

Headline: [The Essence of Algo trading](#)

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CXO INSIGHTS

1. Algo Trading is a fairly new concept. What is the perception of the masses with respect to it?

SEBI describes algorithmic trading as any order that is generated using automated execution logic shall be known as algorithmic trading. While this is a very straightforward definition, masses often confuse it with mystical black-box systems that can only generate profits, which is not true! Another common confusion is assuming algorithmic trading as only 'High-Frequency Trading', which is again not always the case. Essentially, it is mostly about adopting methods that help in automating the research & execution. It can result in a profit or loss, just how your

regular trading strategies can. High-frequency trading is a subset of algorithmic trading, but not all Algorithmic trading strategies need to be high-frequency.

2. What is the unique pedagogy that can be incorporated into the existing system to help people understand the concept of Algo and quantitative trading?

When we talk about quantitative trading, we are talking about using statistics & financial computing to ideate, model and execute various trading strategies & ideas. Statistics is one of the core concepts that need to be understood by those who aspire to a career in this potentially

THE ESSENCE OF ALGO TRADING

By Nitesh Khandelwal, Founder, QuantInsti

Headquartered in Mumbai, QuantInsti is a Professional Training & Coaching institute offering a wide array of training programs such as Algorithmic Trading Training, High Frequency Trading, Quant Trading, Quantitative Trading, Trading Tools & Strategies, and Automated Trading, each tailor-made to suit the latest industry requirements.



lucrative domain. An understanding of financial computing, i.e., knowledge of programming languages like Python, is very much needed to do better research by using different statistical tools, as well as for coding the strategies that can get executed in an automated or semi-automated fashion.

3. Kindly enumerate on the comparison between the Indian scenario and the global scenario with this novel trading platform.

Algorithmic Trading was allowed in India by SEBI in April 2008. In the last decade, it has rapidly grown to contribute close to 40 percent of the overall exchange volumes in equities & nearly 50 percent in derivatives on NSE. In the developed markets, especially the U.S. exchanges, this ratio goes up to more than 80 percent! Given that algorithmic trading started in these markets way before it did in India, we can expect a healthy increase in volume participation through algorithms in the Indian markets. One key thing to note here is that much like overall stock market trading in India, most of the algorithmic trading volume flow comes through institutions & proprietary trading houses. With SEBI regulations expected to come for retail algorithmic trading, we might see an increase in participation from retail traders too.

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4. What are the advanced tools leveraged in such a platform and what is the scope for innovation here?

There are a number of tools that are used for algorithmic trading for both trading research, as well as for the execution of trades. From the research point of view, Python language is something that is getting lots of traction in the



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community. The power that is given through a great number of libraries is immense. It being open source adds to the cherry! When it comes to execution, it can be looked from two perspectives. One would be for low or medium frequency trading, which is very much relevant for both retail & institutional investors and traders. It is getting increasingly dominated by the Python language. On the other hand, you have high-frequency trading (HFT). In HFT, C++ is the most popular language for execution of trades, as it is a bit faster computationally than most of the other languages. There are a lot of tools that are getting built around machine learning (ML) concepts. In fact, a lot of quantitative traders already deploy machine-learning algorithms, while attempting to predict the market direction by applying ML techniques on large datasets.

5. What are the security measures that can be incorporated here?

There are SEBI guidelines that direct the market intermediaries to deploy prudent security measures. These market intermediaries further check or implement these measures for their members or clients. In fact, every member of the exchange is required to have a proper password policy that includes a number of security checks as per the guidelines. An interesting thing to know here is that most of the leading Indian exchanges do not allow internet connectivity in co-location (where you put your server on the same network as of the exchange) facility!

6. Where do you see the future of Algorithmic Trading in India?

At the overall level, the current proportion of Indian population that invests or trades in financial markets is abysmally low as compared to developed markets. But India is now one of the fastest growing emerging markets and so is the population that has access to the financial institutions. This is expected to increase the volumes in our financial markets. Amongst the more savvy investors/traders, the technology & data analytics, including Artificial Intelligence & Machine Learning, driven investment & trading methodologies are expected to get more and more popular. Technology & new age analytics are changing how most of the industries work; financial markets are no exception!