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jakson: Evolution of a Brand

Bipul Kumar wrote this case solely to provide material for class discussion. The author does not intend to illustrate either effective or ineffective handling of a managerial situation. The author may have disguised certain names and other identifying information to protect confidentiality.

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In December 2010, Jakson Group (Jakson) executives Sameer Gupta (chairman and managing director) and Sundeep Gupta (vice-chairman and managing director) met in the corporate war room of the group headquarters at Noida, India. They were contemplating the options before them for spearheading the company out of a crisis. A pioneer in the field of acoustic diesel generator sets (gen-sets) and one of the largest original equipment manufacturers (OEMs) for Cummins India Limited (Cummins), Jakson had had a [compound annual growth rate](https://www.investopedia.com/terms/c/cagr.asp) of 23 per cent for eight years, from 2000 to 2008. Its revenues had grown from US$209 million[[1]](#footnote-1) to $26.7 million in the same time span. However, global competition and the economic downturn after the Lehman Brothers crisis of 2008 had caused a major setback to the firm’s top line, pulling its revenues down to $179.73 million in 2010.

Bewildered by the economic turmoil and resulting reaction from buyers, the Gupta brothers were thinking about options to repair the dent in their top line. They also wanted to grow and diversify their business in a sustained manner. Entangled by a plethora of ideas for how to achieve these goals, Jakson management deliberated over how to strengthen the Jakson brand, which had been meticulously built over the years. Based on suggestions provided by one of the big four consulting firms, the management team also sought to identify aligned areas of growth and diversifying without shifting the core. The team wondered if the Jakson brand was strong enough to withstand the harsh business conditions at that time. They became introspective about their relationship with the engine supplier Cummins, which was built on strong foundations. Time was passing quickly, and the Gupta brothers needed to make the most suitable decision—one that would fit well with Jakson’s core strengths and values.

JAKSON’S History

Satish Kumar Gupta, Jakson’s chairman emeritus, graduated from Delhi University in 1955 and began his career as an assistant executive with Burmah Shell, now known as Bharat Petroleum Corporation Limited. Later, in 1958, he joined his father Jai Kishan Gupta, who had come as a refugee to Delhi after India’s independence, and laid Jakson’s foundation. Jai Kishan Gupta had an electrical goods shop in Delhi that sold motors, pump sets, switchgears, and other related components. By the late 1960s, Jai Kishan Gupta and his son Satish had transformed Jakson into one of the largest distributor partners for leading multinational brands in India such as Larson & Toubro, Siemens, and Kirloskar Electric.

In the early 1970s, owing to economic growth and intense industrialization across all sectors in India coupled with inconsistent power supplies, Satish Gupta foresaw a robust demand for diesel gen-sets and decided to get into trading in popular brands such as Parry & Co., Escorts Group, and others. Integrating backward, he founded a small gen-set manufacturing plant in Delhi in 1979. The plant manufactured 60 gen-sets in the first year of production and sold all of them.

Deisel Gen-set Business in India

Indian Power Scenario

India’s total installed power generation capacity at the time of its independence stood at 1,362 megawatts (MW), and per capita consumption of electricity stood at a modest 16 kilowatt hours (kWh).[[2]](#footnote-2) Coal-based thermal power plants and hydroelectric power plants were the primary sources of electricity generation. Generation and distribution of power were carried out by private utility companies.

The newly elected government of India realized that the private sector, driven by its motive of profitability, could not solve India’s electricity problems. This led to the constitution of the *Electricity (Supply) Act, 1948*, which mandated the creation of State Electricity Boards (SEBs) for planning and implementing power development programs in each state. It also mandated the procurement of licences by private utility companies from SEBs to distribute and generate electricity within their respective areas. Over the next few decades, the electrification of the entire country remained the core focus for each successive government. As a result, the country made significant strides in the sector. As of March 31, 2015, 68 years after India’s independence, the total installed electricity generation capacity of the country stood at 267 gigawatts (GW), with per-capita electricity consumption around 1,010 kWh.[[3]](#footnote-3) Despite making such rapid strides, the peak power deficit in the countrystood at almost 13 per cent in 2006–2007 (see Exhibit 1).

Gen-Sets: Plugging the Gap between Demand and Supply

Although the power sector grew after independence, peak and non-peak power deficit and high transmission and distribution losses remained major challenges in India. The instability in the power supply led to significant growth in the diesel gen-set business as industrial and commercial establishments required uninterrupted power supplies for their operations. In rural areas still not electrified or connected to the grid, diesel gen-sets were the primary source of electricity generation, especially for irrigation purposes.

The gen-set market in India in the 1980s and early 1990s was characterized by high demand and low supply. Factors such as the gap in the supply and demand of grid power, subsidized diesel as the fuel, and rapid industrialization led to the growth of the diesel gen-set business. It attracted an increased number of gen‑set manufacturers to the country—both organized and unorganized. The unorganized players were small-scale indigenous manufacturers with a local presence, catering primarily to local markets within a state. Organized players dominated the higher kilovolt ampere (kVA) segment with their strong dealer and distributor networks across India.

Jakson: A Narrative of brand building until 2000

By 1981, Jakson was producing and selling around 200 gen-sets per year. Jakson’s gen-sets, with their quality and efficiency, caught the attention of Cummins, formerly Kirloskar Cummins. As a result, Jakson became an OEM for Cummins. In 1984, Atul Kirloskar, head of Kirloskar Cummins, inaugurated Jakson’s new unit at Mayapuri, Delhi, which had an initial annual capacity of producing 800 gen-sets.

In 1990, Jakson profited from the infusion of youth and innovation when Satish Gupta’s sons Sameer and Sundeep joined the business. Both of them soon realized that the old conventional methods were taking a toll on the overall efficiency of the business.

Jakson’s planned expansion was taking place at a time when U.S. companies were already using information technology (IT) proficiently. Such a competitive landscape provided a much-needed impetus for the Gupta brothers to embrace a self-developed offer-to-dispatch enterprise resource planning (ERP) program. Later, they switched to ERP by information technology leader SAP SE for wider applications.

To match international standards, the Gupta brothers started participating in international power generation exhibitions such as Middle East Electricity, Dubai, and Power-Gen Europe. As vice-chairman and managing director, Sundeep made a series of visits to Cummins’s European OEMs to understand the benchmarking standards in acoustic gen-sets, which helped Jakson start the production of acoustic gen-sets. Sundeep explained that “Jakson was the first Indian diesel gen-set manufacturer that invested in state-of-the-art computerized numerical control machines from industry major Amada (India) Pvt Ltd. for its manufacturing plants in India.” Top management’s foresight and exposure to world-class manufacturing practices paved the way for Jakson to invest in its first state-of-the-art control panel and switchboard manufacturing facility in Noida near Delhi in 1997.

Demand for diesel gen-sets was picking up, resulting in Jakson setting up another facility at Kalsar in Gujarat state in 2001 with an investment of approximately $9 million. With an installed production capacity of 8,000 gen-sets, it was an integrated state-of-the-art facility that manufactured base frames, acoustic enclosures, and gen-sets simultaneously. Jakson was the first company in the Indian gen-set manufacturing industry to have such a large and fully integrated facility, giving it a clear edge over competitors.

Over time, Jakson continued working on expanding its network and presence. By 2000, it had 21 sales offices, 50 dealers, and 12 warehouses across India. Jakson’s presence in 21 locations helped it develop strong customer relationships by collecting customer feedback to handle any issues and improvising its products proactively. Since the Gupta brothers were clear in their approach that growth and dominance in the market would be fuelled by innovation and continuous improvement in product offerings, they continued investing in disruptive technologies and state-of-the-art manufacturing. This era proved to be challenging, with several opportunities to build the Jakson brand block by block.

Jakson and Cummins: Start of Good Relations

Cummins Inc. was a Fortune 500 American company. With headquarters in Columbus, Indiana, it was a global leader in the diesel engine market. In 1962, Cummins Inc., formerly Cummins Engine Company Inc., and Kirloskar Oil Engines Limited established a joint venture in India. Cummins sold its engines to local OEMs. The OEMs would then assemble other additional components such as control panels, enclosures, and switches, and sell a complete built-up gen-set unit with its own network of dealers and distributors. Despite having a huge gap between the supply and demand of diesel gen-sets, Cummins was never too keen to add new partner OEMs, primarily due to its high brand value.

Since its inception years, Jakson had developed a good market reputation in the diesel gen-set business owing to its commitment and quality. Cummins identified these virtues and started supplying its engines to Jakson for further assembly into diesel gen-sets. In 1981, the number of engines purchased by Jakson was 40 units, which grew subsequently on a yearly basis. The relationship between Jakson and Cummins grew exponentially, marked by sheer dedication, commitment, and a feeling of mutual trust and respect. The Cummins logo was part of the Jakson gen-sets (see Exhibit 2), representing an essence of co‑branding, and boosting the confidence of both small and big customers. By 2000, Jakson and Cummins both believed that keeping the pace of growth and market share required them to work together collaboratively.

1998 Economic Recession

Until 1998, Cummins had 24 OEM partners in India. The global recession started showing its impact on India in the same year. The Confederation of Indian Industry, in its survey for the first quarter of the 1998–99 financial year, indicated that 31 sectors witnessed negative growth and 32 sectors witnessed moderate growth due to the recession.

The economic recession also affected the gen-set market in India, leading to intense competition among existing players and ultimately resulting in thin profit margins. As the sector was still unorganized, small Cummins OEMs started leaving the business because of their inability to invest continuously and their weak dealer and distributor network. Next generation entrepreneurs in many of these OEMs had less clarity about the vision to sustain themselves in the tumultuous market, which was marked by their extinction or loss. The overall number of OEMs was reduced to only three, among which Jakson was still standing. Jakson survived the market primarily because of its continued investment in new technologies, backward integration into manufacturing, benchmarking with foreign companies, and its strong dealer and distributor network.

2000 To 2008: Reinforcement of the Jakson brand

In 2003, the Central Pollution Control Board of India announced a series of regulations that mandated all diesel gen-sets manufactured in India to have noise a pollution level of less than 75 A‑weighted decibels. These regulations brought about a paradigm shift in the diesel gen-set industry as they severely affected the unorganized diesel gen-set manufacturers, who could not comply with the new norms. Jakson was one of the biggest beneficiaries. With its continuous investments in research and development and innovation, Jakson had developed soundproof acoustic enclosures for its gen-sets well before the regulations came into force. In fact, the company had been manufacturing gen-sets with acoustic enclosures in its Noida manufacturing plant since 1998 as an alternate product offering.

The biggest impact of silent diesel gen-sets was seen in Jakson’s top line, where the value addition jumped from 15 per cent on open diesel gen-sets to 40 per cent on the silent gen-sets. Owing to an oligopolistic market for two years, Jakson was able to increase its market share sharply. Its new gen-set models provided users with a ready-to-use plug-and-play power supply unit, which could be made live in a matter of minutes. It became a customer favourite, not just with large-scale industrial and commercial users but also with single-unit users, such as event organizers, residential users, and small shops.

Between 2000 and 2008, Jakson grew at a compound annual growth rate of 23 per cent for eight consecutive years, with revenue reaching $209.36 million in 2008 (see Exhibit 3). Jakson was manufacturing more than 8,000 gen-sets annually, and it inaugurated another plant, in Kathua in the state of Jammu, to meet the growing demand.

Relational Spectrum between Jakson and Cummins

In time, the relationship between Jakson and Cummins grew stronger. They jointly developed their mutual goals and objectives, sales process, product portfolio, loyalty program, feedback program, and price councils for smooth business growth. They used customer relationship management (CRM) to share data, review every inquiry, and make joint action plans related to specific inquiries. They made joint visits to customers to understand their requirements in more realistic terms. Executives from both companies met monthly to review demand and fine-tune delivery schedules and commitments.

Councils with joint representation for price, product, and technology were formed, and they met quarterly to review situations and make decisions. Cummins collected data on sales, stocks, quality, and pricing. It also collected data on pending orders from Jakson, and provided the company with the results and input on various issues such as market share, forecasting, engine purchase by net value, and key account joint visits. Cummins made it mandatory for Jakson to take at least two Six-Sigma[[4]](#footnote-4) projects every year, for which it provided all support and guidance. Sameer stated, “Our relationship with Cummins is built on the pillars of trust, transparency, and collaboration. These are essential elements for the success of any partnership, and we are proud that we have been able to nurture these attributes in our relationship with Cummins over three decades.”

Top management from Jakson and Cummins met quarterly for one and a half days to monitor progress on relationship and performances. During their meetings, relationship issues, if any, were taken up with the objective of strengthening the relationship.

The strategic partners also collaborated with each other on branding activities, and co-branded the gen-sets with Jakson and Cummins brand names. Jakson strongly believed that “Products are created in the factory; Brands are created in the mind.” Cummins’s global tagline, “Our energy working for you,” was deliberately created to show the company’s concern for its customers. Jakson and Cummins shared advertising expenses equally. They believed in continuity, repetition, and symmetry of the promotional and advertising material to create an effective and strong brand. Photographs—the strongest expression of personality in communication—had pre-decided choices of perspective, people, product, power, and purpose combined to differentiate them from competitors. Branding collateral and activities included product literature, calendars, cards, brochures, posters, participation in road shows, van branding, customer seminars, and trade shows. Regarding branding, Sameer explained, “Brands do not just suddenly appear. They are carefully constructed, piece by piece, element by element, over a period of time.”

Customer Segmentation

The market presence of different manufacturers varied based on the capacity of the gen-sets (see Exhibit 4). Jakson had a unique approach to tackling customer problems that started with selecting the right customer. The company identified 29 sectors and segmented the market accordingly (see Exhibit 5). Jakson realized that the infrastructure, industrial, agriculture, and commercial segments were significant users of diesel gen-sets; hence, they were primary targets for growth.

It was evident that sales to some of these segments were also a function of seasonal trends; hence, the sales volume varied at different times of the year. Gen-set sales in the infrastructure segment picked up heavily from March to June primarily due to power shortages. July and August witnessed an increase in diesel gen-set sales to cold storages and rice mills, whereas in September and October, sales were driven by cultivation in tea estates.

Jakson established its project verticals in 1998 to customize its products and services for big customers and give them a single-window solution. Mostly, it targeted customers in industrial segments, namely, those in cement, realty, automotive, power, and the telecommunications sector. The initial success in stand-alone diesel gen-set sales prompted Jakson to venture into the entire value chain. Jakson started taking on complete engineering, procurement, and construction (EPC) projects to provide end-to-end power solutions to its customers in various segments. It was a unique system-selling opportunity for the company.

Customer Service and Post-Sales Support

A key differentiator for Jakson that helped it outpace the industry growth rate was its excellent customer service. It was the only company in the industry that had invested in setting up a dedicated technical support training facility, which it did in collaboration with Cummins. This training facility helped Jakson provide solutions for all kinds of technical issues or breakdown situations. Ready availability of spare parts was another advantage for Jakson owing to its relationship with Cummins. Such prompt after-sales service created a big market for Jakson gen-sets in the industrial and commercial segment.

Jakson had 21 offices and 54 channel partners across India. Each served as a customer service nodal point for the gen-set business. Even though only 10 per cent of the sales volume was generated by its channel partners, Jakson appointed its front-line sales team to keep a tab on them by making them a conduit of communication for some of its customers. The sales team also communicated with key customers directly to assess their problems and provide them with quick solutions.

Jakson also launched a 24/7 dedicated customer support helpline to provide a single point interface for its customers across India. A testimony of its customer service transpired from an incident when a customer and promoter of 3C builders and developers called Sameer at 12:00 a.m. about a critical power failure. A dedicated team from Jakson was able to resolve the problem by 5:30 a.m. the same day, much before the actual deadline given by the customer, thus preventing substantial loss. Recollecting the incident, Sameer said, “We put strong emphasis on after-sales services that includes speedy repair and spare parts replacement. We ensure that any customer establishment shall suffer the least downtime of their gen‑sets in the era of uncertain power supply.”

Innovative Approach and Backward Integration

Over the years, environmental issues became a matter of concern for India’s diesel gen-set industry. The Central Pollution Control Board announced several new control measures to ensure minimum damage to the environment. To keep up with the changing dynamics, organized players like Jakson and Cummins made significant investments in research and development and engineering to develop eco-friendly diesel engine gen-sets.

Innovative engineering practices such as soundproof acoustic enclosures were first-of-a-kind technological features in India’s gen-set market. Jakson was also one of the first players in the gen-set industry to focus on backward integration, producing its own switchgear, switchboards, and other electrical peripherals required in the gen-set business. Sundeep said, “The key to success in manufacturing is to bring in process efficiencies, reduce overhead costs, and assure effective quality controls.” Driven by the vision of its top management to reduce the overall overhead cost, Jakson focused on consolidating its scattered manufacturing facilities into four large facilities.

Information-Technology-Driven Systems

Jakson invested heavily in SAP and CRM, which helped it meet its motto of beating every inquiry to death. CRM implementation removed the duplicate entry of inquiry by dealers and sales representatives from the system, and helped keep track of customers’ complaints and feedback.

It was mandatory for the sales force to update the status of every inquiry on a daily basis. If any inquiry was ignored continuously for 78 hours, it was automatically escalated to top management by the CRM. Also, if any sales executive did not use the CRM system for three continuous days, it would be locked automatically, and only the head office had the authority to unlock it. Jakson effectively used ERP to reduce the turnaround time of the entire business process.

People Management

Since Jakson was growing at a fast pace, managing people and talent was a big challenge. To ensure growth in market share, Jakson consistently invested in its human resources. Employees were given training to improve their technical and soft skills. The company also worked with a leading human resource consultant Ernst & Young on its restructuring and human resources transformation, to align employees with organizational objectives.

Challenges Ahead

Growth among Changing and Competitive Dynamics

Every success posed new challenges. Although Jakson was enjoying decent growth, the market demand for diesel gen-sets required capacity growth at a tremendous pace. By the time Jakson built one plant, there was already a need to invest in further capacity expansion. In 2006, Jakson invested in larger facilities and consolidation to reduce the overhead cost and maintain efficient operations.

Global economic sentiment positioned India as a significant market, thus attracting players from across the world. From limited competition, the Indian market grew to become a hub of global competition for the diesel gen-set business. In 2008, Jakson had a market share of 34 per cent followed by Kirloskar Oil Engines Limited (21 per cent), Mahindra Powerol (15 per cent), Ashok Leyland Limited, (7 per cent), Eicher Engines Limited (3 per cent), and others at 20 per cent. Since Jakson had the highest market share, it was subjected to the biggest threat from growing competition. Players from the United Kingdom, United States, China, and Japan entered the Indian market. Jakson, along with Cummins, invested a significant amount of time, money, and energy to fight the competition without compromising quality. Cummins continuously innovated and used its path-breaking technology and products in India to fight the competition and keep manufacturing costs low and efficient. Jakson, at the same time, made cautious efforts to deliver the required value to customers.

Global Economic Downturn

The year 2008 brought some bad news for the global market with the U.S. sub-prime mortgage crash and subsequent global economic recession. Economic growth slowed across all major industries and economies. India, one of the fastest growing economies in the world around that time, was not spared. As in the United States, the housing and infrastructure space—a key market segment for Jakson—suffered the biggest casualty. As a result, Jakson’s order book began to shrink, and revenues continued to drop with each passing quarter. At the end of 2010, Jakson’s revenues had dwindled to $179.73 million.

The biggest worry for the Gupta brothers was the grim global macroeconomic trends predicted by economists across the globe. Although two years had passed since the markets had been rocked by the financial crisis, there was no clear sign of recovery. It became a matter of concern for Jakson, as a few more quarters of a similar reduction in business could put the company in a major crisis.

Decision Dilemma

The Gupta brothers brainstormed various options with Jakson’s top management to avert the crisis. Sameer recalled, “During this period, we explored more than two dozen industries or businesses. But as promoters, we had to be careful to get into a business that would align with our existing line of business. To help us make the right decision, we decided to get external support and hired one of the big four consulting firms.”

The brief Jakson provided to the consulting firm was clear. The new business needed to be in line with the company’s core strength, which was innovative engineering with “not so easy” entry barriers. The consulting firm also needed to suggest an integrated strategy for growth without compromising the existing line of business.

After close to three months of extensive study, the consulting firm suggested that the Gupta brothers consider diversifying into three business areas, namely, power generation and distribution, solar power, and EPC. The consulting firm further suggested that the power generation and distribution business include a complete range of gen-set products, along with material handling and distribution of machinery parts. The blueprint suggested for the solar business included a complete range, from dealing in components such as solar photo voltaic modules to setting up solar power projects. The suggestion for the electrical EPC business included the execution of major electrical projects.

The Way Forward

Looking at the sprawling grass lawn from his office window, Sameer was introspective. He wondered if the Jakson brand, which was built block by block on a strong foundation, could lead them out of the crisis or if he needed to do something more. Turning toward Sundeep, Sameer said, “Our business has seen many challenges, and we have overcome every crisis. The overall economic scenario combined with global competition has brought a new and very different set of challenges for us.” The crisis was mounting for Jakson with each passing day. Sameer needed to think fast and make the right decision.

Exhibit 1: Power supply and demand position in INDia

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Period | Peak Demand (MW) | Peak Met (MW) | Peak Deficit/ Surplus (MW) | Peak Deficit Surplus (%) | Energy Requirement (MU) | Energy Availability (MU) | Energy Deficit/ Surplus (MU) | Energy Deficit/ Surplus (%) |
| 9th plan end | 81,555 | 71,262 | –10,293 | –12.6 | 5,22,537 | 4,80,350 | –39,187 | –7.5 |
| 2002–03 | 81,492 | 71,547 | –9,945 | –12.2 | 5,45,983 | 4,97,890 | –48,093 | –8.8 |
| 2003–04 | 84,574 | 75,066 | –9,508 | –11.2 | 5,59,264 | 5,19,398 | –39,866 | –7.1 |
| 2004–05 | 87,906 | 77,652 | –10,254 | –11.7 | 5,91,373 | 5,48,115 | –43,258 | –7.3 |
| 2005–06 | 93,255 | 81,792 | –11,463 | –12.3 | 6,31,757 | 5,78,819 | –52,938 | –8.4 |
| 2006–07 | 1,00,715 | 86,818 | –13,897 | –13.8 | 6,90,587 | 6,24,495 | –66,092 | –9.6 |
| Apr–Dec 2007 | 1,06,624 | 90,793 | –15,831 | –14.8 | 5,43,394 | 4,97,793 | -45,601 | –8.4 |

Note: MW = megawatts; MU = million units

Source: Ministry of Finance, Government of India, “Power,” *Economic Survey 2007–08,* 208–215, accessed May 11, 2018, www.domain-b.com/economy/ecosurvey2008/Chapters/9%20Infrastructure/chap92.pdf.

Exhibit 2: Acoustic Diesel Gen-Set

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Source: Company files.

Exhibit 3: Key Financial Indicators (In US$ million)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** |
| Net revenue | 146.10 | 165.42 | 185.79 | 209.36 | 192.77 | 179.73 |
| Cost | 117.90 | 131.51 | 149.00 | 172.51 | 159.42 | 148.99 |
| Gross margin | 28.20 | 33.91 | 36.79 | 36.85 | 33.35 | 30.73 |
| Gross margin % | 19.30% | 20.50% | 19.80% | 17.60% | 17.30% | 17.10% |
| Sales increase year on year | 22.97% | 13.23% | 12.31% | 12.69% | –7.92% | –6.77% |
| Operating expenses: | 1.39 | 1.42 | 1.05 | 2.44 | 2.49 | 3.40 |
| Selling, general, and administrative expenses | 3.23 | 3.33 | 4.34 | 6.22 | 11.02 | 10.48 |
| Total operating expenses | 4.63 | 4.76 | 5.40 | 8.66 | 13.52 | 13.88 |
| Operating income | 23.57 | 29.16 | 31.39 | 28.18 | 19.83 | 16.85 |
| Provision for income taxes | –0.93 | –1.31 | –1.23 | –1.45 | –1.92 | –3.02 |
| Net income | 22.64 | 27.85 | 30.16 | 26.73 | 17.91 | 13.83 |
| Interest and financial expenses | 0.21 | 0.14 | 0.31 | 0.42 | 0.51 | 0.28 |
| Depreciation | 0.28 | 0.29 | 0.44 | 0.56 | 0.73 | 1.46 |
| Net income as per profit and loss | 22.14 | 27.42 | 29.41 | 25.75 | 16.67 | 12.10 |
| Per cent of net revenue | 15.16% | 16.57% | 15.83% | 12.30% | 8.65% | 6.73% |
| Days of supply in inventory | 17.34 | 19.75 | 32.33 | 28.47 | 23.90 | 35.93 |
| Days of sales in accounts receivable | 26.86 | 36.33 | 42.11 | 48.83 | 46.17 | 51.25 |
| Days in accounts payable | 23.25 | 22.98 | 26.19 | 34.88 | 30.41 | 56.73 |

Source: Company files.

Exhibit 4: Brand Matrix Based on Capacities of the Diesel Gen-Set

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Engine/Generator**  **Set Supplier** | **15–75 kVA** | **75–375 kVA** | **375–750 kVA** | **> 750 kVA** | **Brand** |
| Cummins India Limited | Low | Leader | Leader | Leader | Jakson Cummins |
| Kirloskar Oil Engines Limited | Major | Major | Moderate |  | Kirloskar Green |
| Mahindra Powerol | Leader | Low |  |  | Mahindra Powerol |
| Ashok Leyland Limited | Low | Major |  |  | Leypower |
| Eicher Engines Limited | Moderate |  |  |  | Multi-brand |
| Escorts Group | Low |  |  |  | Multi-brand |
| Greaves Cotton Limited | Low | Major | Low |  | Greaves Whisper |
| Kirloskar Electric Company Limited | Low | Low | Low |  | Kirloskar Bliss |
| Caterpillar Inc. |  | Low | Moderate | Major | CAT |
| MTU India Private Limited |  |  |  | Low | MTU |

Note: kVA = kilovolt ampere

Source: Company files.

Exhibit 5: Customer Segmentation matrix

|  |  |  |
| --- | --- | --- |
| **Sector** | **Industry Segments** | **Total** |
| Agro and Aqua | Agriculture and Aquaculture | 1 |
| Cold Storage | 1 |
| **Agro and Aqua Sector Total** | | 2 |
| Auto |  | 1 |
| Defence |  | 1 |
| Diversified |  | 1 |
| Education |  | 1 |
| Financial |  | 1 |
| Health Care |  | 1 |
| Hospitality |  | 1 |
| Infrastructure |  | 1 |
| Manufacturing | Chemical and Polymer | 1 |
| Consumer Electronic Appliances | 1 |
| Engineering (Light and Heavy Engineering) | 1 |
| Process Industry | 1 |
| **Manufacturing Sector Total** | | 4 |
| Marine | Marine and Shipping | 1 |
| Media | Print and Entertainment | 1 |
| Mining | Mining and Quarrying | 1 |
| Mobile Power | Rentals and Mobile Generator Sets | 1 |
| Pharmaceutical | Pharmaceutical and Biotechnology | 1 |
| Power | Power and Energy | 1 |
| Public Sector | Public Sector and Utilities | 1 |
| Realty | Commercial/Non Residential | 1 |
| Residential | 1 |
| Realty Sector Total | | 2 |
| Retail | Fast-Moving Consumer Goods | 1 |
| Retail Industry | 1 |
| **Retail Sector Total** | | 2 |
| Service | Service | 1 |
| Technology | Information Technology/Information Technology Enabled Services | 1 |
| Telecommunications | Telecommunications | 1 |
| Textile | Textile and Garment | 1 |
| **Industry Segment Total** | | 29 |

Source: Company files.

1. All currency amounts are in U.S. dollars unless otherwise specified. [↑](#footnote-ref-1)
2. Central Electricity Authority, Ministry of Power, Government of India, *Growth of Electricity Sector in India from 1947–2017*, May 2017, accessed May 11, 2018, www.cea.nic.in/reports/others/planning/pdm/growth\_2017.pdf. [↑](#footnote-ref-2)
3. “Power Market: Rising Expectations,” *PTChronicle,* June 2015, accessed March 3, 2018, www.ptcindia.com/common/PTCChronicle-June2015.pdf. [↑](#footnote-ref-3)
4. Six Sigma was “an approach to improving product or process quality.” Gerald J. Hahn, Necip Doganaksoy, and Roger Hoerl, “The Evolution of Six Sigma,” *Quality Engineering* 12, no.3 (2000): 317–326. [↑](#footnote-ref-4)