contractors for its manufacturing operations, Jaipur Rugs reduces its capital needs by not owning the key manufacturing assets, such as the dyeing, washing, machine carding, machine spinning operations, and most weaving looms.
- C. **Management influence over key functions is highly leveraged:** The company directly employs only 300 people, yet influences 40,000 artisans who act as entrepreneurs and contractors.

IV. Technical Architecture

The company’s technical architecture combines information technology (IT) infrastructure, human interaction, loyalty, and training. Jaipur Rugs’ investment in IT infrastructure includes an Enterprise Resource Planning (ERP) system to optimize its geographically diverse supply chain, allow for the continuity of work, institutionalize quality control and achieve scale. The company also focuses on creating well-designed communications networks to deliver raw materials, communicate with weavers, and track the progress of work in remote villages with no electricity. These communications networks are used by the company’s branch office staff to effectively manage a highly human capital intensive process.

One of the company’s most interesting processes is the design and creation of the build sheets, known as “maps”. The maps give the weavers, who generally have minimal education, easily understandable instructions on where to put each strand of different colored yarn. Because of the way the maps are designed, a weaver essentially needs no training to produce a new design on a given loom. This flexibility in Jaipur Rugs’ business model means the company can prototype new designs very cheaply, and that its 28,000 weavers can respond fairly quickly to changing customer preferences and business needs.



MANAGEMENT TEAM

N. K. Chaudhary, Chairman

At age 11, Chaudhary knew he would do something unique for society, beyond just working in business. However, at that time he had no idea about the role his business would play for his eventual 40,000 direct and indirect employees, and for the rest of Indian society. Chaudhary’s philosophy about what successful businesses means for society evolved over the years, and includes empowering others, promoting entrepreneurship, and constant learning. Chaudhary described:

Figure 3: Mr. N.K. Chaudhary



There is a need to transfer more and more ownership to the grassroots level. The business is scaling up each year. We want to develop more good leaders who can make their own right decisions. They can take care of profits and take care of society. Profits mean more efficiency, and better systems.

Villagers often refer to Chaudhary as the Gandhi of the rug industry, an honor which he considers the highest form of respect he can receive.

Family

All five of Chaudhary’s children chose to work within the family business, and they held many of the senior level management positions within the company. The table below depicts each of their roles within the company.

Table 1: Chaudhary children's roles within Jaipur Rugs

| Name of Chaudhary child, in order of age | Role within business | Educational background |
|---|---|--|
| Asha | CEO, JRI | Bachelor’s degree from Emory University |
| Archana | COO, JRI | Bachelor’s degree from North Carolina State University |
| Kavita | Design Director, JRC | BA in Textiles from the Illinois Institute of Art |
| Yogesh | Wholetime Director, JRC | Two years at Boston College |
| Nitesh | Trainee, Jaipur Rugs. Nitesh planned to get one year of experience with the company | Plans to attend Babson University in 2009 |

Field Management

Three types of employees work outside of the headquarters, either in one of the 22 branch offices, or in the field: branch managers, area commanders, and Jaipur Rugs Foundation (JRF) motivators.

Branch Managers: each of the 22 branch offices has one branch manager, most of whom were promoted from weaving and have been with the company for an average of 15 years. The minimum salary of a branch manager is Rs 8,000 per month (USD \$174)^v, and as high as Rs 50,000 per month (USD \$1,087), based on experience.

Area Commanders: responsible for maintaining communication with the weavers in a given area. In 2008, there were 40 area commanders, each responsible for an average of 200 looms.^{vi} Area commanders generally report to a branch manager, but in some cases, the area commanders doubled as branch managers^{vii}. The minimum salary for an area commander was Rs 5,000 per month (USD \$109).

JRF Motivators: responsible for: recruiting weavers; managing weaver training; educating weavers on various government schemes that provide health insurance, education, loans, etc.; and maintaining good relationships with the weavers and their families. One Jaipur Rugs Foundation motivator typically covers each branch region. A motivator earns between Rs 4,000 – Rs 10,000 per month (USD \$87 - USD \$217).

PRODUCTION

The Jaipur Rugs production process is a complex system that begins with global sourcing of raw materials and ends with worldwide distribution of the finished products. In between, the rugs are produced by 28,000 rural artisans across seven states in north and west India, supported by over 12,000 additional production workers and a comprehensive system of quality control and logistics^{viii}.

Figure 2: The Jaipur Rugs Supply Chain

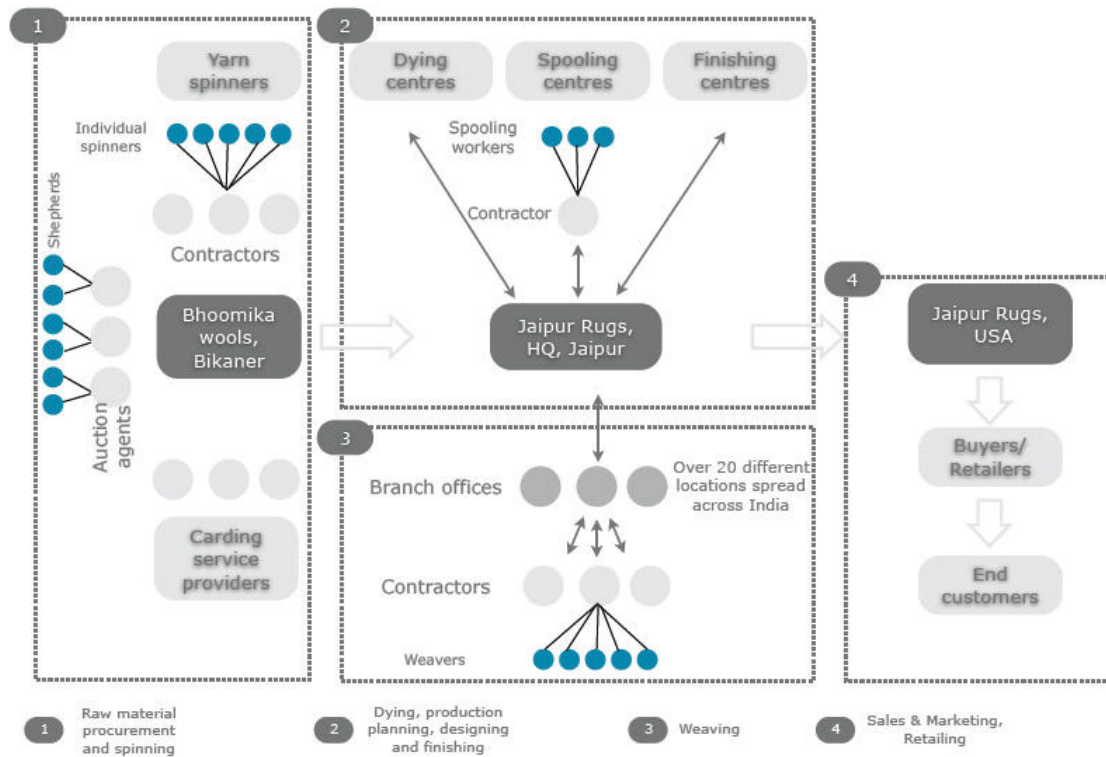


Table 1 (below) provides a snapshot of the approximately 40,000 contractors, who contributed to the production of the rugs. The average income of these workers is compared to similar alternative employment that may be available to them. However, Jaipur Rugs contractors are ensured a steady income from Jaipur Rugs in contrast to the seasonality of many other employment options, and many earn additional income from seasonal agricultural work.

Table 1: Snapshot of 40,000 contractors^{ix}

| Production Activity | # of workers | Average monthly income | Alternative employment | Average monthly income from alternative employment |
|------------------------------------|---------------------------------------|--|---|--|
| <i>Initial sorting of raw wool</i> | 50-60 | Rs 1050 | Agriculture, Government schemes | Rs 300* |
| <i>Raw wool washing</i> | 15-20 | Rs 2500-3000 | Work in similar factories | Rs 3000 |
| <i>Carding – machine</i> | 60 | Rs 3000-4000 | Salesperson | Rs 3000-4000 |
| <i>Carding – hand</i> | Included in numbers for hand spinning | Rs 1100 - 1300 | Agriculture, Livestock; Government schemes for rural employment | Rs 300 |
| <i>Spinning – machine</i> | 50-60 | Rs 2500-3000 | Work in similar factories | Rs 3000 |
| <i>Spinning – hand</i> | 10,000-12,000 | Rs 1100 - 1300 | Agriculture, Livestock; Government schemes for rural employment | Rs 300 |
| <i>Yarn washing</i> | Included in raw wool washing | Rs 2500-3000 | Work in similar factories | Rs 3000 |
| <i>Dying</i> | 35 | Rs 3,000- Rs 20,000, depending on skills -- Masters are the highest paid | Unskilled/skilled labor in factory | Minimum Rs 3,000 for unskilled labor |
| <i>Opening</i> | 200 | Rs 1800 | Jewelry making (in Sarai Bawri village) | Rs 1200-1400 |
| <i>Weaving</i> | 28,000 | Rs 1300 - 3000 | Handicraft making and agriculture | Handicraft: Rs 1200; Agriculture: Rs 300 |
| <i>Finishing</i> | 500 | Regular workers: Rs 3000-3500 / Washers: Rs 6000 | Similar work with other finishing centers/factories | Rs 3000 |
| <i>Transportation</i> | 40-50 (direct and indirect employees) | Rs 1155 -- up to Rs 8000 for company drivers | Similar transportation work | Rs 1155 |

* Agricultural work is seasonal so the average monthly income figure has been normalized per annum.

Raw Materials Sourcing

The primary raw materials required by Jaipur Rugs Company are wool and silk. The wool is primarily sourced by partner company, Bhoomika Wools. Table 2 (below) gives total procurement of wool and silk for FY 2007 – 2008.

Table 2: Procurement of wool and silk (Kgs) for Fiscal Year 2007-2008*

| Company | Raw Wool Indian | Raw Wool Imported | Silk Indian | Silk Imported |
|----------|-----------------|-------------------|-------------|---------------|
| JRC | 0 | 347,383 | 2143 | 40,415 |
| Bhoomika | 746,759 | 195,307 | 0 | 0 |

Wool Processing

There are a number of steps involved in preparing the raw wool to be put on the looms for weaving, and these steps are highly decentralized. All of the work is outsourced, either by Bhoomika Wools or by Jaipur Rugs. Bhoomika Wools is responsible for all of the wool processing steps from procurement through transport to Jaipur for dyeing. By outsourcing all of these steps, Bhoomika is able to convert almost all of its costs into variable costs and dramatically decrease its fixed costs – the only fixed costs are Chaudhary's brother-in-law, Navratan Saraf's salary and the warehouse units. Jaipur Rugs is responsible for the remaining wool processing steps of dyeing and opening, both of which are also outsourced to partner companies.

Figure 3: Cleaning and sorting raw wool



Raw Wool Cleaning, Sorting and Blending
Immediately after the wool is purchased from the auction, it is taken to one of Bhoomika Wools' seven warehouses in Bikaner for sorting, blending and storage. The women who work at these warehouses are paid on the basis of output.

Carding

Carding is a process of brushing raw wool to prepare it for spinning. During the carding process, the fibers are separated, unwanted matter falls out, and then fibers align together. Although the process can be done by hand or by machine, Jaipur Rugs outsources the vast majority of their wool to an external machine carding company. However, hand-carded wool makes the best quality and is actually required in order for a rug to be "real hand spun".

Figure 4: Brush used for hand carding



For several years, Jaipur Rugs was the only company in India that used hand carded wool, but by 2008 several other Indian companies had introduced some production with hand carded wool. In 2008, Jaipur Rugs used hand carded wool for 7% of its rugs, although the demand for hand carded wool rugs was significantly higher. The Jaipur Rugs Foundation is addressing this supply side constraint by trying to partner with local NGOs in Bikaner to mobilize more women to do hand carding. Jaipur Rugs is considering increasing the price paid for hand carding to give more women an incentive to do this activity. A small sub-set of the women who do the hand spinning also do the hand carding. Women earned Rs 19 per Kg (USD \$0.41) for spinning and Rs 38 per Kg (USD \$0.82) for carding and spinning, which takes double the time.

Spinning

After the wool has been carded, it is ready for spinning. In fiscal year 2007 – 2008, 57% of the wool spun by Jaipur Rugs was hand spun and 43% was machine spun.^{xi} The hand spun wool was produced by women in villages near Bikaner – according to Chaudhary, much of the quality is lost with machine spinning. The spinners employed by Bhoomika Wools come mostly from very low castes and Muslim communities with a tradition of textile production. High quality rugs require yarn of consistent thickness and this is achieved by a good spinning technique. Chaudhary believes that the quality of the yarn depends largely on the passion and dedication of the spinners. He aims to develop women's groups among the spinners so they can discuss their problems -- similar to the microfinance self-help group model. He believes that the biggest problem in the rural

areas, such as the ones outside of Bikaner, is mindset. If you give people a purpose and help them understand the needs of the business and how they could contribute, you change their attitudes and uplift them.

It takes approximately one hour to spin one kilogram (Kg) of wool, for which a spinner is paid Rs 19 (USD \$0.41). The spinner is required to deliver the spun wool to Bhoomika Wools in hanks – hank is a unit of yarn that is in a coiled form. The spinners walk to the closest Bhoomika Wools branch office every other day to deliver a completed five to seven Kgs of spun wool (two days worth of spun wool) and pick up a new batch of raw wool. They are paid once or twice a month in cash by the branch manager, who is also responsible for checking the quality of the delivered yarn.

Once a week, the hanks of wool are transported from the branch offices to the Bikaner warehouses by truck. In addition to spinning, the women usually earn other income from seasonal agricultural work.

Figure 5: Hand spinning raw wool into hank



Dyeing

In the early years, all hanks of wool yarn were sent from Bikaner to Jaipur for dyeing. In order to improve efficiency and meet the growing requirements for dyeing, in 2008 Jaipur Rugs established a relationship with a dyeing house 774 Km away in Bhadohi (in the central Indian state of Uttar Pradesh -- the highest volume production region for Jaipur Rugs), so that some of the undyed yarn could be sent directly from Bikaner for dyeing, and then on to the weavers in this region. The dyeing process takes an average of two to three days, including transportation to and from the Jaipur Rugs office.

Opening

Opening is the process of making spindles from the hanks of dyed yarn. This process is required for both wool and silk. At Jaipur Rugs, the yarn is transported daily from the dyeing centers to the Jaipur Rugs headquarters to one of five opening centers. The company plans to make this process more efficient by sending the yarn directly from the dyeing centers to the opening centers.

One of the opening centers is in Sarai Bawri village, just north of Jaipur. As of May, 2008 there were approximately 140 women working at the Sarai Bawra Opening Center, earning a monthly average income of Rs 1800 (USD \$40). Previously some of the women had made jewelry and some had been unemployed. Surendra Kumar Mahawar, who runs the center, trained the women and gave them each an opening machine free of charge, at a cost to him of Rs 300 (USD \$6.50) per machine. Each worker can open approximately 15 – 20 Kgs of yarn per day. The women say they have more money to spend on their family's food and clothes and that they enjoy the opening work, primarily because it can be done in their own homes.

Weaving Locations

After the yarn has been made into spindles, it is kept in storage at the Jaipur Rugs office until it is transported (bundled in a bag with the design map) to one of the 7500 looms across seven states in north and west India. As of June, 2008, Jaipur Rugs had 22 branch offices in seven states. Production centers were concentrated primarily in three states with different locations producing specific products. The states were: Gujarat, Uttar Pradesh, and Rajasthan. From 2007 to 2008, four new “development” states had been added – states that do not have a tradition of rug weaving -- but had very low initial production rates: Nagaland, Jharkhand, Orissa, and Bihar. Additionally, production was planned to begin in three more states by 2009: West Bengal, Arunachal Pradesh and Maharashtra.

With very few exceptions, the artisans work in their own villages, either in their own home or in a neighboring home. In stark contrast to most employment opportunities in rural India, Jaipur Rugs provides steady, year-round income for its weavers. The 7500 looms are always in use – as soon as a finished rug came off the loom, the materials for a new rug are installed.

Finishing

After coming off the loom, all rugs are transported to one of four finishing centers in Jaipur, each of which is an independent entity but exclusively services Jaipur Rugs. At the finishing centers, techniques are employed to fix mistakes and accentuate highlights of the design. In addition, final cleaning and inspection takes place before the rug is prepared for export.

Weaver Engagement Models

Jaipur Rugs uses a number of different models to engage with weavers. The primary models include: direct relationships with weavers, indirect relationships with weavers through entrepreneurs, and indirect relationships with weavers through middlemen. In addition, there are several outsourcing partnerships. The table below provides data on the three primary models of engagement with weavers.

Table 3: Primary weaver engagement models for Jaipur Rugs^{xii,xiii}

| Mode of Employment | # of weavers | % of weavers | Average monthly income (Rs) | Average monthly income (USD) |
|---------------------------|--------------|--------------|-----------------------------|------------------------------|
| Direct contract with JRC | 15,170 | 55% | 1870 - 2970 | 40.70 - 64.50 |
| Indirect via Entrepreneur | 6,900 | 25% | 1760 - 2800 | 38.30 - 61.00 |
| Indirect via Middleman | 5,500 | 20% | 1320 - 1980 | 28.60 - 43.10 |

Independent Weavers

Jaipur Rugs is changing the traditional model of middleman-owned looms to enable weavers to own their own looms. They support weavers to obtain subsidies from the government that help finance 50 - 75% of the cost of the looms in some regions. For example, Jaipur Rugs began working in Sonbhadra district (in the Mirzapur region) in

2006. In this district, a number of weavers had transitioned from working on looms owned by middlemen to purchasing their own looms. It cost Rs 7000 – 8000 (USD \$152 – USD \$174) for a locally-made loom, and Rs 16,000 – 20,000 (USD \$348 – USD \$435) for a higher quality loom. In this region, it is common to see double looms on which two sumak rugs can be made at the same time. Weavers can start with just half the loom at a cost of Rs 3000 – 4000 (USD \$65 – USD \$87) and upgrade later to the full double loom. In some cases, the company loans looms to weavers until the weavers gain enough credibility to get a monetary loan to purchase their own looms.

Entrepreneurs

The entrepreneurs who work with Jaipur Rugs own multiple looms and employ local villagers to weave rugs on their looms. For instance, Rohitari is an entrepreneur in Sonbhadra district, who used to be a weaver. He used his own resources to purchase three looms and as of May, 2008, he employed 12 people. He produces rugs exclusively for Jaipur Rugs and uses the revenues to pay back his loom loans and re-invest in his business, which he plans to continue to expand.

Middlemen

Middlemen have historically been entrenched in India's rug industry, depriving artisans of their deserved income. A major goal of the Jaipur Rugs business model is to remove the middlemen to give more income to the weaver, either through direct relationships with weavers or through entrepreneurs. The main differences between entrepreneurs and middlemen is that entrepreneurs usually start out as weavers (and some continue to weave -- middlemen generally do not weave) and are generally more closely aligned with company's philosophy, passing due credit onto the weavers who work on their looms.

While Jaipur Rugs works hard to develop direct relationships with weavers who had historically worked for middlemen, in 2008 the company still relied on middlemen to reach approximately 20% of their weavers. On the outskirts of Bhadohi, a hand-tufted rug factory was one of the biggest middlemen that Jaipur Rugs worked with. This factory employed 500 male migrant workers from rural areas in Uttar Pradesh, Orissa, Bengal and Bihar, where there are very few employment opportunities. All of the workers lived on the factory compound. Weavers were paid every 15 days at the rate of Rs 150 per square yard, and they could make 0.75–1.0 square yards per day for an average of Rs 2900 (USD \$63) per month. The rug washers could earn up to twice as much because the work was physically strenuous. These incomes are significantly higher than those stated for weavers working via middlemen in the table at the top of this section, and the primary reason for the discrepancy is that hand-tufted rugs combine good margins with low production times.

In 2008, 50% of the factory's business came from Jaipur Rugs, and the owner hoped this percentage would continue to increase. The owner commended Jaipur Rugs for being very organized, for providing timely deliveries of raw materials and payments, and for understanding his business' problems and helping to solve them. He communicates with the local Jaipur Rugs area commanders every day, and communicates frequently with Chaudhary and his daughter Asha (CEO of Jaipur Rugs, Incorporated in the U.S.).

Jaipur Rugs is developing production areas in the very poor neighboring states (Bihar, Jharkhand and Orissa) where many of the aforementioned factory's employees come from. These states traditionally have large numbers of migrant laborers who leave home because of the dearth of employment opportunities. Jaipur Rugs hopes that, in time, the expansion efforts into these areas will create new income generation opportunities that allow people to have employment options other than migration.

Outsourcing Partners

In 2008, Jaipur Rugs was working with seven outsourcing partners for rug manufacturing to diversify its offerings in the market and align its product portfolio with market needs. Jaipur Rugs provides only the design maps -- the raw material procurement, production and finishing is handled by the partner company.

Jaipur Rugs started working with one outsourcing partner in 2007 as a means to begin sales of Indo-Tibetan rugs. Jaipur Rugs developed an ecosystem for Indo-Tibetan Rugs that ensured superior product quality and the integrity of its business model. Indo-Tibetan rugs were quick and easy to weave – a low quality 8'x10' rug took 7-10 days to make, while a high quality 8'x10' took 15-20 days (depending on the number of knots per square inch).

In 2008, Jaipur Rugs sourced 12,000 – 15,000 square feet of rug per month from this partner. The outsourcing partner stated that they liked working with Jaipur Rugs because it was more organized and professional than any other of the dozen companies with whom they worked.

TECHNICAL ARCHITECTURE

Jaipur Rugs uses a combination of human and electronic networks and logistics infrastructure to institutionalize quality and maintain influence over its geographically dispersed employees, customers, and suppliers.

Production Process Logistics

Each rug produced by Jaipur Rugs passes through a geographically dispersed and complex supply chain. To manage this supply chain, the company uses both standardized and non-standardized processes for assignment and movement of raw materials, works in progress, and finished goods.

Rug orders are received via fax, email, or phone, and the production process begins after an order is generated by the Production department. Next the Central Control Room acts as an interface between the Production and Design departments. Employees in the Central Control Room determine if a production order is for: a design with an available, reusable map; a design which requires no modification but does require map printing; or a design which needs modifications such as resizing or re-coloring. The

Design department, run by Chaudhary's daughter Kavita, is where the design and size is finalized, and map is created.

Figure 4: Left, Kavita Chaudhary explains map production process. Right, a weaver making an Indo-Tibetan style rug keeps the map hung above her loom.



Map Production Process

Creating the map is a very human-capital intensive process. First, a Raw Material Card is matched with a design, printed, cut, then laminated for durability and pasted together. On the printout, instructions are handwritten to tell the weavers where to start weaving, and yarn samples are stapled to help avoid errors in color selection. Quality control is built into the process through several inspection points along the way. During an eight-hour day, approximately 120 maps are processed.

Material Logistics

The Stores Department is responsible for stocking and moving raw material and works in progress. Staff in the Stores Department communicate with Design Department staff to find out what maps are in the pipeline, and for each new rug, they are responsible for stuffing a bag of materials to go to the weaver. The contents of each bag include a Raw Material Card, a map and bundles of dyed yarn. The bags first go to the branch office then ultimately to the weaver.

After weaving is completed, the Carpet Receiving Department receives the woven rug, leftover materials (if any), and the map. The rugs are sent to a finishing center, and the map is stored in the Design Department's Map Storage Room for future use. After finished rugs are received at the headquarters, the Shipping & Export Documentation Department is responsible for the shipping processes and making sure the products arrive to customers.

One difference between Jaipur Rugs and its competitors that the weavers say they appreciate is that the weavers are not responsible for picking up the raw materials and delivering back the woven rugs to the branch office. The Jaipur Rugs area commanders are responsible for ensuring that the bags of maps and materials are delivered from the branch office to the weavers' village, which saves the weaver significant time and money in transportation.

Weaver-to-Rug Matching Process

To match a rug order with one of the company's 28,000 weavers, the Production Department first determines the approximate geographic area in which the rug will be made (based on the type of rug and the quality required). Once the area is determined, the Production Department calls the area commanders from the nearest branch office to assign a weaver based on their loom availability, skill level, and weaving speed. Each area commander is responsible for knowing the skill level and speed of the weavers to which they are assigned. This knowledge is currently not formally recorded, although in the future the company hopes to incorporate this information into their internal computer systems.

Institutionalizing Quality

The main strength of the company is Mr. Chaudhary's strong technical knowledge. He knows how to make a good rug, whereas his competitors just buy raw materials and distribute to middlemen without knowledge.

- Deepak Sharma, Kanvic

It is this knowledge that Chaudhary uses to produce high quality rugs in a supply chain with up to 30 product handovers. Because the company's overall goal is to decentralize many of the production processes without losing quality, quality control checks and standards are implemented at every step, from raw materials, to production, and to finishing. The avenues for feedback and enforcement throughout the production process are:

Inspection of Raw Material

Quality control staff at Jaipur Rugs headquarters check the counts and blends of raw wool. Cotton yarn, used for the rug foundation on the loom, is checked for strength and length. Both cotton yarn and silk are tested in the in-house lab.

Ensuring quality of wool after spinning and dying

Quality of hand spun yarn is inspected at the Bhoomika Wools branch office (the point of collection), and the spinner receives immediate feedback. If yarn is rejected because it is too thick, it is returned to the spinner to be made thinner. If the yarn is too thin, it is carded again and re-spun. The first time that a spinner has a problem with quality, she is paid in full and educated by the branch manager about the importance of a high quality product. If the spinner repeats the quality problem a second or third time, she is paid in full but does not receive new raw material.

Jaipur Rugs doesn't formally collect data on the number of quality issues related to spinning, but estimates rejections at 5%. Chaudhary said, "When we start up hand spinning in a new area, the number [rejected] depends on how long they have been working there. In the old areas the number is almost nil – maybe one or two every month. In a new village, it may take some time."

After dyeing, the dyed yarn is checked at the Jaipur Rugs headquarters in the map section of the Design department. There, the color either passes or fails. Figures from April-June 2008 from three key suppliers showed the rejection rate in dyeing between 7-10%.

Quality control in the weaving and finishing processes

The area commanders know how to weave, so they help correct and re-train the weavers during the weaving process if necessary. Once a rug comes off the loom, it is sent back to Jaipur Rugs headquarters for quality checking before being transported to the finishing center. At headquarters, inspectors in the Carpet Receiving area check for a variety of defects, including rug length and width in three different places on every rug.

To correct quality issues, the company occasionally brings weavers to the office for re-training, or they return the rug to the weaver. Based on data from April to June 2008, the percentage of unfinished rugs checked at headquarters and then returned to the weavers was 0.5%. This return rate is low considering the amount of decentralization in the weaving process. Reasons for the low return rate include the thoroughness of the quality control process and the fact that the most common quality problems can be repaired during the finishing process.

To ensure the quality of rugs through the finishing process, two Jaipur Rugs employees go to the finishing centers every day. Once a rug is returned back to Jaipur Rugs headquarters, the quality of the washing and repairing is checked. When necessary, finishing center representatives are called into the Jaipur Rugs headquarters to discuss quality issues with Jaipur Rugs management. Over a three month period between April - June 2008, the percentage of rugs returned back to the finishing center was 4.6% (265 rugs out of total received 5742).

Future changes to quality control and enforcement

Jaipur Rugs wants to eliminate quality control checks of unfinished rug at the headquarters and replace them with checks at the branch offices, requiring a greater amount of process consistency. They identified their first step as creating a standardized booklet for area commanders to record the status of each rug every time they visit a loom.

Achieving international quality standards

Jaipur Rugs management recognizes the importance of internationally recognized quality standards. In May, 2008, Jaipur Rugs received ISO 9001:2000 certification as a way to help standardize the documentation of company processes. The company is also in the processing of applying for ISO 14000 (an environmental audit) and SA8000 (a social audit) certification.

Information Technology

In anticipation of aggressive future growth, in 2005 the company decided to make a big investment in new IT architecture as a way to more easily tailor products to customer needs, track orders, manage inventory, and reduce order processing time. In order to

move towards the goal of enabling its customers live access to all of its order information, and scale the business, Jaipur Rugs decided to purchase an ERP system. At the time, this kind of strategic investment in IT was uncommon among competitors in the Indian rug industry. ERP was being used at headquarters as of the beginning of 2008 and a full roll-out was planned for completion by 2009.

Human and Communications Networks

Despite the company's strategic investment in technology, in some areas where the company has weavers there are no phone or internet signals. The company uses its extensive network of branch offices and area commanders to regularly visit each loom and get progress updates.

CAPACITY BUILDING & SOCIAL ISSUES

Jaipur Rugs is grounded in its commitment to the development of the rural communities in which it works, and to the cultivation of leaders throughout the organization. Chaudhary's philosophy on the role of business in society, discussed earlier, is the guiding force behind the company's strong social mission.

Promotion of Leadership & Entrepreneurship

Amongst Jaipur Rugs employees, its network of artisans, and the entrepreneurs who run the enterprises that support the production of the rugs, there are numerous examples of people who moved up the ranks into positions of leadership. Chaudhary believes in rewarding talent and this helps create a culture where people are motivated to work hard and be successful.

Examples of Upward Mobility:

- In 2008, the top 20-30 people in the field level of the company were earning Rs 15,000 - 30,000 (USD \$325 – USD \$650) per month as quality controllers -- 20 years ago they were weavers.^{xiv}
- Mr. Rameswar, a Branch Manager in Gujarat, has worked for Chaudhary for 20 years. When he started, he was earning Rs 50 per month, as a weaver. He was promoted from weaver, to map reader, to area commander, and finally to branch manager. In 2008, he earned Rs 50,000 (USD \$1,087) per month. He was very happy with the progress he made and was particularly proud of the fact that all three of his children were receiving an education.
- Mr. Babu Singh, a finishing center owner, and Mr. Surendra Kumar Mahawar, an opening center owner started as laborers in the rug industry and worked their way up the ladder to eventually run their own enterprises, employing 150 – 200 people each. Both men were supported by Chaudhary in their efforts to start their own enterprises.

Leadership Development through Employee Interaction

There are several activities within the Jaipur Rugs headquarters office, initiated by Chaudhary, to facilitate leadership development amongst employees.

- *Sunday Night Conversations*: Chaudhary spends one hour every Sunday night engaging in informal conversations with the approximately 50 employees who live at the Jaipur Rugs headquarters.^{xv} Chaudhary's goal is to teach the workers about the qualities of entrepreneurship and leadership while learning about the individual talents of the workers.
- *Book Share Program*: In 2007, Chaudhary established a library at the Jaipur Rugs headquarters, which houses 20-30 copies each of a handful of books with leadership, inspiration, and business management themes. The goal is to encourage groups of employees to read the same book simultaneously, and then share with each other what they learned and how those insights applied to the company.

Training

While training at the Jaipur Rugs corporate headquarters level is primarily informal, there are more formal training programs in place for weavers, particularly in new production areas where there is no tradition of rug weaving. All training is managed by Jaipur Rugs Foundation staff, and primarily conducted through an apprenticeship model. Master weavers, chosen as trainers by JRF staff, live at the training centers for the average six-month training period and are paid Rs 200 (USD \$4.35) per day. Weavers-in-training are paid Rs 20-50 (~ USD \$1) per day and receive free housing and food. However, the company faces many problems retaining trainers for consistent periods of time. It is common for trainers to run away from the training centers without warning, until they run out of money and subsequently return. In Sonbhadra District (Uttar Pradesh), the company is making a big effort to recruit and train female weavers in an area that has traditionally had male weavers. JRC management believes that females are more tied to their household and village, and therefore less likely to leave for other employment opportunities.

Labor Practices

The company's official "Social Accountability" policy states:

We provide all round development of all stakeholders with special emphasis on the economically and socially backward class of people of the society. We are committed to accomplish this by doing the following:

- We are developing health and safety management for our stakeholders.
- We very well know the rights of the employees and their freedom of association.
- We do not discriminate people on any ground.
- We provide fair remuneration on the basis of recognized job evaluation system.
- We ensure that no child or forced labor exists in our company and with our suppliers.

The company has a clear policy of minimum working age for all weavers and employees. It conducts spot audits in the field to ensure policy implementation but sometimes finds it hard to enforce since carpet weaving is traditionally a family vocation and largely unsupervised in the context of the Jaipur Rugs business model. Jaipur Rugs wants to create a more rigorous system of contractors and weavers that do not recruit any child labor.

As of June, 2008, the company was not a member of Rugmark or Care and Fair, two associations that work to prevent child labor in the rug industry. Jaipur Rugs adopted a different approach to deal with the issue of child labor by choosing to create the Jaipur Rugs Foundation, which deals with all aspects related to a weaver’s life including education, healthcare, training and awareness on social issues. However, the management team planned to get Rugmark certification in the near future for select products that were purchased by customers who were specifically requesting the Rugmark label.

SALES & PRODUCT SNAPSHOT

Jaipur Rugs sells its products through a variety of channels across the globe. 98% of 2007 sales and 90% of 2008 sales were direct exports to either Jaipur Rugs, Incorporated (JRI) in Atlanta or other U.S. customers that Jaipur Rugs has had long-existing relationships with. 2% of 2007 sales and 10% of 2008 sales were through the Rest of World (RoW) channel. This included direct exports to agents, representatives or direct retailers in Germany, Belgium, France, Netherlands, Japan, Australia, South Africa, Turkey and the UK. As noted by the jump from 2% to 10%, the RoW market for JRC is both growing and diversifying.

66.5% of Jaipur Rugs’ sales were in the Hand Knotted product category, and within this the 8/8 (64 knots) Wool was the most popular product at 22.5% of total sales. Hand Tufted rugs were 10% of Jaipur Rugs’ total sales, and Flat Weave were 20% of total sales (~15% sumaks and ~5% dhurries). Approximately 3.5% of sales fell into the “other” category of custom made-to-order products. Below is a look at the cost build for some of Jaipur Rugs’ most popular products^{xvi}:

Table 2: Cost build for most popular Jaipur Rugs products^{xvii}

| Product Quality | 8/8 W | 10/14 W | 10/14 WS | 14/14 PS | Sumak- W | Tufted - W |
|------------------|-------|---------|----------|----------|----------|------------|
| Material | 37% | 25% | 43% | 31% | 25% | 43% |
| Labor | 43% | 52% | 33% | 39% | 49% | 35% |
| Overhead | 16% | 21% | 13% | 8% | 19% | 13% |
| Margin (average) | 4% | 2% | 10% | 22% | 8% | 9% |

W = Wool; WS = Wool Silk; PS = Pure Silk
 Material costs include cost of dyeing
 Labor consists of weaving, finishing, map production
 Overhead includes selling and distribution expenses
 Figures represent percentage of selling price

Below is a chart detailing the life cycle of a typical Jaipur Rugs product from raw materials to end sale at a retail store. This example is for one 5’x8’ (40 square feet) sumak rug and all costs and prices are quoted in terms of one square foot:

Table 3: Life cycle costs and selling prices of a typical Jaipur Rugs product^{xviii}

| Description of Process | Cost/Sq. Ft (Rs) | Cost/Sq. Ft (USD) | Capacity / Time |
|---|------------------|-------------------|------------------------|
| Customer (large retailer) placed order with JRI | | | |
| JRI communicated order to JRC | | | |
| JRC forecasted and acquired raw materials (includes wool bought in Bikaner or imported from another country) | Rs. 22.71 | 0.49 | 15 days |
| JRC completed pre-production logistics (cleaned, prepared and delivered wool to weaver with rug map) | Rs. 33.09 | 0.72 | 30 days |
| Weaving process | Rs. 100.5 | 2.18 | 32 days (@2 sq ft/day) |
| Post-production logistics (finished carpet returned to JRC and packed for shipment) | Rs. 26.62 | 0.58 | 3 days |
| Total JRC cost | Rs. 182.47 | \$3.98 | |
| JRC wholesale price charged to JRI | | \$4.50 | |
| Shipping cost (paid by customer)* | | \$0.25 | 45 days |
| JRI wholesale price (charged by JRI to customer)** | | \$5.00 | |
| Final retail price (charged by customer to end consumer)*** | | \$12.50 | |
| <p>*Shipping cost is assumed to be freight and includes all customs fees, duties, and final transportation to customer. Shipments by air cost \$1.5/Sq. ft. and are only for back-ordered products. JRI pays for the shipment in this case (approximately 15% of all shipments).</p> <p>**This is the wholesale price. If a customer makes a purchase from the JRI warehouse rather than placing a bulk order, JRI will charge a higher price, typically \$8/Sq. ft.</p> <p>***A large retailer typically charges markup of 2.5x cost</p> | | | |

According to this chart, the total cost of production for JRC was USD \$3.98 per square foot, and JRC billed JRI USD \$4.50 per square foot. Therefore, JRC’s gross margin was USD \$0.52 per square foot (11.5%). Since this is a special case of sumak rugs sold to a large retailer, the margins are low compared to higher margin catalogue products and are compensated by the higher volume orders these customers place. Jaipur Rugs makes it a priority to find ways to streamline processes and cut costs in order to keep up with the pricing demands of these large retailers.

FUTURE GOALS & CHALLENGES

Jaipur Rugs is aiming to achieve USD \$50 million in sales by 2011. In order to accomplish this, the company has outlined six strategic objectives^{xix}:

- *Keep the core, target more:* Jaipur Rugs aims to offer a full product line in area rugs, particularly in the hand knotted arena where they have a specialized

competency. As the company grows, there are plans to expand into other home furnishing products.

- *Country focus*: Continued focus on penetration of the US market. Outside of the U.S., focus on seven high potential countries: South Africa, Turkey, Italy, United Kingdom, United Arab Emirates, Japan, and Germany.
- *Capacity building*: Make design a core competence by attracting new talent and developing new creations based on customer insights. Furthermore, the company plans to build up organization capacity (in terms of production and suppliers) in alignment with this strategy.
- *Adaptive organization*: Redesign the organizational structure in order to better align activities with its respective functions.
- *Efficient supply chain*: Build distinct supply chains for low end and high end products by focusing on three key aspects: time, transparency, and trust.
- *Financial prudence*: Exercise financial prudence by monitoring important measures and building linkages to customers, employees and processes. Some specific areas of focus include customer satisfaction, retention and profitability, employee training and development, and supply chain efficiency.

As it looks to accomplish its aggressive future goals, Jaipur Rugs faces new challenges. Chaudhary explained what he saw as the biggest one:

Finding the right people and getting them developed. There are so many processes in the rug business. It is very difficult to get an integrated model to help. Only people with pure hearts can make a model that is substantive and scalable.

Dedicated and loyal people are needed throughout the organization: in middle management (to fill the gap between the family and the rest of the staff), in upper management (to start to plan for succession), and at the weaver and contractor level. As Chaudhary grooms his son Yogesh to be his eventual successor as head of the company, he wants to make sure that Yogesh can replicate his model of building long lasting relationships built on interdependence among employees and contractors at every level. He seeks ways to ensure that his son has a strong connection to people at the village level and believes that Yogesh should, at some point, live in a village two days per week.

Jaipur Rugs seeks to continually deepen relationships with and between its 40,000 virtual employees and its growing number of global customers. The company views the connection between its artisans and end-consumers as a key to sustainability and scalability. The challenge is to find the best ways to foster these connections.

AUTHOR BIOGRAPHIES

Jennifer Anderson

Jennifer first developed her passion for economic development in emerging markets while working at an investment bank in New York City. Since then, she has traveled, volunteered or consulted on projects in multiple countries across Asia, Latin America, the Middle East and Africa. She is currently a management associate in a global leadership development program at Citigroup where she also works with the Citi Microfinance group. Jennifer is actively involved in several other microfinance networks and is a proponent of poverty alleviation through entrepreneurship. In 2008, she received her MBA from the Stephen M Ross School of Business at the University of Michigan with a concentration in international business and entrepreneurship. Prior to that, she worked as a risk manager within the equities divisions of both Morgan Stanley and Banc of America Securities. Jennifer earned a BS in Business from Wake Forest University and in her spare time she enjoys vetting new entrepreneurial endeavors and creative writing.

Nina Henning

Nina is motivated by her desire to improve economic conditions in emerging markets through innovative business ventures that respect the environment and indigenous cultures. She has experience in financing the commercialization and distribution of clean technologies, both internationally with the Acumen Fund and domestically with the University of Michigan's Frankel Commercialization Fund. In addition, Nina spent five years in Kathmandu, Nepal as the Managing Director of Wild Earth Pvt. Ltd., a mission-driven herbal cosmetics company, where she led a turnaround from bankruptcy to profitability. Nina graduated from the University of Michigan in 2009, earning an MBA from the Ross School of Business and an MS from the School of Natural Resources & Environment. She earned her BA in History from Princeton University, and is the co-author of *Hybrid Organizations: New Business Models for Environmental Leadership* (Greenleaf Publishing, 2009).

Marion Nturu

A national of Uganda, Marion Nturu was born and raised in Nairobi, Kenya before moving to New York City in 1992. After graduating from Mount Holyoke College in 2002 with a dual major in mathematics and economics, she worked as a consultant for Mercer HR Consulting (Retirement Practice) and PricewaterhouseCoopers, LLP (Risk and Compliance) in New York. In 2008, Marion earned her MBA in international business from the Stephen M. Ross School of Business at the University of Michigan. She is currently a management associate with Citi Cards in the New York office. Having lived in both developed and developing nations, she hopes one day to combine her background in business with economic development to alleviate poverty in Africa. Marion loves to travel and is on a quest to visit all seven continents of the world; she also enjoys dance and music.

Shara Senior

Shara Senior is helping to start a U.S. based BoP business incubator focused on creating businesses that improve health as a consultant to Ascension Health. Her career interests

are in creating businesses that use holistic value chain approaches to providing critical goods and services by including the BoP as producers, consumers, and entrepreneurs. Shara graduated from the Stephen M. Ross School of Business at the University of Michigan with her MBA in 2008. Prior to Ross, Shara worked at Nissan North America as an engineer, and owned and operated a property management company. Shara is a native of Kingston, Jamaica and holds a Bachelor of Science degree in Mechanical Engineering from the University of California, Los Angeles.

ENDNOTES

ⁱ Jaipur Rugs overview presentation, May 12, 2008.

ⁱⁱ This figure represents combined sales revenue from Jaipur Rugs Company (India) and Jaipur Rugs, Incorporated (U.S.).

ⁱⁱⁱ Jaipur Rugs overview presentation, May 12, 2008.

^{iv} The terminology that Jaipur Rugs uses for sales in countries other than the U.S. is Rest of World (RoW) sales.

^v The exchange rate used throughout this case study is: USD \$1.00 = Rs 46.

^{vi} Jaipur Rugs overview presentation, May 12, 2008.

^{vii} Email from Deepak Sharma, October 12, 2008.

^{viii} Approximately 70% of the weavers are female, and 30% male.

^{ix} Data provided by Jaipur Rugs Company.

^x Ibid.

^{xi} In fiscal year 2007-08, 385,135 kgs of wool were hand spun and 292,139 kgs were machine spun. The sum of these numbers is less than the total quantity of wool procured in 2007-08. All procured wool could not be spun into yarn because the company did not have enough hand carding/spinning capacity and they met the demand for machine spun wool.

^{xii} Data provided by Jaipur Rugs Company.

^{xiii} The range in monthly incomes was in part due to the construction (quality) of the carpet produced and in part due to variations in output across weavers.

^{xiv} Quality controllers were either Area Commanders or Branch Managers.

^{xv} These employees were laborers who came from other states and did not have any family with them in Jaipur.

^{xvi} Data provided by Jaipur Rugs Company.

^{xvii} Ibid.

^{xviii} Ibid.

^{xix} Kanvic, *Jaipur Rugs Strategic Plan 2008-11*, May, 2008.