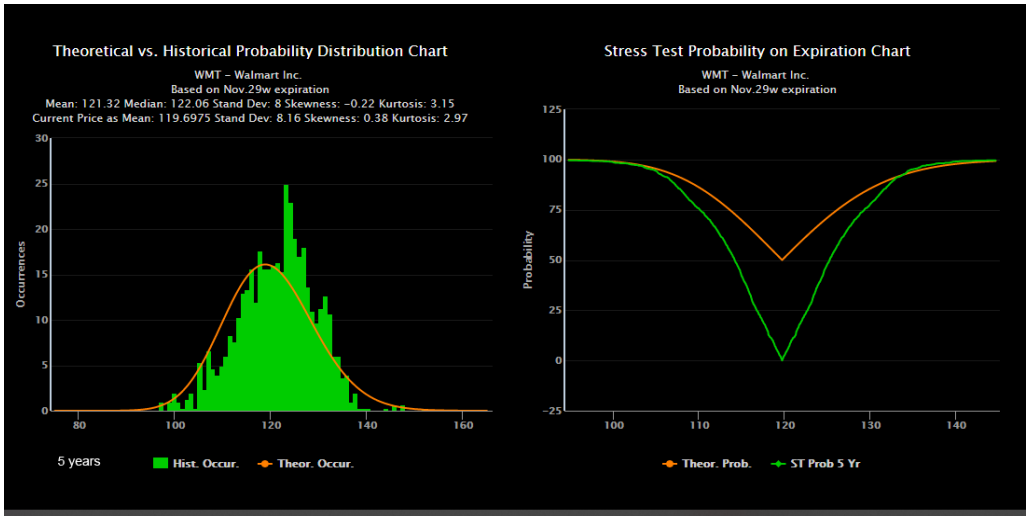
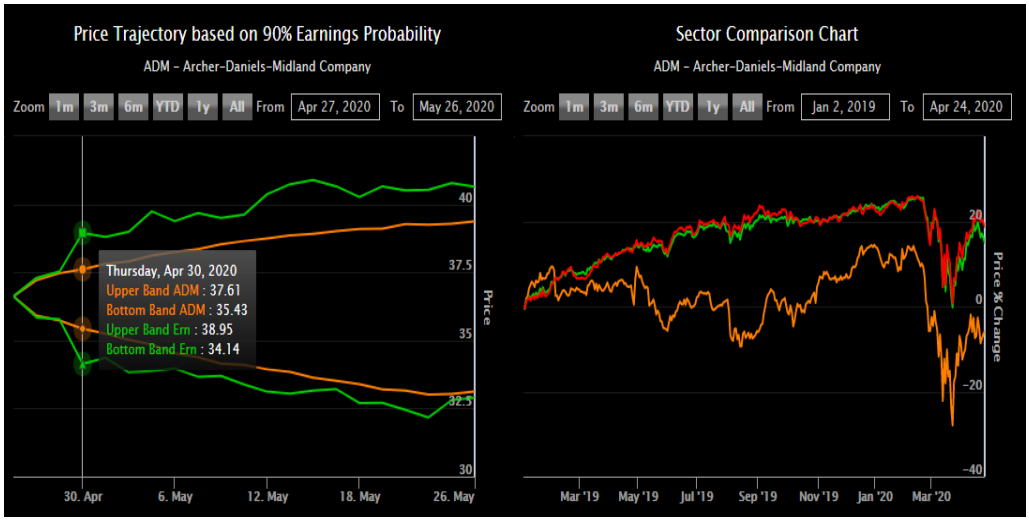
Trade A.I.

A New Approach in Trading Analytics

The **Trade A.I.**™ platform incorporates data science and machine learning to continuously generate and refine probability values that more accurately reflect real-world market and instrument behavior than standard industry measures.





New Approach to Risk Management

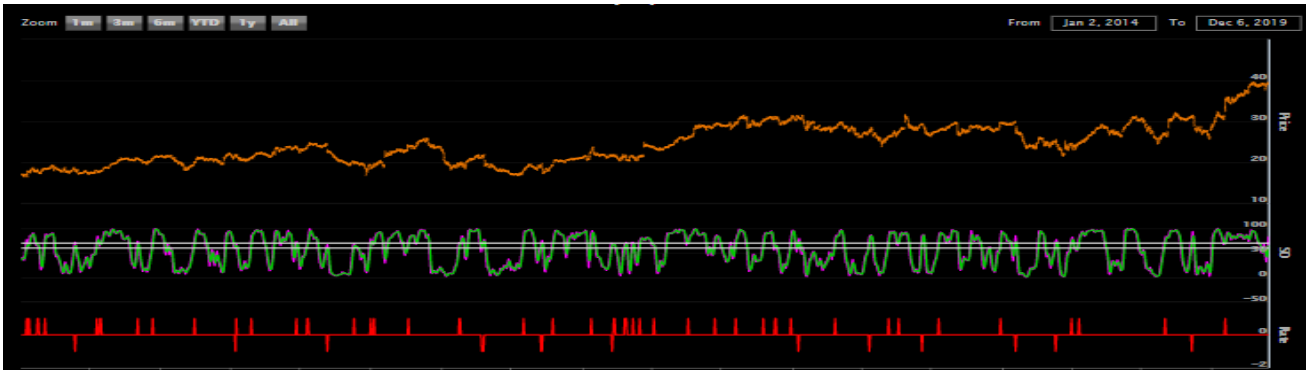
Risk management is the process of identification, evaluation, and control the probability or impact of unfortunate events to maximize the realization of opportunities.

Human nature is to use probability to determine tolerance levels for decision making. We shape our daily experiences by calculating the probability of a certain outcome occurring in our favor. Our experiences are subconsciously created from our brain collecting statistic of historical events and then based decision by weighing the options and probability of them happening.

In trading, traders are always forced to make decisions to either enter a new trade or exit an existing one.

Trading, based on your personal risk management criteria, is critical to overall long-run profitability.

Probability and tolerance levels are key elements in defining our behavior. Now, wouldn't it be nice to have a methodology that provides you with a probability value that enables you to make the decision that is "right-for-you"?



Normal Distribution

Most of the market participants are using normal distribution as representation of real historical movements. This assumption yields high probability trades that result in losses.

Our Trade Analytic Tools search for a Call Credit Spread using Probability of Success as a filtering criteria generates the following results:

Stock Symbol	Company Name	Trade	Closing Price	Credit	Probability of Profit	Profit on Expiration	Chart
BIDU	BAIDU INC	Sell May.10w 92.5 Call Buy May.10w 100 Call	86.43	1.12	79.27	-1.83	
FFIV	F5 NETWORKS INC	Sell May.18 77.5 Call Buy May.18 85 Call	71.38	0.87	79.14	-4.26	
MPC	MARATHON PETE CORP	Sell May.18 85 Call Buy May.18 92.5 Call	78.75	0.85	77.95	0.85	
NFLX	NETFLIX INC	Sell May.10w 185 Call Buy May.10w 195 Call	163.37	1.90	77.16	-8.10	
HUM	HUMANA INC	Sell May.18 77.5 Call Buy May.18 85 Call	73.05	0.85	77.09	-2.10	
FSLR	FIRST SOLAR INC	Sell May.18 43 Call Buy May.18 50 Call	38.10	0.89	77.06	-6.09	
IBM	INTERNATIONAL BUSINESS MACHS	Sell May.10w 195 Call Buy May.10w 200 Call	190.00	0.78	76.97	-4.22	
CF	CF INDS HLDGS INC	Sell May.18 190 Call Buy May.18 195 Call	179.15	0.80	76.89	0.30	
APA	APACHE CORP	Sell May.18 72.5 Call Buy May.18 75 Call	68.84	0.41	76.84	-2.09	
LULU	LULULEMON ATHLETICA INC	Sell May.18 72.5 Call Buy May.18 80 Call	68.38	0.82	76.32	-6.68	

RELYING ON NORMAL DISTRIBUTION:
Expect 70% of these trades to be profitable

REALITY:
80% of these trades had losses

Normal Distribution

Here is the same filtering criteria for a Short Put Strategy:

Stock Symbol	Company Name	Trade	Closing Price	Credit	Probability of Profit	Profit on Expiration	Chart
BKE	BUCKLE INC	Sell Aug.20 37.5 Put	43.00	0.55	87.75	-2.40	
BGC	GENERAL CABLE CORP DEL NEW	Sell Aug.20 37 Put	41.47	0.75	86.34	-10.62	
LTD	LIMITED BRANDS INC	Sell Aug.20 34 Put	38.07	0.60	86.3	-0.23	
ACTG	ACACIA RESH CORP	Sell Aug.20 30 Put	35.85	0.60	86.21	0.60	
BEXP	BRIGHAM EXPLORATION CO	Sell Aug.20 25 Put	29.55	0.55	86.21	0.55	
CYD	CHINA YUCHAI INTL LTD	Sell Aug.20 16.5 Put	20.57	0.65	85.55	-0.25	
IR	INGERSOLL-RAND PLC	Sell Aug.20 40 Put	43.92	0.65	85.54	-11.79	
DRIV	DIGITAL RIV INC	Sell Aug.20 28 Put	31.41	0.55	85.52	-8.67	
TIBX	TIBCO SOFTWARE INC	Sell Aug.20 25 Put	28.71	0.55	85.36	-5.96	
UIS	UNISYS CORP	Sell Aug.20 22 Put	25.27	0.55	85.32	-5.62	

RELYING ON NORMAL DISTRIBUTION :
Expect 90% of these trades to be profitable

REALITY:
80% of these trades had losses

If your expectation does not match reality, <u>you should reconsider</u> how you calculate your probability of profitability.

Trade AI Approach

So why do the statistics from commonly used methodology not match reality?

The below chart depicts Theoretical vs. Historical Probability. You will see that **real historical movements are not normally distributed**. While this calculation holds true for some underlying assets, for the majority, this method will not reflect reality.

The Current Methodology:
Calculate probability using “one-size-fits-all” formula by assuming underlying assets have normal distribution.

The Issue With That Assumption:
It doesn’t hold true when using normal distribution and implied volatility to calculate the probability for all underlying assets.

Not One-Size-Fits-All

Life example:
How would you feel about going to the hospital and your doctor treats you based on the average temperature of his patients and not based on your personal medical history?

It is doubtful that any person would find this treatment acceptable. So, we encourage traders to not always rely on Theoretical Probability (assumption historical pricing has normal distribution) when calculating probability and explore other calculation methods.

That is why Trade AI introducing a New Methodology to Risk Management that comprise of three components.

Components

01 Price Distribution Analyzer	02 Events Analyzer	03 Technical Analysis
▪ Theoretical Probability	▪ Earnings Probability	▪ RSI Probability
▪ Historical Probability	▪ Implied and Historical Volatility Probability	▪ SO Probability
▪ Stress Test Probability		▪ PPO Probability

The purpose of our new probabilities is simply:

- Enhance the trader's understanding of a real historical distribution of underlying
- Shift from "the average temperature of the patients" to what reflects individuality of the underlying assets

Options Probability Reinvented

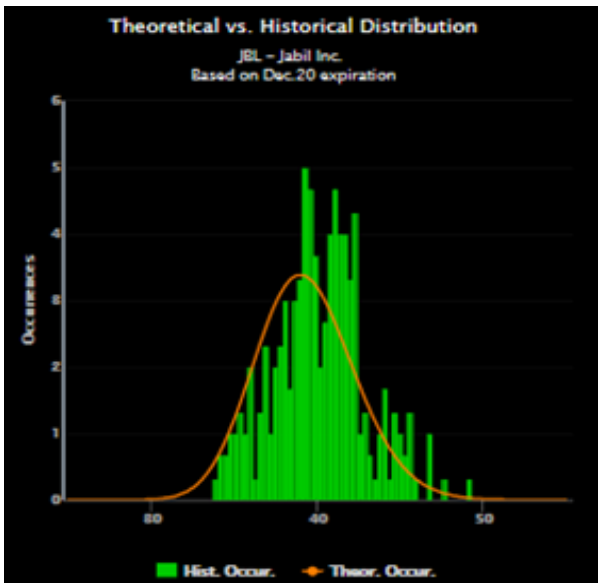
Trading based on multi-pronged approach to risk management for overall long-run profitability.

Trade A.I. platform allows traders to receive comprehensive probability analysis and make trade decisions based on calculated risk assessments using our proprietary statistical modeling engine.

With Trade AI approach to probability calculation traders are no longer restricted to a “one-size-fits-all” analysis method. New methods of evaluation probability using Historical, Stress Test, Events and Technical Analysis Probabilities, prove to decrease trading decision risk.

Historical Probability

Takes into consideration the direction of the stock historical price moves and reflects the specificity of each underlying asset historical behavior.

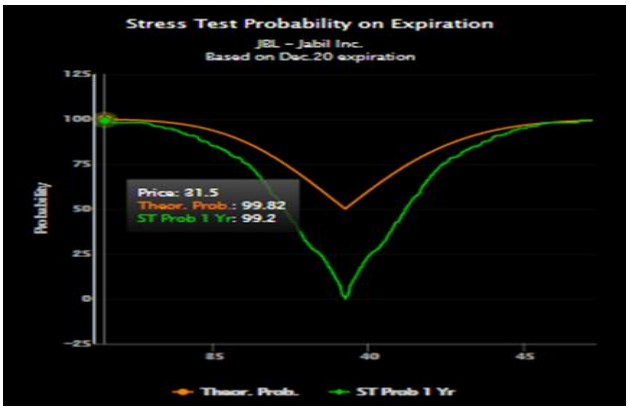


Trade A.I. platform provides Short (1 year) and up to Long (5 years) of historical price analysis to calculate probability.

Stress Test Probability

Stress Test Probability

Utilizes the magnitude of the stock historical price movements without taking into consideration direction of that move.



Life example:
When a spring is pulled from both directions, if you know which end will be released, you can safely decide which side to stand on. But if you don't know which end will be released you better stand a safe distance from both sides of the spring.

Prepare for Movements

Every trader can relate to this: a stock behaving in one direction, then as soon as you get into the trade, it reverses itself. Since a stock has the potential to make large moves, a trader needs to be prepared for when that trade makes large moves in their direction, or opposite to them.

Trade AI introduced **Stress Test Probability** to reflect the probability of surviving, or ending up profitable in a trade when the underlying asset exhibits the worst historical case behavior and starts moving against you. **Stress Test** probability warns a trader about what can be anticipated by getting into a trade. This allows the trader to better understand their investment and set proper expectations.

Event Probability

Traders know that pricing behavior of a stock could be greatly influenced by different events that could expectedly or unexpectedly happen.

It is very difficult and maybe even statistically unreasonable in day-to-day trading take into consideration outcomes that happened during 9/11 or COVID 19 pandemic events.

These and some other unexpected events inject some additional risk that associated with any trade. Although probability of stock behavior during these unexpected events could be difficult to quantify, our statistical engine and its ability to learn from the historical behavior allows to take into consideration reaction of each individual stock to general unexpected events.

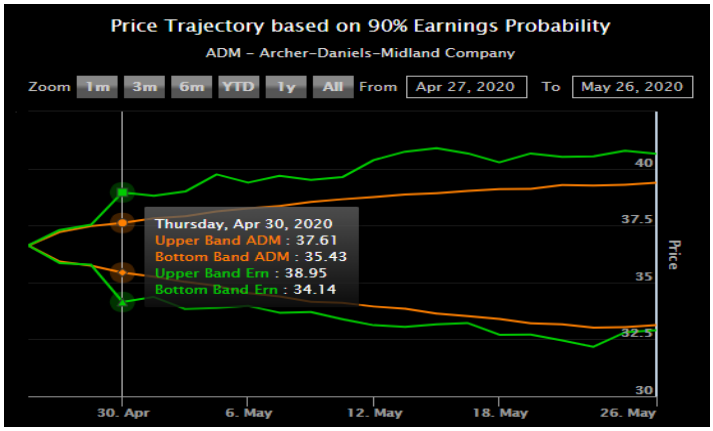
The great difference is presented by events that are happening with certain frequency and could be predicted.

One of such events is earnings announcements. Traders know that this event ejects great volatility into pricing.

Trade A.I. statistical engine allows to quantify results of this event by calculating probability of stock reaching certain price before and after earnings announcement.

Earnings Probability

Takes into consideration the specificity of each stock historical price behavior during and after earnings period.



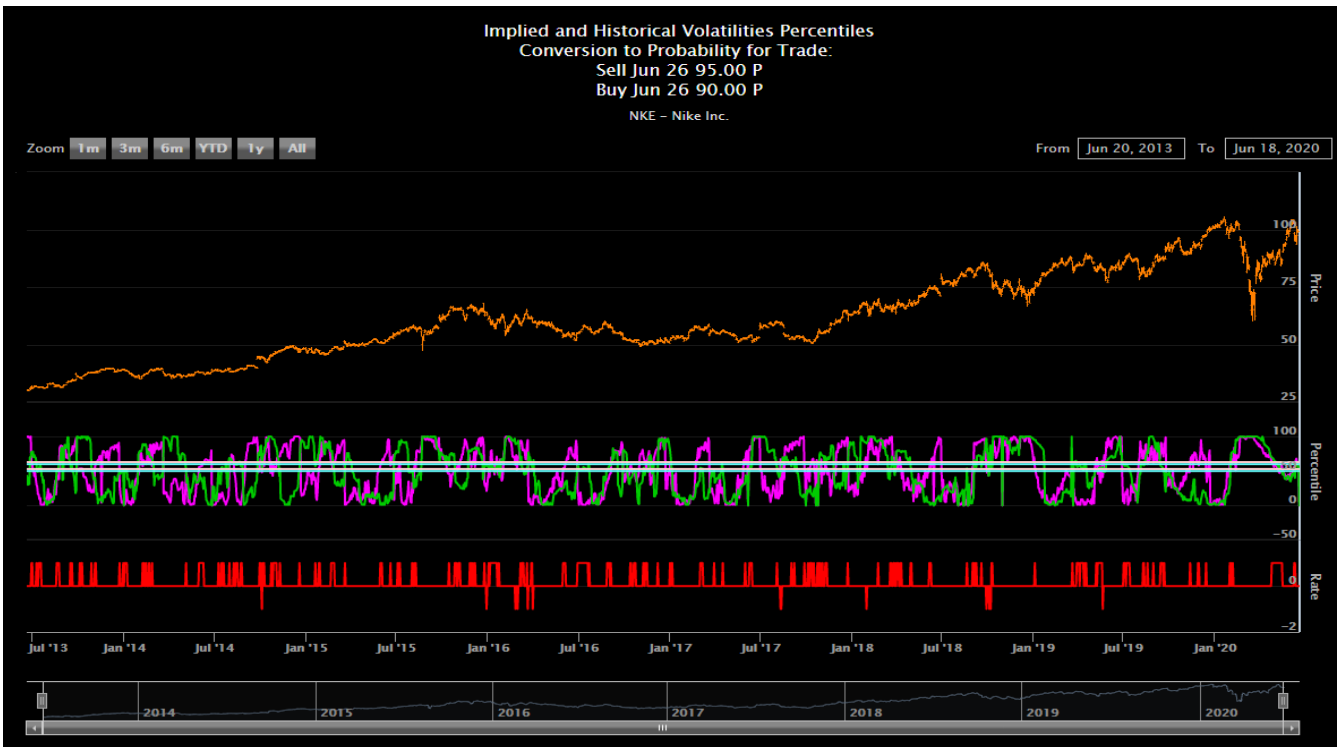
Implied and Historical Volatility Probability

Most of the traders are using Implied and Historical volatilities in their analysis of the trades.

Trade A.I. is enhancing this analysis by converting these volatilities into event driven probability that allows adding one more important probability measurement to improve risk management of the trade.

Implied and Historical Volatility Probability

Utilizes a new methodology of converting volatility values into functional probability values, allowing a multi-pronged approach to probability analysis. Probability of profit for the trade is based on analysis of 20 Days Statistical and Implied Volatility historical behavior in conditions similar to the current 20 Days Statistical and Implied Volatility values.



Technical Analysis Probability

Many traders use Technical Analysis indicators such as Stochastic Oscillator (SO), Relative Strength Indicator (RSI) and Percent Price Oscillator (PPO) to predict future behavior of the stocks.

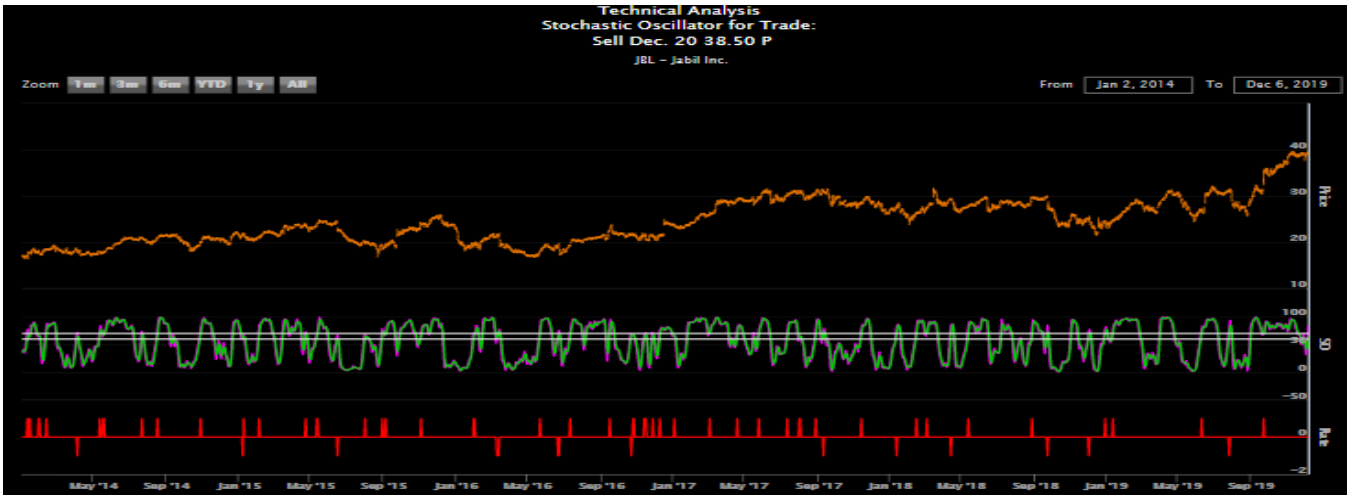
Each of these indicators have its own units of measurement, which makes it very difficult to combine them in creating analysis of individual stock.

Trade AI developed methodology of converting Technical Analysis indicators into the same units of measurement that represent probability.

This approach allows adding Technical Analysis into probability analysis of the stocks reaching certain price point at the certain time frame.

Technical Analysis Probability

Takes into consideration the specificity of each stock historical price behavior at the similar position in the history, as current value of the analyzing technical indicator.



Mitigating Risk

By calculating various types of probabilities **Trade A.I.** platform allows to look on each trade from the different angles. This multi-pronged approach in assessing overall probability and mitigating risk gives our users competitive advantage in their trading.

Probability of Profit	
Normal Distribution	81.8%
Short Historical	88.4%
Short Stress Test	74.4%
Long Historical	92.8%
Long Stress Test	83.12%
IV and SV20	93%
RSI	88.38%
SO	96.43%
PPO	95.76%
Earnings	89.29%

None of the probabilities that we are introducing are better than another.

Yet, if they are all lined up, then it is giving a more comprehensive view on trade risk assessment and setting proper expectations of the future results.

Life example:

Two travelers are walking barefoot in the jungle when suddenly a tiger starts running toward them. One traveler stops to put on his sneakers. His friend asks him, "Why bother? You think you can run faster than a tiger?" The other traveler calmly replies, "No, but all I need to do is run faster than you!"

In order to be profitable, you don't have to beat the market or "outrun a tiger," a trader has to beat their opponent on the other side of the trade and in option trading specifically, a trader always has somebody on the other side of the trade. If you are buying options, somebody has to sell them to you. If you are selling options, somebody has to buy them from you.

TRADE A. I.
Analytics

Trade A.I. Analytics is a set of tools

FOR SELF MOTIVATED TRADERS

who desire the ability to

BUILD THEIR OWN TRADING SYSTEM

using our new methodology of

PROBABILITY CALCULATION

and have access to

ARTIFICIAL INTELLIGENCE

through our proprietary

STATISTICAL MODELING ENGINE