Modeling and simulation of financial instruments is accomplished from multiple approaches but most completely from an engineering perspective. Aeronautical engineering yields a wave model created for stock indices in the 1970s. This comprehensive methodology models stock markets as waves for the intention of trading or investing yet has not been applied on time periods smaller than daily or weekly, known as intraday. Stakeholders trading smaller waves need to utilize wave analysis for intraday trading for price capture, analytics, and profitability.

It is the purpose of this thesis to present a model to harness wave analytics for the needs of traders seeking price capture of the Standard and Poor's 500 Index on an hourly and minute time periods, or intraday. This paper shows wave analytics in applications never accomplished before for the sufficing the needs of index day traders.