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JOHNSON CONTROLS-HITACHI: AIMing TO CONSOLIDATE

a MARKET LEAD[[1]](#endnote-1)

Sandeep Puri, Shivani Upadhyay, and Shubham Sharma wrote this case solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.

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Franz Cerwinka’s appointment as director and chairman of Johnson Controls-Hitachi Air Conditioning India Limited (JCI-Hitachi) on May 30, 2016, coincided with the company’s fourth quarter announcements. While it was a personal achievement to be named director of the firm, on the professional side, JCI-Hitachi (formerly Hitachi Home and Life Solutions Limited) had reported a 44.44 per cent decline in standalone net profit at ₹133.6 million[[2]](#endnote-2) for the fourth quarter ending March 31, 2016. For the entire 2015–16 fiscal year, the company’s standalone net profit was down 35.73 per cent to ₹499.8 million against a net profit of ₹777.6 million in the previous fiscal year.[[3]](#endnote-3) Yet the company was very positive about the Indian market. Cerwinka’s projections placed India among the top three markets for JCI-Hitachi by 2020. As of the start of 2017, India was among the top 10 markets for the company, accounting for around 10 per cent of its revenue.

The result of a joint venture between Hitachi Appliances, Inc. and Johnson Controls, Inc., JCI-Hitachi had several aims: to be number one or two in the Indian market by 2020, to improve on the commercial air conditioner (AC) segment, and to provide better and wider cooling solutions to the Indian market.[[4]](#endnote-4) In particular, the company wanted to increase its room air conditioner (RAC) market to 20 per cent from the present 11 per cent by 2020.[[5]](#endnote-5) Cerwinka hoped to peg the company’s growth strategy on more energy-efficient, eco-friendly air conditioning, and expected that aim to be reflected in the company’s new brand identity.[[6]](#endnote-6)

JCI-Hitachi had a duel dilemma. Although positioned in the premium segment of the RAC market, it wanted to enter the popular segment, which was already crowded with established players. The company’s focus was on inverter ACs, which accounted for 40 per cent of its RAC revenue. However, because of the market potential and growth of the inverter AC segment, competition was tougher as key competitors entered this segment. What strategy could the company use to establish itself in the popular RAC market, and how could it defend its position in the inverter AC segment?

company background

Hitachi Limited

Hitachi Limited (Hitachi), headquartered in Tokyo, was a highly diversified Japanese manufacturing corporation comprising more than 900 subsidiaries. The company’s journey began in 1910 when its founder, Odaira Namihei, was working for an electric shop at a Kuhara mining company. Namihei began to experiment with his own designs and manufactured the first domestically produced five horsepower electric motor. He established his own company with this electric motor as its first product. He coined the company’s name by juxtaposing two Japanese characters—*hi* (meaning “sun”) and *tachi* (meaning “rise”)—and enclosing them in a circle to form the Hitachi logo.[[7]](#endnote-7) In its early years, the company manufactured heavy electrical equipment and industry machinery. By 2016, it was a global conglomerate with a presence in 11 segments: digital media and consumer products, automotive systems, railway and urban systems, financial services, construction machinery, power systems, electronic systems and equipment, high functional materials and components, social infrastructure, and information technology systems.[[8]](#endnote-8)

Launch of JCI-Hitachi

Hitachi entered the Indian market in 1999 as Amtrex-Hitachi Appliances Limited in a strategic alliance with Amtrex Appliances Limited. By 2003, it had acquired the entire stake from Amtrex Appliances Limited and the company was renamed Hitachi Home and Life Solutions Limited. In 2016, it had a production plant with a production capacity of 430,000 RAC per year, five regional offices, 20 branch offices, 203 exclusive sales and service dealers, over 4,000 dealer points, 33 exclusive showrooms, and a wide range of products.[[9]](#endnote-9) As a major player in both commercial and household AC segments, the company banked on energy-efficient, eco-friendly AC solutions for future growth and brand identity.[[10]](#endnote-10) It won many awards, including the Frost & Sullivan award for product leadership in 2013[[11]](#endnote-11) and the best manufacturer brand of BEE[[12]](#endnote-12) star labelled appliances in the AC category in 2014.

In October 2015, Hitachi Appliances, Inc. and Johnson Controls, Inc. entered into a joint venture, and Hitachi Home and Life Solutions Limited became Johnson Controls-Hitachi Air Conditioning India Limited. This partnership aimed to capitalize on the strengths and distribution network of both companies by combining their diverse product portfolio and marketing channels. The combined company focus was on providing better energy-efficient, eco-friendly cooling solutions to Indian consumers.

To achieve its ambitious target of becoming the market leader, JCI-Hitachi needed to double its turnover over the next four to five years, and to do that, it needed to work on its commercial AC segment. To improve this segment, the company identified the need for investment in channels, marketing, promotion, and product development. It also aimed to improve after-sales service by introducing various new modes of complaint registration such as the Hitachi Care mobile app, live chat lines, and the Hitachi 24x7 customer care service number. The company reported revenue of ₹16,613.2 million for fiscal year 2015–16 (see Exhibit 1).[[13]](#endnote-13)

PRODUCT PORTFOLIO

JCI-Hitachi’s wide product portfolio included window ACs, split ACs, tropical inverter product lines, cassette ACs, ductable ACs, variable refrigerant flow (VRF) ACs, and chillers (see Exhibit 2).

Room AC Segment

Window AC

In 2016, the window AC share was 14 per cent of the RAC market. The north Indian market was the largest for window ACs, contributing 38–40 per cent of the overall window AC sales (see Exhibit 3).[[14]](#endnote-14) The window AC contribution was 22 per cent of JCI-Hitachi’s overall RAC sales.[[15]](#endnote-15) The company positioned its window AC series as powerful, easy to install, and cost efficient. The window AC market was considerably stable, because people from Tier 2 and Tier 3 cities preferred to shift to window ACs from air coolers.[[16]](#endnote-16) JCI-Hitachi did not promote window ACs aggressively, and promotions were confined to print advertisements.

Fixed-Speed Split AC (Split AC)

In 2016, split ACs had a 76 per cent share of the RAC market.[[17]](#endnote-17) JCI-Hitachi had a market share of 10 per cent in this highly fragmented segment.[[18]](#endnote-18) Its split AC range was positioned as powerful, highly energy efficient, eco-friendly, economical, and technically well-equipped with smart technologies such as Wi-Fi connectivity, auto climate technology, and auto humid technology.[[19]](#endnote-19) In 2014, the company launched the Kashikoi range, which added a technical edge to the portfolio of split ACs. And in 2015, the company launched the Touchi series for replacement markets, targeting customers willing to buy a Hitachi product at a value price.[[20]](#endnote-20)

Inverter Split AC (Inverter AC)

The inverter AC market formed 10 per cent of the RAC market. It contributed to 40 per cent of overall JCI‑Hitachi sales and was expected to reach 50 per cent by 2020.[[21]](#endnote-21) The company positioned its inverter AC as a high power saver, fast, and economical cooler for household and office spaces. It had a wide portfolio, with Kashikoi, Neo, Ace, and Toushi forming its product range. Blue Star Limited (Blue Star) and Daikin Airconditioning India Private Limited (Daiken) were considered to be JCI-Hitachi’s biggest competitors in this segment. Sixty per cent of Daikin’s models were inverter ACs, and Blue Star had one of the widest portfolios of inverter ACs in the country. Voltas Limited (Voltas), too, was trying to enter this segment with its new promotional campaigns.[[22]](#endnote-22) JCI-Hitachi promoted inverter ACs extensively in outdoor promotions, press advertisements, television commercials, and online campaigns such as “Nothing Dirty,” which focused on energy saving, consistency, and uninterrupted cooling in Indian weather conditions. Sales of inverter ACs were largely restricted as they fell in the premium price range (₹8,000–₹10,000 costlier than a 3-star[[23]](#endnote-23) AC at the same tonnage). Consumers were slowly considering the life-cycle cost of inverter ACs, and this category was expected to grow in future.[[24]](#endnote-24)

Commercial AC Segment

The commercial range of ACs consisted of business-to-business (B2B) splits, cassette ACs, ductable ACs, VRF ACs, and chillers. The application of this segment included commercial, institutional, and industrial buildings. The segment contributed approximately 37 per cent of the overall market, with a market value of ₹59 billion.[[25]](#endnote-25) Looking at the decent B2B segment over the years, Gurmeet Singh, JCI-Hitachi’s executive director of sales and marketing, was hopeful that with some extra effort in the segment, the company would touch its target of becoming number one or two in the Indian AC market industry by 2020.[[26]](#endnote-26)

VRF AC

JCI-Hitachi’s VRF AC was positioned as an extremely powerful, high-energy-saving, reliable, flexible, and easy-to-install cooling solution.[[27]](#endnote-27) The system, based on inverter technology, enabled power savings of 25–30 per cent. The company’s strong product range consisted of three outdoor unit models and 10 indoor unit models. This segment was the most promising for the company, and continued to show robust growth. It related to the hospitality, entertainment, banking, education, residential, and industrial sectors. Some of the other players in the segment were Daikin, Voltas, Blue Star, Mitsubishi Electric Corporation (Mitsubishi), and LG Electronics India Private Limited (LG).[[28]](#endnote-28)

Ductable

JCI-Hitachi’s ductable range used the name Takumi, meaning “professional” in Japanese. It was positioned as easy to install, user-friendly, reliable, and energy-efficient. There were four models designed with built-in features unique to each model.[[29]](#endnote-29) Small corporate offices, banquet halls, small hospitals, and other such businesses were the buyers for this segment. The company faced stiff competition, but a variety of innovations (see Exhibit 4) such as the use of green gas in ductables made JCI-Hitachi confident about its growth.[[30]](#endnote-30) Other brands in this category were Daikin, Voltas, Blue Star, and LG.

Chiller

Chillers were used for wider application areas and had larger cooling capacity. Daikin was the market leader in this segment.[[31]](#endnote-31) There were several growth opportunities available with the growing pace of the commercial construction sector, the need for comfort cooling and precision cooling for data centres, and turbine inlet air cooling. Shipbuilding was another niche sector where chillers had a potential market in India. Blue Star had a wide product portfolio and was the market leader in scroll chillers.[[32]](#endnote-32) Judging the trend, JCI-Hitachi had invested in infrastructure and staff as well as upgrading skills to make the localization content more competitive.[[33]](#endnote-33)

Cassette

JCI-Hitachi’s cassette AC was one of the best ceiling ACs in India. It was positioned as an AC that offered uniform cooling even in the most irregular-shaped rooms. The company’s cassette range was popular because of its hassle-free installation and decorative panels that blended with the ceiling. For this product, the company had six stock-keeping units ranging from ₹6,500 to ₹1.3 million.[[34]](#endnote-34) The space required for the installation of cassette ACs was considerably large; thus, they were most suitable for large spaces such as offices, shops, warehouses, and hotels.[[35]](#endnote-35)

Home Appliance Segment

JCI-Hitachi entered this segment in 2005 with a limited product range of refrigerators and washing machines, and was a niche player.[[36]](#endnote-36) In 2016, the company’s refrigerators and washing machines had 43 and four stock-keeping units, respectively. Because the AC business was season dependent, expansion became strategically important to continuously engage with channel partners during the lean season. Home appliances contributed a 9 per cent share of JCI-Hitachi’s total business.[[37]](#endnote-37) In 2015, the Indian refrigerator market was worth US$1.45 billion and was expected to grow 10 per cent by 2020.[[38]](#endnote-38) JCI-Hitachi’s refrigerator segment had a market share of 0.6 per cent, and the company was looking to expand its range to cater to a larger market. The company was struggling in the washing machine segment because of low demand for its range of self-cleaning washing machines.

The air purifier, a new entrant in JCI-Hitachi’s product portfolio, had a market size of ₹7.5 billion but was expected to grow threefold because of concerns over deteriorating air quality. The air purifier market had many players. Crompton Greaves Consumer Electricals Ltd. led the pack with a 23.6 per cent market share followed by Usha International Ltd. with a 15.7 per cent market share. Other brands were Bajaj Electricals Ltd. (9.2 per cent); Orient Heating, Ventilation and Air Conditioning Service (9 per cent); and Havells India Ltd. (7.2 per cent).[[39]](#endnote-39) For JCI-Hitachi, this product category had shown a positive response and looked promising for future business growth.[[40]](#endnote-40)

Application-Based AC Segment

Application-based ACs had grown rapidly in the past few years due to growth in the parent industries of telecommunications and banking. JCI-Hitachi’s Spacemaker product had a near monopoly in this segment and was expected to continue serving its existing base. The company was continuously looking to develop new products and technology to meet the emerging requirements of the industry.[[41]](#endnote-41)

INDIAN AC INDUSTRY

The Indian AC industry was primarily divided into commercial ACs and room ACs. A varied range of window and split ACs catered to the demand of the room AC segment, whereas the majority of commercial AC sales were VRFs, ductables, chillers, cassettes, and the Spacemaker. The penetration of room ACs in Indian households was just 4 per cent compared to the global average of 30 per cent. The room AC market was at 4 million units and expected to grow by 15 per cent annually.[[42]](#endnote-42)

In 2015–16, the Indian AC industry was worth around ₹160 billion: commercial ACs accounted for ₹59 billion while room ACs accounted for ₹101 billion.[[43]](#endnote-43) The growth was driven by rising penetration of ACs, growing urbanization, rising temperatures caused by global warming, and year-round use of ACs. Consumer perception had also changed as ACs, which were once seen as a luxury, were now considered a necessity.[[44]](#endnote-44) A decade ago, window AC sales contributed to approximately 80 per cent of the overall AC sales, but this scenario was shifting; window AC sales gradually slid down to 20 per cent and had remained so since 2012.[[45]](#endnote-45)

In 2016, following a shift in consumer preference from 1- and 2-star models to 3- and 4-star models, the market share of inverter ACs reached 10 per cent and the market share of 3-star conventional ACs touched 60 per cent. The inverter AC was expected to capture 50 per cent of the market share by 2020, and the split AC market was projected to move toward split inverter ACs over the next few years.[[46]](#endnote-46) Because of surging electricity prices, people were shifting toward more energy-efficient solutions such as inverter ACs and models using VRF technology. The Indian government also introduced a plan to sell energy-efficient ACs at a lower cost. Although an inverter AC was typically costlier than a conventional AC, the payback time was approximately one year for the cost difference.[[47]](#endnote-47)

The Government of India’s developmental reform initiatives under the “Make in India” mission included launching a new urban development mission.[[48]](#endnote-48) Other government reforms such as Mission 2022[[49]](#endnote-49) and Smart City[[50]](#endnote-50) were expected to drive growth in urban as well as rural housing. These reforms, coupled with the introduction of the Seventh Pay Commission[[51]](#endnote-51) and rising disposable income, fuelled AC demand in Tier 2 and Tier 3 cities. As much as 50–55 per cent of the overall industry’s volumes were now outside metros or Tier 1 cities. [[52]](#endnote-52) Capacity creation in sectors such as infrastructure, power, mining, oil and gas, refinery, steel, and automotive, along with the establishment of special economic zones and business parks, were driving demand for the commercial AC segment.[[53]](#endnote-53)

MAJOR PLAYERS

The AC market in India had more than 25 players from around the world. Major Indian players were Voltas, Blue Star, Daikin, JCI-Hitachi, LG, Mitsubishi, Samsung India Electronics Limited (Samsung), Fedders Lloyd Corporation Limited, Videocon Industries Limited, Whirlpool India, Carrier Midea India Private Limited, Sharp India Limited, and Haier Appliances India Private Limited (see Exhibits 5 to 8).[[54]](#endnote-54)

Voltas

Voltas, a part of the Tata conglomerate, was incorporated in 1954. It was India’s premier AC and engineering service provider. In 2012–13, the company attained market leadership in the AC segment with a wide range of products, its ever increasing distribution footprint, and high dealer margins.[[55]](#endnote-55) Leveraging its market standing and equity in the cooling domain, it launched a new range of Fresh-Air Coolers in 2015.With this introduction, Voltas aimed to bridge the space between a fan and an AC, thereby tapping the growing need for a comfort product at an affordable price.[[56]](#endnote-56)Growing demand for energy-efficient variants and inverter ACs led the company to reposition the brand by launching the “All Star” AC campaign. It thus reasserted its brand leadership in room ACs with the core value proposition of running two ACs at the cost of one.[[57]](#endnote-57)In 2016, Voltas was the market leader (see Exhibit 5) and was expected to grow at a rate of 15 per cent annually.[[58]](#endnote-58)

In the B2B segment, Voltas had a vast range of products such as packaged units, ductables splits, VRF systems, and chillers. Voltas entered this segment in 1991 with a deductible split AC that was specially designed for small shops, showrooms, and office areas.[[59]](#endnote-59) Since then, the B2B segment had displayed unpredictable market trends because of the deferment of industrial projects. Its gross revenue from operations was ₹52.14 billion. The contributions of RAC, commercial refrigeration, and sales and service (S&S) to this revenue were 33 per cent, 21 per cent, and 12 per cent, respectively. The company achieved 73 per cent of sales from split ACs and 27 per cent from window ACs.[[60]](#endnote-60) Fifty-four per cent of the AC sales came from Tier 2 and Tier 3 cities, and the rest from metro markets. Voltas was the market leader in the RAC segment with a market share of 21 per cent.[[61]](#endnote-61) It reported revenue of ₹58.32 billion in fiscal year 2015–16, a growth of 13 per cent over the previous year.[[62]](#endnote-62)

LG

LG was a major player in domestic electric appliances such as mobile phones, computer products, home appliances, and ACs. The company aimed for a growth of 30 per cent in 2016 by focusing on new categories such as water and air purifiers. Its major categories in the home appliances segment were TV and AC.[[63]](#endnote-63) The company also targeted a 25 per cent increase in turnover at ₹28 billion from the AC division in 2016. It was the second largest player in the RAC segment. Besides ramping up distribution reach and dealer margins, it was also contemplating the use of an e-commerce platform to surge AC sales.[[64]](#endnote-64)

LG foresaw the need for energy-efficient ACs much earlier than many of its competitors, and it launched India’s first star-rated AC in 2007.[[65]](#endnote-65) In 2012, Because of increased demand for energy-efficient products, LG launched its first inverter AC with both hot-and-cool and cool-only variants, and claimed the unit saved up to 66 per cent of energy. The company also came up with the mosquito-away technology with inverter ACs in 2014 as an innovative product, tapping a completely new market.[[66]](#endnote-66) The company’s B2B segment product portfolio included multi-VRF systems, cassettes, concealed ducts, floor standings, and chillers. LG’s gross revenue reached ₹144.98 billion in 2015–16, compared to ₹139.37 billion in 2014–15.[[67]](#endnote-67)

Blue Star

Blue Star fulfilled the cooling requirements of a large number of houses, buildings, and businesses by offering high-quality AC solutions. In 2011–15, the company entered the residential AC segment by introducing a variety of products. In 2015, it had a market share of 11 per cent.[[68]](#endnote-68) Blue Star had a vast product portfolio in the B2B segment, including VRF systems, ductables, chillers, and split ACs. In 2016, the company pitched itself as “Nobody Cools Better,” showcasing its products’ ability to work at high temperatures.[[69]](#endnote-69) The electromechanical projects and packaged AC business continued to be its largest segment, accounting for approximately 51 per cent of total revenue. Blue Star reported revenue of ₹35.47 billion in fiscal year 2015–16, with a growth of 15 per cent over the previous year.[[70]](#endnote-70)

Daikin

Daikin offered a premium range of energy-efficient AC products for the commercial and residential AC segments. Considered to be JCI-Hitachi’s closest competitor, Daikin had been developing innovative products such as ACs with built-in dehumidifiers and air purifiers, marketed with the “Fill the Air with Goodness” pitch. [[71]](#endnote-71) Because the focus was to grow market share, the company increased its spending on marketing and branding and distribution systems, targeting Tier 2 and Tier 3 cities. Its focus remained on inverter ACs, with 30 per cent of total sales coming from inverter AC sales.[[72]](#endnote-72) In 2016, Daikin opened a research and development centre in India for customized products under the “Make in India” campaign, with an investment of ₹6 billion.[[73]](#endnote-73) Revenue generated by Daikin’s AC division was around ₹16.5 billion in 2015.[[74]](#endnote-74)

Samsung

Samsung provided solutions in the consumer electronics, information technology, and telecommunication sectors. It was present in the popular side of India’s domestic AC segment—with a market share of 10 per cent—and was a close competitor to JCI-Hitachi in this segment. In 2012, Samsung exited the window AC segment and completely focused on the conventional split AC market due to the continuous share gain of split ACs over window ACs.[[75]](#endnote-75) The company’s sales grew by 19 per cent in 2015–16, crossing the US$7 billion mark.[[76]](#endnote-76)

THE WAY AHEAD

India was projected to be the third largest energy consumer in the world by 2020, and JCI-Hitachi wanted to ride the wave and cash in on the expected rise in demand. The company aimed to reach revenues of ₹20 billion by 2016–17 from ₹17 billion in 2015–16 in the RAC segment.[[77]](#endnote-77) In 2016, it focused on improving poor after-sales service in Tier 2 and Tier 3 cities. Also, a Central Electrical Authority of India report suggested that power shortage in India would be at around 2.1 per cent, so pitching the need for energy-efficient, eco-friendly AC solutions would be the company’s mantra for high growth and brand equity. Having assessed the shift in trend toward energy-efficient ACs much earlier than its competitors, JCI‑Hitachi ensured that 65 per cent of its products were 5-star or inverter. This strategy helped leverage its early mover advantage and energy-efficient positioning in the minds of consumers. The company intended to retain this positioning as its focus and expected to reach 50 per cent of the RAC market by 2020.[[78]](#endnote-78)

Predicting great demand in the neighbouring markets of Sri Lanka, Indonesia, and Bangladesh, JCI-Hitachi also entered exports in 2015 on a trial basis by sending small batches to these countries. Because of its strong design and manufacturing capabilities, the company expected the export segment to offer an opportunity for expansion and growth in coming years.[[79]](#endnote-79)

In his first press interaction in India after the JCI-Hitachi joint venture, Cerwinka was upbeat about India’s future as the world’s third largest economy by 2030. He expected a promising and fast-growing market. With an eye on the future, the company became more aggressive in its business expansion plans in India, focusing on developing more advanced technologies and products that would be leagues ahead of competitors in terms of energy efficiency.[[80]](#endnote-80)

To ride this immense growth wave, JCI-Hitachi’s core aim was to enter the popular segment of the RAC market, which was already crowded with established players. What would be the right strategy for JCI‑Hitachi to establish itself in that segment? The company’s focus was on inverter ACs, which contributed to its 40 per cent of room AC revenue. Because of the market potential and the growth of the inverter AC segment, many competitors had entered this segment. What should JCI-Hitachi do to defend its position in the inverter AC market?

EXHIBIT 1: SELECTED FINANCIALS FOR JCI-HITACHI, 2012–2016 (IN ₹ MILLIONS)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2011–12** | **2012–13** | **2013–14** | **2014–15** | **2015–16** |
| Net revenue | 7,989.6 | 9,316.0 | 11,054.7 | 15,799.6 | 16,613.2 |
| Total expense | 7,961.7 | 9,109.4 | 10,941.5 | 14,789.5 | 15,924.8 |
| Profit before finance cost, depreciation, and tax | 311.4 | 480.5 | 533.1 | 1,452.0 | 1,245.1 |
| Depreciation and amortization expense | 183.2 | 201.8 | 300.4 | 359.3 | 455.5 |
| Profit before tax | 27.9 | 206.6 | 113.3 | 1,010.1 | 688.4 |
| Tax expense | 4.7 | 53.6 | 32.8 | 232.5 | 188.6 |
| Profit for the year | 32.6 | 153.0 | 80.5 | 777.6 | 499.8 |

Source: Created by the case authors based on Hitachi Home & Life solutions (India) Limited, Annual Reports 2011–2016, accessed December 22, 2016, www.jcihitachi.in/images/investor\_relation\_reports.

EXHIBIT 2: PRODUCT INFORMATION

|  |  |
| --- | --- |
| **Product** | **Information** |
| Window AC | * Installed in the window or small open space in the wall * Easy installation and less space required * Interior space cooled by circulation of air from the interior space to the outer space |
| Split AC | * Two units—indoor and outdoor * Indoor unit wall mounted; refrigerant flow occured from the indoor to outdoor unit through pipes * Heat extracted from the space passed on to the outdoor unit via refrigerant |
| Inverter Split AC | * Similar to split AC but used a concept of varying compressor speed to save energy * Ability to sense the load of the space and vary the speed of the compressor to provide desired cooling |
| Ductables /Packaged AC | * Air sent through ducts from one central location to heat and cool all rooms * All rooms air-conditioned uniformly at the same temperature settings |
| Variable Refrigerant Flow AC | * Combination of outdoor and indoor units, with one outdoor unit connected to more than one indoor unit, thus saving space * Energy-efficient technology that used a sensor in the indoor unit * Ability to recognize the heat load of a room and vary the flow of refrigerant accordingly |
| Cassette AC | * Uniform cooling, even in the most irregular-shaped rooms * No ducts required for installation and aesthetically pleasing |
| Chiller AC | * Heat extracted out of a huge air-handling unit through chilled water circulation * Chilled water revolved across rooms through terminal devices and heat extracted out, making the water warmer * Water recirculated to the chiller to be cooled again; process repeated |
| Spacemaker | * Used equipment and gadgets that produced an enormous amount of heat * Improper cooling-related failure risk, and in turn, a risk of permanent failure of critical components |

Source: Created by the case authors with information from “Window Air Conditioner,” airconditioning-systems.com, accessed December 14, 2016, www.airconditioning-systems.com/window-air-conditioner.html; “What Is a Split Air Conditioner System?” Networx.com, January 1, 2011, accessed December 14, 2016, www.networx.com/article/split-air-conditioner-system; “What Is Inverter Technology AC and How Is It Different from BEE 5 Star Non-Inverter AC,” Bijli Bachao, February 24, 2017, accessed April 23, 2017, www.bijlibachao.com/air-conditioners/difference-between-a-bee-5-star-rated-and-inverter-technology-air-conditioner.html; A. Bhatia, “HVAC—Variable Refrigerant Flow (VRF) Systems,” CreateSpace.com, December 6, 2014, accessed December 14, 2016, www.createspace.com/5153105; “The Advantages of Ceiling Cassette Air Conditioning Units,” Airedale Cooling Services, October 20, 2014, accessed December 14, 2016, www.airedalecooling.com/news/advantages-ceiling-cassette-air-conditioning-units; “Chillers and Chiller Systems,” Temperature Corporation, accessed December 14, 2016, www.temperaturecorporation.com/chillers.htm; “Spacemaker Details,” Johnson Controls-Hitachi Air Conditioning, accessed December 14, 2016, www.jci-hitachi.in/productdetail/Spacemaker-details.

EXHIBIT 3: ROOM AC MARKET IN india by region, 2016

Source: “Capital Goods—Room Air Conditioners: At an Inflection Point,” Motilal Oswal, April 20, 2016, accessed December 14, 2016, www.motilaloswal.com/site/rreports/HTML/635968259780960527/index.htm.

EXHIBIT 4: JCI-HITACHI PRODUCT INNOVATION TIMELINE

|  |  |
| --- | --- |
| **Year** | **Innovation** |
| 1999 | Launched Hitachi brand of air conditioners in India |
| 2001 | Introduced remote with microprocessor-controlled intelligence in ductables |
| 2004 | Launched Hitachi Atom, the smallest split AC in the world |
|  | Launched Quadricool, the most powerful and silent window AC |
| 2006 | Launched IOTA, the smallest split AC after the Atom model |
| 2007 | Launched ductable and concealed AC (Takumi) series range |
| 2008 | Launched new split AC with auto humid control for the first time in India |
|  | Relaunched whole range of split ACs with BEE star rating |
| 2009 | Launched India’s first split AC (ACE Follow Me) with movement sensor to detect human movement |
| 2010 | Launched i-TEC, India’s first inverter AC  Started manufacturing chillers in India with 40–120 horsepower capacity |
| 2011 | Launched i-Clean, India’s first AC with automatic filter cleaning technology |
|  | Launched India’s first 5-star rated window AC |
| 2012 | Launched India's first star rated cassette air conditioner |
| 2013 | Launched i-Clean hot and cold inverter AC |
| 2015 | Johnson Controls and Hitachi Appliances entered into a joint venture to form Johnson Controls-Hitachi Air Conditioning India Limited |

Source: Created by the case authors from “History,” Johnson Controls-Hitachi Air Conditioning, accessed January 27, 2017, www.jci-hitachi.in/about-us/History.

EXHIBIT 5: COMPARATIVE ANALYSIS OF PLAYERS IN THE ROOM AC MARKET

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Manufacturer** | **Market Share by Volume (%)** | **Dealer Touch Points** | **Service Centres** | **Dealer Margin** | **R&D Spending**  **(% of Total Sales)** | **Promotional Spending**  **(% of Total Sales)** |
| JCI-Hitachi | 11 | 4,000 | 41 | Medium–Low | 1.0 | 7.0 |
| Daikin | 12 | 4,000 | 75 | Medium–Low | 2.0 | NA |
| Voltas | 21 | >12,000 | 200 | Very High | 0.2 | 1.9 |
| LG | 19 | NA | 194 | High | NA | NA |
| Blue Star | 11 | 3,800 | 25 | Medium | 2.0 | 1.8 |

Note: NA = not available; R&D = research and development.

Source: Created by the case authors with information from “Capital Goods—Room Air Conditioners: At an inflection point,” Motilal Oswal, April 20, 2016, accessed December 14, 2016, www.motilaloswal.com/site/rreports/HTML/635968259780960527/index.htm.

Exhibit 6: WINDOW AC Market IN 2017

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Company** | **Price Range (₹)** | **Stock-Keeping Units** | | | | |
| **1-Star** | **2-Star** | **3-Star** | **4-Star** | **5-Star** |
| JCI-Hitachi | 25,190–38,790 | 0 | 2 | 2 | 0 | 4 |
| Voltas | 19,890–32,990 | 0 | 9 | 11 | 0 | 6 |
| Blue Star | 18,990–34,000 | 0 | 8 | 6 | 0 | 5 |
| LG | 18,790–36,490 | 1 | 5 | 7 | 0 | 5 |

Source: Compiled by the case authors with information from “Window Air Conditioners,” Johnson Controls-Hitachi Air Conditioning, accessed January 26, 2017, www.jci-hitachi.in/product/Window-Air-Conditioners; “Air Conditioners: Window,” Voltas, accessed January 26, 2017, www.voltasac.com/index.php?option=com\_catalog&view=subcategory&Itemid=69&id=8; “Window AC,” Blue Star, accessed January 26, 2017, www.bluestarindia.com/roomacs/window-ac-index.html; “Window AC,” LG Electronics, accessed January 26, 2017, www.lg.com/in/window-ac.

EXHIBIT 7: SPLIT AC MARKET IN 2017

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Company** | **Price Range (₹)** | **Stock-Keeping Units** | | | |
| **2-Star** | **3-Star** | **4-Star** | **5-Star** |
| JCI-Hitachi | 30,890–74,890 | 1 | 15 | 6 | 16 |
| Voltas | 29,290–49,990 | 8 | 35 | 0 | 20 |
| Blue Star | 29,900–45,500 | 6 | 22 | 0 | 10 |
| Daikin | 31,800–58,600 | 8 | 12 | 0 | 9 |
| Samsung | 33,100–47,100 | 4 | 11 | 0 | 9 |
| LG | 30,990–51,490 | 3 | 18 | 0 | 12 |

Source: Compiled by the case authors with information from “Fixed Speed Split Air Conditioners,” Johnson Controls-Hitachi Air Conditioning, accessed January 26, 2017, www.jci-hitachi.in/product/Fixed-Speed-Split-Air-Conditioners; “Air Conditioners: Split,” Voltas, accessed January 26, 2017, www.voltasac.com/index.php?option=com\_catalog&view=subcategory&Itemid=68&id=7; “Split AC,” Blue Star, accessed January 26, 2017, www.BlueStarindia.com/roomacs/split-ac-index.html; “Products & Services: Split,” Daikin, accessed January 26, 2017, www.daikinindia.com/products-services/split; “Split AC,” Samsung, accessed January 26, 2017, www.samsung.com/in/air-conditioners/finder/?split-ac; “Split AC,” LG Electronics, accessed January 26, 2017, www.lg.com/in/split-ac.

EXHIBIT 8: INVERTER AC MARKET IN 2017

|  |  |  |
| --- | --- | --- |
| **Company** | **Price Range (₹)** | **Stock-Keeping Units** |
| JCI-Hitachi | 42,720–67,404 | 26 |
| Voltas | 45,490–74,990 | 13 |
| Blue Star | 34,290–62,090 | 15 |
| Daikin | 36,200–83,400 | 43 |
| Samsung | 42,000–62,000 | 6 |
| LG | 46,000–70,000 | 6 |

Source: Compiled by the case authors with information from “Inverter Split Air Conditioners,” Johnson Controls-Hitachi Air Conditioning, accessed January 27, 2017, www.jci-hitachi.in/product/Inverter-Split-Air-Conditioners; “Air Conditioners: Split,” Voltas, accessed January 27, 2017, www.voltasac.com/index.php?option=com\_catalog&view=subcategory&Itemid=102&id=21; “Inverter Split AC,” Blue Star, accessed January 27, 2017, www.BlueStarindia.com/roomacs/inverter-ac-index.html; “Products & Services: Split,” Daikin, accessed January 27, 2017, www.daikinindia.com/products-services/split; “Split AC” Samsung, accessed January 27, 2017, www.samsung.com/in/consumer/home-appliances/air-conditioners/split-ac/; “Split AC” LG Electronics, accessed January 27, 2017 www.lg.com/in/split-ac.

Endnotes

1. This case has been written on the basis of published sources only. Consequently, the interpretation and perspectives presented in the case are not necessarily those of Johnson Controls-Hitachi Air Conditioning India Limited or any of its employees. [↑](#endnote-ref-1)
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