Presentation Executive Summary:

- Shilchar and its **business model**
- First Risk – **Risk to Globalization**
- Second Risk – **Risk to Moat**
- Third Risk – **Risk by technological disruption**
- **Collar Hedging Strategy**
- DCF – **Base Case**
- DCF – **Sensitivity Analysis**
- Our Exit Strategy **(Value Levers)**
- Our Exit Strategy **(Quantitative Levers)**

SHILCHAR

Shilchar Technologies Ltd, founded in 1990, is a leading designer and manufacturer of Power & Distribution and **Electronics & Telecommunication transformers** in India.

It is a mid cap company and ranks 8th in terms of market capitalization in the industry.

The company entered the Power & Distribution segment during 2004 and 2007. It serves industries globally such as renewable energy and utilities sector.

The company is a **leader in designing and manufacturing transformers** for the renewable energy sector.

Feature a diverse product portfolio ranging from **Power Transformers to Furnace Transformers.**

Risk to globalization

- Two of the six prominent growth levers highlighted by Shiclhar were as follow:
    1. "Investments in ageing grid infrastructure worldwide, **especially in the US & EU"**
    2. "Global transformer supply shortage creating **significant export opportunities"**
- These growth levers may be greatly impacted by international trade barriers including, restricting itself from certain regions, restricting geographic diversity in customer segmentation:
    1. **Tariffs**
    2. **Quotas**
- Furthermore, since India is a country with **scarce Cold Rolled Grain Oriented Steel suppliers** as compared to demand, **trade barriers** may lead to increased price of CRGO as a result of **limited supply** within the economy, thus **increasing cost of production**, and increasing the end price, losing international customers.
- Though, due to India's generally neutral stance on **geopolitical issues**, it may be a beneficiary of potential trade wars (such as the ongoing USA-China Trade war).

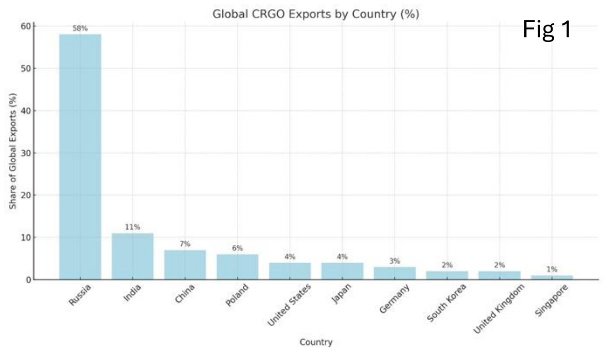


Fig 1

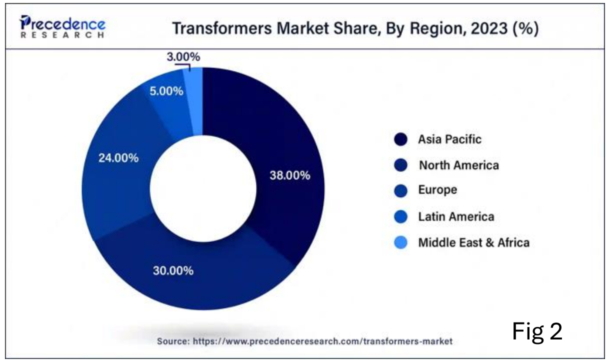


Fig 2

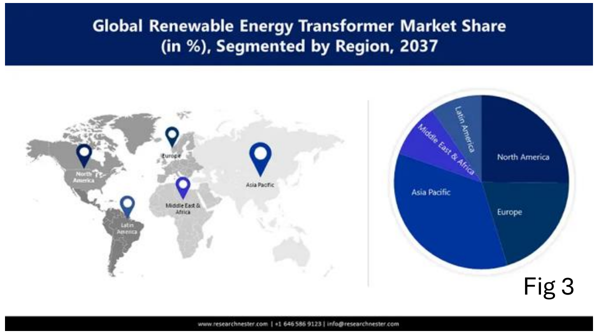


Fig 3

Shilchar suffers from the risk to globalization, as its revenue is largely (52%) derived from markets outside of India. Risks such as **Tariffs and Quotas** could potentially reduce global demand and thus decrease revenue. Additionally, trade barriers may also pose as a threat to the **cost economics of the company,** causing prices to rise and resulting in a potential loss of overseas customers.

Risk to Moat

- There are two primary risks to Shilchar's Moat:
  1. As Shilchar earns **above-average return** on its invested capital in the niche of mass customisation, it will **attract competitors** who will be willing to operate at lower returns, eventually **driving down overall industry returns to economic cost of capital** (Seen in figure 1).
  2. Shilchar's economic **moat may struggle** in way of **expansion** due to the **issues** associated with **customisation at large scales** of production. This may mean that growth will deteriorate its economic moat, due to the constraints it may face in association with distinct hardware required to service distinct customers at an ultra large scale. (Expressed in figure 2)
- As fundamentalists, we believe that a **moat protects a company's profits and profitability from being attacked by competitors for an extended period**. As a result, when the moat is eroded, Shilchar will eventually lose revenue to competition and thus may cause the stock price to suffer.

Fig 4

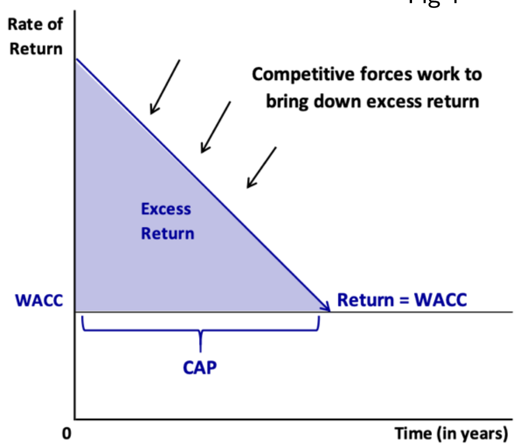
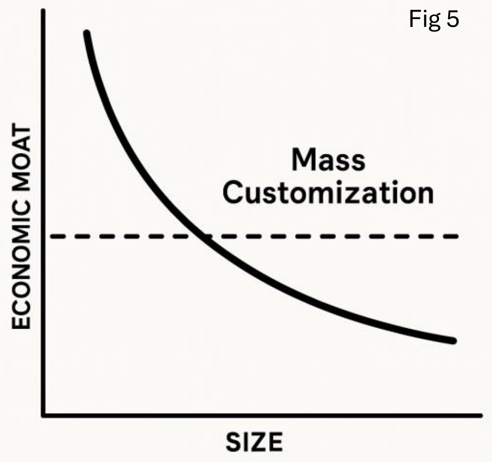


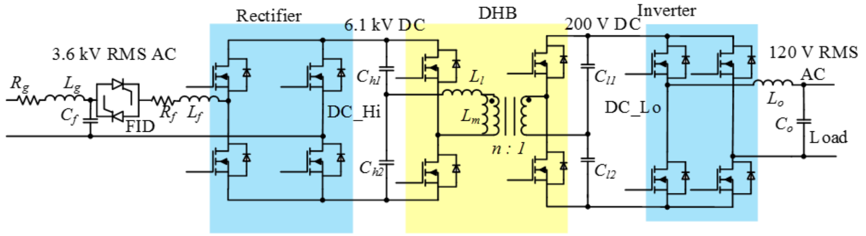
Fig 5

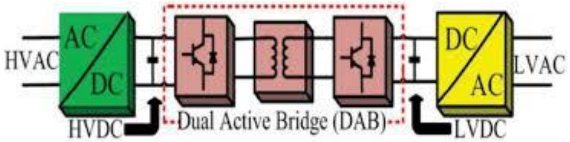


Shiclhar's moat, suffering from risks including competition in the long term and erosion in moat due to economies scale. This may, in the **long-term lead to lower profits as a result of ferocious competition in a circumstance with no moat.**

Technological and Product Evolution Risks

- There are two primary technology-driven threats to Shilchar's economic moat:
  1. **Technological Obsolescence – Rapid progress** in "smart" and **solid-state transformers (SSTs)** means utilities may soon favour fully sensor-equipped or power-electronics-based units.
  2. **Digital Transformation & Industry 4.0** – Cost leadership and quality now hinge on robotics, real-time analytics, and automated test rigs. A slow roll-out of Industry 4.0 on the factory floor would raise unit costs and create quality drift, **eroding the firm's differentiation in custom, high-spec transformers.**



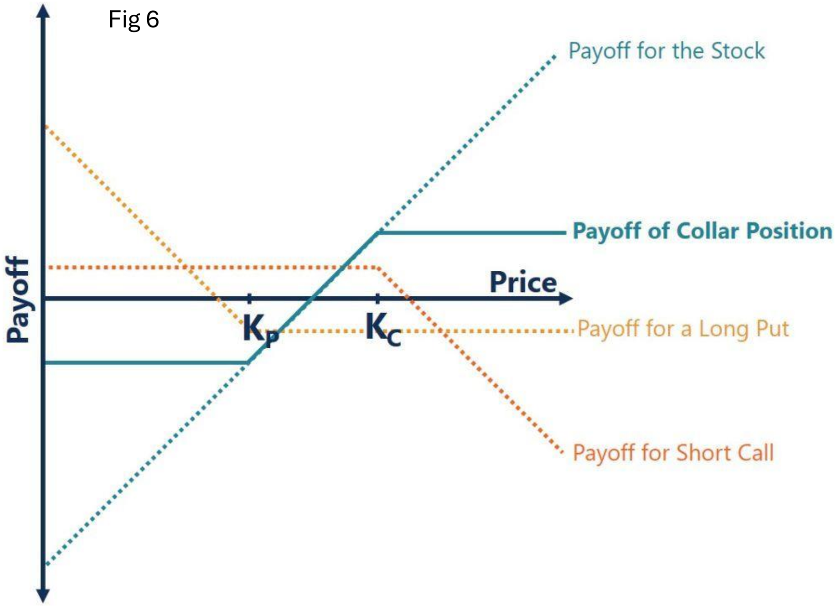


Solid State Transformers (SST)

As fundamentalists, if Shilchar **falls behind on either front**—product technology or manufacturing technology—competitors can undercut pricing or outshine on quality, shrinking margins and eventually pressuring the share price.

Our Risk Management Hedging Strategy - ***<u>Collar Strategy (using proxy securities)</u>***

Fig 6



- Since Shilchar **does not have options**, we ran a **linear regression** (daily stock/index price for the past five years) on various companies/indices against Shilchar to see **which *r value*** displayed highest correlation, specifically:
    1. **CG Power (r = 0.9170)**
    2. **BHEL (r = 0.9304)**
    3. **NIFTY Energy (r = 0.8436)**
- Since BHEL displayed a 0.9304 r value and is also a company that specializes in electrical equipment, **we decided to use this as our proxy security.**
- Generally, a collar strategy **(Long Stock + Long Put + Short Call)** is employed for the entirety of the holding period of a security, but in the Indian market, the **maximum holding period for any relevant/correlated company is 3 months.** There are two drawbacks that come with this strategy:
    1. Keeping an indefinite collar on a security will **limit upside** potential.
    2. Due to the extremely short roll back period on the options, the cost economics **may result in up to 15% drag in a five year period.**

Our Implementation of the Collar Strategy

- To **manage the downsides** while **keeping the risk protection**, we plan on only using the collar **high-volatility periods.**
- We plan on keeping in mind the following **high volatility** periods:
  1. **Earnings Announcements**
  2. **Macroeconomic/Sector Shifts** and Events
  3. Global **Economic Shifts**
  4. **Technical Indicators**
     a. **VIX** Spike (>18-20)
     b. **Bollinger Band Width** (Wider bands, more volatility)
  5. **Implied Volatility Spikes** in BHEL Stock
     a. **Compare Implied Volatility to Historical Volatility** (If IV >> HV, market is expecting turbulence)
     b. **IV Rank** > 70% = market pricing in big moves = good time to hedge.
- When volatility is gauged, we will activate our **collar strategy** to manage short term movements (1-3 months).
  1. Use **Black-Scholes Model** to determine/validate whether the current option price makes relative sense.
  2. Calculate **hedge size using Shilchar-to-BHEL beta**
  3. Buy **Put on BHEL** (3-month)
  4. Sell **Call on BHEL** (3-month)
  5. Monitor and **unwind or roll based on event outcome**

Fig 7

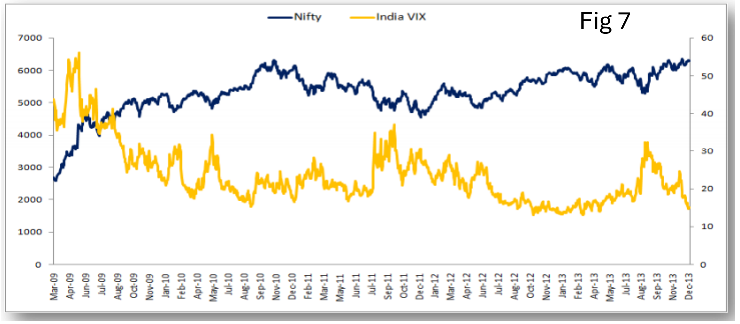


Fig 8

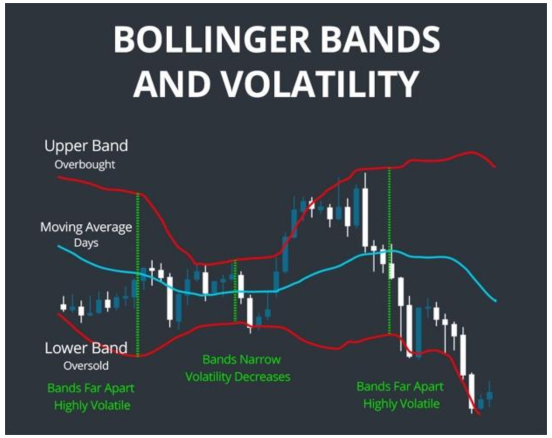
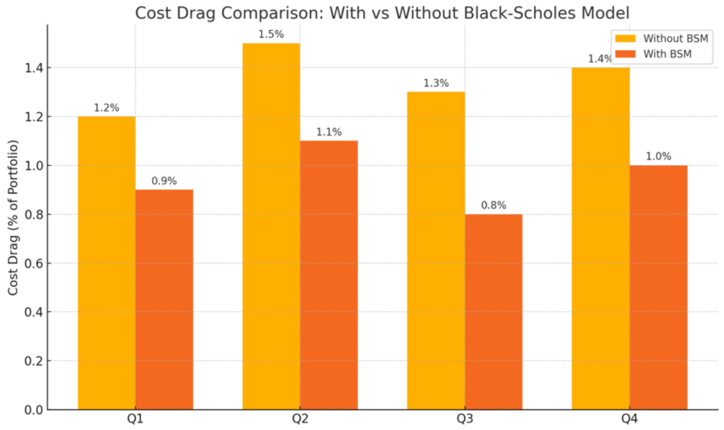


Fig 9



Discounted Cash Flow Model – Base Case

*Made with the help of Ashwath Damodaran's fcffgen.xls model.

Shilchar Technologies

Apr-24

Base Year and Comparison	Company	Industry
Revenue Growth	56.72%	10.37%
Revenue	₹497.00	
Operating Margin	29.18%	7.29%
Operating Income	₹145.00	
EBIT (1-t)	₹108.75	

Growth Story

Shilchar can leverage strong global electricity demand, a global transformer shortage, and rising capex across both renewable and conventional energy segments — including grid upgrades, utility-scale projects, and export opportunities — to sustain high growth through its specialized transformer solutions.

Profitability Story

Shilchar's profitability is set to improve through expanding gross profit margins driven by economies of scale, as higher production volumes enhance operational efficiency. Additionally, increasing exports to global markets like Europe—where standardized transformer pricing is higher—will lift overall margins and support sustained profitability growth. OPM Steadily increases before stabalising at 40%

Terminal Value	
Growth Rate	6.51%
Cost of capital	13.29%
Return on capital	30.00%
Reinvestment Rate	21.70%

PV(Terminal value)	₹2,967.68
PV (CF over next 10 years)	₹1,216.93
Probability of failure =	0.00%
Value of operating assets =	₹4,184.61
- Debt	₹0.00
- Minority interests	₹0.00
+ Cash	₹60.00
+ Non-operating assets	₹15.00
Value of equity	₹4,259.61
- Value of options	$0
Value of equity in common stock	₹4,259.61
Number of shares	76,00,000.00
Estimated value /share	₹5,604.75
Price per share	₹4,651.00
% Under or Over Valued	-17.02%

(in crores)	1	2	3	4	5	6	7	8	9	10	Terminal year
Revenue Growth	27.00%	24.00%	24.00%	24.00%	24.00%	20.50%	17.00%	13.51%	10.01%	6.51%	6.51%
Revenue	₹631.19	₹782.68	₹970.52	₹1,203.44	₹1,492.27	₹1,798.21	₹2,103.98	₹2,388.14	₹2,627.15	₹2,798.18	₹2,980.34
Operating Margin	30.00%	32.00%	33.00%	34.00%	35.00%	36.00%	37.00%	38.00%	39.00%	40.00%	40.00%
Operating Income	₹189.36	₹250.46	₹320.27	₹409.17	₹522.29	₹647.36	₹778.47	₹907.49	₹1,024.59	₹1,119.27	₹1,192.14
EBIT (1-t)	₹142.02	₹187.84	₹240.20	₹306.88	₹391.72	₹485.52	₹583.85	₹680.62	₹768.44	₹839.45	₹894.10
Reinvestment	₹112.71	₹139.75	₹173.30	₹183.57	₹183.46	₹202.97	₹170.72	₹122.16	₹130.12	₹138.59	₹194.02
FCFF	₹29.31	₹48.09	₹66.91	₹123.31	₹208.26	₹282.54	₹413.14	₹558.46	₹638.33	₹700.87	₹700.08
										$ 10,331.84	
Cost of Capital	13.29%	13.29%	13.29%	13.29%	13.29%	13.29%	13.29%	13.29%	13.29%	13.29%	
Cumulated WACC	0.8827	0.7792	0.6878	0.6071	0.5359	0.4731	0.4176	0.3686	0.3254	0.2872	
Sales to Capital	1.67	1.67	1.67	1.67	1.67	1.40	1.40	1.40	1.40	1.40	
ROIC	72.09%	60.65%	53.44%	49.28%	48.58%	49.05%	48.95%	49.92%	51.72%	51.95%	30.00%

Risk Story

Shilchar faces key risks including exposure to global revenue uncertainties, such as potential tariff barriers in major markets like the US, which could impact export growth. Additionally, fluctuations in global CRGO (Cold Rolled Grain Oriented steel) prices may inflate input costs and reduce demand if transformer prices rise too steeply. Finally, as the company scales, there is a risk to its competitive moat, as maintaining its edge in mass customization could become challenging—mirroring struggles seen in larger firms attempting to balance scale with

Competitive Advantages

Shilchar's primary competitive advantages lie in its global reach, enabling access to high-value international markets, and its capability for mass customization, allowing it to serve niche transformer requirements across sectors. This dual strength positions the company uniquely to cater to diverse, specialized demand while scaling operations efficiently.

Best Case

PV(Terminal value)	₹4,152.30
PV (CF over next 10 years)	₹1,729.13
Probability of failure =	0.00%
Value of operating assets =	₹5,881.43
- Debt	₹0.00
- Minority interests	₹0.00
+ Cash	₹60.00
+ Non-operating assets	₹15.00
Value of equity	₹5,956.43
- Value of options	₹0.00
Value of equity in common stock	₹5,956.43
Number of shares	76,00,000.00
Estimated value /share	₹7,837.40
Price per share	₹4,651.00
% Under or Over Valued	-40.66%

Our best-case scenario considers revenue **growing to 30%,** staying **at 28% for four years and stabilizing to 6.51%** by the tenth year. Our OPM increases and **stabilizes at 45%.** This assumes the following:

1. Demand from Global Markets - **High**
2. Demand for Transformers - **High**
3. Effect of EoS – **High reduction of costs**
4. Trade barriers – **Low/None**
5. CRGO Prices - **Low**
6. Moat Persistence - **Strong**

Base Case

PV(Terminal value)	₹2,967.68
PV (CF over next 10 years)	₹1,216.93
Probability of failure =	0.00%
Value of operating assets =	₹4,184.61
- Debt	₹0.00
- Minority interests	₹0.00
+ Cash	₹60.00
+ Non-operating assets	₹15.00
Value of equity	₹4,259.61
- Value of options	$0
Value of equity in common stock	₹4,259.61
Number of shares	76,00,000.00
Estimated value /share	₹5,604.75
Price per share	₹4,651.00
% Under or Over Valued	-17.02%

Our base case scenario considers **revenue growing to 27%,** staying at **24% for four years** and **stabilizing to 6.51%** by the tenth year. Our **OPM increases and stabilizes at 40%.** This assumes the following:

1. Demand from Global Markets - **Avg**
2. Demand for Transformers - **Avg**
3. Effect of EoS – **Avg reduction of costs**
4. Trade barriers - **Avg**
5. CRGO Prices - **Avg**
6. Moat Persistence - **Avg**

Worst Case

PV(Terminal value)	₹2,089.36
PV (CF over next 10 years)	₹861.35
Probability of failure =	0.00%
Value of operating assets =	₹2,951
- Debt	₹0
- Minority interests	₹0
+ Cash	₹60
+ Non-operating assets	₹15
Value of equity	₹3,026
- Value of options	₹0
Value of equity in common stock	₹3,026
Number of shares	76,00,000.00
Estimated value /share	₹3,981
Price per share	₹4,651.00
% Under or Over Valued	16.8%

Our worst-case scenario considers revenue **shrinking to 24%,** staying at **21% for four years** and **stabilizing to 6.51% by the tenth** year. Our OPM increases and **stabilizes at 35%.** This assumes the following:

1. Demand from Global Markets - **Low**
2. Demand for Transformers - **Low**
3. Effect of EoS – **Low/no reduction of costs**
4. Trade barriers - **High**
5. CRGO Prices - **High**
6. Moat Persistence - **Weak**

Our Sensitivity analysis revealed the following:

1) Discount Rate had a large impact on value **(1.61 Percent increase corresponded with a decrease of about 2000 rupees in share value)** – indicates that changes in shareholder expectation driven by inflationary pressures can alter valuation significantly.
2) Sensitivity to Revenue Growth was slightly lower than sensitivity to OPM Growth **(a ten percent drop in revenue growth led to a 3000 Rupee decrease in share value, whereas it led to a 3500 Rupee decrease in the case of the same % decrease in OPM Growth)**
3) Capex Sensitivity is relatively low – **an increase in sales to capital ratio by 5x led to a 2000 rupee increase in share value.**

Our Exit Strategy – Value Levers

> Successful stocks don't tell you when to sell. When you feel like bragging, it's probably time to sell.
>
> — John Neff —

- Through our **philosophy of fundamental analysis within value investing,** we believe that there are a few distinct circumstances in which the stock position should be exited:
  1. When the stock exceeds our **measure of its intrinsic value**. Depending on the market scenarios, **we will use our base/best/worst case as our valuation benchmark**. Any increase past our valuation benchmark is purely short term and irrational on basis of efficient market theory.
  2. The case in which our original fundamental analysis no longer stands true, which for Shilchar means:
     - i. They lose their mass customization moat **(2-3 competitors benefiting from mass customization)**
     - **ii. Revenue growth below base case scenario for four consecutive quarters** (since our valuation is sensitive to revenue)
     - iii. Little/no benefit from economies of scale **(GPM does not increase to or beyond 50%)**
     - iv. Decreasing demand for transformers due to technological disruptions **(Industry CAGR falls below 5.5%, due to structural reasons)**
     - v. Consistent lack or rationality or integrity management decisions **(driving down ROCE below 55%)**
       - a) A lack of or no definitive growth plans
       - b) Lack of management ambition for expansion
       - c) Management execution consistently differs from promises
     - vi. Being excluded from major international geographies indefinitely **(Its revenue from global markets falls below 50% of total revenue)**

Our Exit Strategy – Quantitative Levers

1. **ROIC < 25% for 3 consecutive quarters -** Sign of value-destructive capital allocation and margin compression
2. **Altman Z-Score < 2.5 -** Signals rising financial risk or balance sheet stress
3. **Interest Coverage < 3x -** Debt service becomes burdensome, limits reinvestment capability
4. **Receivables > 30% of Annual Revenue -** Red flag for cash conversion issues or aggressive revenue recognition
5. **Insider Selling > 10% in a quarter -** Potential loss of insider confidence or knowledge of internal weakness
6. **P/E Multiple Expansion > 50% (without earnings growth) -** Valuation driven purely by sentiment; exit on lack of fundamentals
7. **SG&A Growth > Revenue Growth for 3 consecutive quarters -** Signals loss of operating leverage and emergence of scale diseconomies
8. **ROIC < WACC (9%) over 2+ quarters -** Indicates capital is being deployed below cost — value-destructive expansion

Thank You for giving us the opportunity to learn through the course of this competition!