CHAPTER 1

INTRODUCTION

1.1 Introduction

The ups and downs of the stock market often tell us how healthy the wider economy really is, and that's why so many people want to figure out where share prices are headed next. In the real international, the ones charges deliver pointers about future cash flows, so by means of reading them it can get a quite top sense of ways production, profits, and even new investments would possibly trade throughout unique industries. Due to this, Wall Road and main avenue alike watch stock forecasts intently. Today, machine-learning equipment had been stepping into that area. From predicting market trends to checking credit risk, these systems are helping banks and individual investors make sharper calls than many older methods allowed. What makes them stand out is their ability to sift through mountains of data and spot tricky patterns that simpler formulas tend to overlook. Another up-and-coming technique adding advantages to those tools is sentiment analysis. By measuring the emotional tone of tweets, blog posts, and news headlines, sentiment programs give investors fresh clues about where prices might swing next.

Merging sentiment analysis with machine learning is proving useful for forecasting stock price movements. By means of turning tweets, news articles and forum posts into clear sentiment rankings, buyers get a range of they could honestly paintings with (Joshi & Younes, 2023). This approach topics a lot for Malaysian banks because giants like CIMB and Maybank hold the spotlight. When these two firms do well or struggle, the entire country's economic mood can shift on a dime.

The Malaysian stock market, just like any other exchange around the world, can swing wildly after an unexpected economic event or simply because traders are feeling optimistic—or not. That shaky temper makes the marketplace a splendid spot

to test out new tech, in particular ormation technological know-how. with the aid of strolling sentiment evaluation on news headlines, researchers and traders can dig beneath the surface to unearth the feelings behind the words. Those hidden emotions often hold clues about where a stock is likely to move next.

This research focus on two of the biggest names on Bursa Malaysia: CIMB and Maybank. It seems at how device-mastering algorithms that examine news sentiment can help wager the future charge of these banking giants' stocks. By lining up headlines—positive, negative, or neutral—with actual trading numbers, the project adds to the growing toolkit available to investors and analysts working in Malaysia. More importantly, it tries to make those predictions sharper and decisions easier in a sector where even small errors can cost millions.
In short, better news-reading tools could give traders an extra edge, helping the Malaysian banking industry continue its run of steady progress and keep the economy.

1.2 Problem Background

The Malaysian banking industry, and especially the two big players, CIMB and Maybank, runs on a mix of economic signals, government rules, and worldwide money trends. The ones signals do not stop at the boardroom door; average market mood can leap up or down in a heartbeat and pull their stock fees in conjunction with it. Investor temper is greater than only a feeling. Research shows that it can drive decisions on corporate social responsibility projects and even affect a firm's true value.

The "market sentiment," roar of either optimism or gloom coming off trading floors, social feeds, and business chat rooms. That roar shapes marketplace situations and pushes stock values one way or the opposite, so know-how it quick will become task critical. for this reason, analysts have started walking sentiment snapshots from not anything extra than a headline to guess wherein CIMB and Maybank stocks may settle the next day. They are not alone. Big-data tools now comb through millions of

tweets and posts every minute, pulling real-time mood readings that traditional reports often miss.

The tech behind this is straightforward yet powerful: machines read sentences, label them happy or sad, and then feed that learning into models that look forward instead of backward. The models then line up those readings against price charts, creating a fuller story in which numbers and words fit together. By doing so, it helps traders, analysts, and even the banks themselves sense early if the crowd is about to cheer or jeer.

Sentiment analysis has become a popular tool for trying to forecast where stock prices might head next. Several studies show it can give investors an edge, no matter the country they're trading in (Li et al., 2014). In Malaysia, understanding market mood is especially crucial because local news or chatter can quickly sway buying and selling decisions (Binti Alyasa Gan et al., 2022). Social media posts—and the emotions they carry—can also serve as a rough report card for a company, letting analysts compare that feeling with more traditional time-series forecasting models (, 2021). This comparison matters because most feedback online is messy, written in casual language, forcing tech tools to sift through raw text and pull out clear, usable insights (Rahim et al., 2021). That's why investors are leaning more on automated, machine-learning-based methods. By scanning the mood of today's headlines, traders hope to read the crowd's pulse and spot the next likely move in stock prices.

Sentiment analysis is a quick way to sort through huge piles of text and identify the useful insights. Because stock-price guessing is a long-standing topic in finance, researchers have turned to newer tools like machine learning as social media made public chatter more valuable than ever. Predictions are not limited to Wall Street; the sentiment models can be used for forecasting elections or even tracking patient outcomes in healthcare. through scanning information headlines for hidden feelings, investors get a sharper image of market mood and, with it, a better risk to shop for or sell accurately. Of path, the flood of tweets, weblog posts, and online articles can sense overwhelming, but that identical flood is what offers the analysis its energy. Machine-learning techniques thrive on messy, fast-moving data, so they turn that challenge into an opportunity. They pick apart breaking stories, match them to

specific stocks, and tease out key drivers like investor faith or fear that push prices up or down.

Investors don't decide to buy or sell a stock in a vacuum. They read news headlines, listen to podcasts, and scroll through social media before committing their cash. Due to this, information the overall temper or "sentiment" round a enterprise is precious. Sentiment evaluation shall we buyers and analysts measure that temper in numbers, turning tweets and articles into information they could use to spot developments and form their next circulate (Mokhtari et al., 2023). When enough people act on that sentiment, it can tilt an entire market, so strategies that layer sentiment on top of traditional analysis quickly gain popularity.

1.3 Problem Statement

Predicting where a stock price will land tomorrow—or next hour—remains the holy grail of investing. A correct guess can mean profit that buys a vacation; a wrong one can wipe out hard-earned savings. To stay ahead, traders need clear signals, yet financial charts are anything but smooth. Prices jump after earnings surprises, wiggle when a CEO tweets, and drift slowly during holiday weeks. Combine that with the noisy, ever-changing nature of economic data and outside events, and it is easy to see why many say price forecasting is an art as much as a science.

Stock markets can feel like they are running on rumour and mood swings. A tweet or a trending headline can send prices up one minute and crashing the next. due to this regular chatter, it is hard for buyers to get a clear examine on in which a share is surely headed. On pinnacle of that, most of the statistics we see—tweets, blogs, or maybe flashy news banners—is messy and unstructured. Pulling useful numbers from that jumble is a real headache for analysts.

Machine learning, and especially sentiment analysis, is one of those tools. By training algorithms to read headlines the same way humans do—spotting excitement, worry, or anger—they can flag patterns traders might miss. These models dig deeper than numbers on a spreadsheet and catch hidden links between a tweet's tone and how shares move.

Predicting where a stock price will land next is never easy. Markets are messy, shaped by countless factors that don't always follow a clear pattern. still, equipment like system studying and deep getting to know have started to make forecasts a bit sharper (Alamu & Siam, 2024). one of the extra interesting directions blends these algorithms with sentiment analysis, which reads the mood of traders in real time (Gude & Hsiao, 2025). By doing so, researchers hope to move beyond the old trick of looking only at past prices. Instead, they add the tone of fresh news headlines to the mix, allowing the "feeling of the crowd" to steer the numbers (Wu et al., 2021).

1.4 Research Question

1. How do positive, negative or neutral news headlines influence the next closing price of stock market for Malaysian bank.
2. Can the next closing price of CIMB and Maybank be predict based on sentiment analysis of news headlines?
3. How does the predictive accuracy of news sentiment based on the traditional stock market features such as historical prices and trading volume?

1.5 Research Objectives

1. To perform sentiment analysis on news headlines related to CIMB and Maybank
2. To examine the relationships between sentiment in the news headlines and the next closing prices of CIMB and Maybank
3. To develop predictive model based on sentiment features to predict stock price trend.

1.6 Significance of the Study

Malaysian banking sector still lacks attention in the AI-driven finance literature. Most algorithms are trained on Western data, leaving Southeast Asian markets in the dark. Second, CIMB and Maybank are integral to the region's economy, so small

shifts in their stock prices can ripple through suppliers, borrowers, and even everyday customers. Finally, by studying local figures with local news, the project hopes to provide traders, regulators, and finance students here with tools that speak their language and fit their market.

This study is not just academic; it has real-world value for anyone working in Malaysia's financial markets—investors, analysts, and day traders alike. When they add sentiment analysis to their forecasting tools, these market players can base their decisions on clearer insights. Sentiment analysis listens to the emotional language of news reports, which makes it easier to guess how stocks will react during major announcements. Because of these results, investors stand a better chance of spotting price swings before they happen, helping them fine-tune their trading plans.

This research takes a big step forward in how we make financial predictions by bringing machine learning into the mix. It tests out three cutting-edge models—Long Short-Term Memory (LSTM) networks, Gated Recurrent Units (GRU), and a special Attention Convolutional Neural Network-LSTM (ACNN-LSTM)—to forecast stock prices based on the mood found in financial news articles. By blending sentiment analysis with these high-powered models, the study creates a strong forecasting tool that plays to the unique strengths of each method. LSTM and GRU are especially good at tracking the time-based ups and downs of stock prices, while ACNN-LSTM adds an extra layer of capability by using a convolutional neural network to pick up both quick text clues and longer trend patterns. Together, these models push predictive finance into new territory by showing how closely stock movements can be tied to the sentiment behind the headlines.

By combining machine learning models with sentiment analysis, this research does more than improve stock price forecasts. It also lays out a tested way of working that other financial markets can easily copy. Because of that, the study opens new doors for predictive analytics, especially in parts of the world that have yet to explore how news mood affects share prices.

1.7 Scope and Limitation

The focus here is on two of Malaysia's biggest banks—CIMB and Maybank. Researchers will track their stock prices from roughly 2019 until early 2025. The main goal is to see how the tone of daily news headlines affects price changes, especially the next-day closing value. To do this, the team will gather stories from trusted local sites like The Star, Malay Mail, The Edge Market, and New Straits Times, while pulling price data from Yahoo Finance. Linking these datasets will give a clearer picture of how what people read shapes what they pay for shares.

This research focus on CIMB and Maybank, so its results might not transfer neatly to banks in other countries or to other industries. The findings mirror the precise conditions of the Malaysian economy and the 2 banks studied, that could behave otherwise than larger or extra evolved financial markets. The research also covers a narrow window—2019 through 2025—so it will be harder to apply the conclusions if major economic or political surprises hit after 2025.

Another hurdle is the quality of the news data the study relies on. Sentiment readings rest heavily on how clean and representative the underlying stories are; if there are gaps or biases in the articles, the sentiment score will likely drift off course. Even though the deep-learning models, like LSTM and GRU, are cutting-edge, they don't always nail the subtleties of the market, especially during wild swings or unexpected crises.