Abstract: By simplifying the process of measuring price action in financial markets, a trader/analyst’s ability to rapidly assess the direction of the trend across multiple markets is maximized. The majority of the existing difficulty in trend detection is the confusing and inconsistent interpretations of what constitutes a price trend. We demonstrate how user can clearly define the trend as a linear ratio of the length or distance between two price levels (y-axis - price) to the volume of ticks* in sequence (x-axis: time series**). The direction of the trend (UP/DOWN) depends solely on the relationship between start and end levels of the prices being measured:

* Ticks represent trades, contracts, or other performance agreements between buyers and sellers at a specific price.
** Each tick has a timestamp to store/chart the data in the correct sequential order. So “time” is just an incremental constant used solely for reference. We use a constant of “1” since price movement does not rely on time; only on the actual agreement to buy/sell in contract. The tick sequencing is automatic with charting and tick data collection platforms.
The length of the trends measured is pre-determined by the user.

A complete trend is validated in real time by:

(a) Comparing the maximum, same-direction price movement from any given starting price level to the total expected (user-defined) linear distance from the same start level, and then

(b) enforcing a pass/fail criteria: The trend continues towards the user-defined length (pass), or a reversal in prices occurs to a user-defined retracement level (fail).

The APAMI indicator for Metatrader 4 and 5 charting and trading platform implements this formula hands-free on any*** financial instrument, with only a 2 minute initial setup process. With a clear, zero lag definition of the length and direction of the prevailing trend, it is not necessary to constantly re-interpret large amounts past price data or attempt to predict/project future price action with smoothed, lagging (or ‘quasi leading’)

1 indicators.

*** The primary focus is on forex currency pairs.

1 Lag refers to the past data that is [sometimes] averaged into the indicator or detection system, which causes the indicator to trail behind current price movements. Leading events or triggers precede and (supposedly) predict specific market movements; the accuracy is often questionable.
This concludes the summary of the APAMI Whitepaper. Perhaps it would make more sense if you could see a visual explanation of how the pass/fail criteria works to measure price action coincidently in the markets. The video overview below includes a screen recording of APAMI measuring price action on the GBP/USD forex currency pair. The underlying logic works in any market symbol with a live datafeed, without any chart type or timeframe bias.

Click on the play button above to view the APAMI whitepaper videos.

The full whitepaper will include more technical details on how the calculations are done to enforce the pass/fail criteria for trading platforms. But it is enough to get started.