
WhatsApp Woes: Will Waggish Web Searches Wield Weight on CRH's Stock Price?

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In this study, we delved into the curious correlation between Google searches for 'WhatsApp' and CRH plc's stock price. Our research team utilized data from Google Trends and LSEG Analytics (Refinitiv) to scrutinize this peculiar pairing. Unearthing a correlation coefficient of 0.9043813 and $p < 0.01$ for the period spanning 2010 to 2023, our findings elucidate a substantial connection between the two variables. It seems that the stock market is more connected to our daily tech habits than we thought. It's almost like the market wants to send a message, and that message is... well, 'WhatsApp'ing! Our results highlight a noteworthy link between the digital realm and stock performance, suggesting that online trends can indeed bear weight on financial markets. With these findings, we hope to encourage further investigation into the whimsical ways of the market, reminding us that even the most seemingly unrelated events can hold significant influence.

In the ever-evolving landscape of financial markets, researchers have sought to unravel the enigmatic dance between seemingly disparate variables. We thumb through mountains of data, seeking to discern patterns and connections that sometimes seem more elusive than a cat chasing a laser pointer. As we grapple with the intricate interplay of digital trends and stock performance, it becomes clear that the market has a way of 'WhatsApp'ing us messages that we least expect – and perhaps, like a classic dad joke, it's all in good pun!

The rapid proliferation of communication technologies in recent years has transformed the way we connect, converse, and yes, even invest. Amidst this digital revolution, WhatsApp, with its ubiquity and unassuming green logo, has stealthily crept into the lexicon of everyday conversation and, as we shall uncover, the fluctuations of stock prices. It's like the market has taken a liking to WhatsApp, dipping its toes into the digital waters like a

cautious swimmer testing the depth – or should we say 'depth of the market'?

Our study delves into the intersection of internet search behaviors and stock market dynamics, an unlikely pair akin to a scientist and a stand-up comedian walking into a laboratory – unexpected, perhaps, but not without its own brand of brilliance. As we meticulously examined Google searches for 'WhatsApp' and CRH plc's stock price, we unearthed a correlation coefficient so high that it might just leave statisticians searching for their dropped jaw – 0.9043813, to be precise! It's almost as if these two variables are sending us a clear message, a message that spells out 'correlation' like a psychic medium spelling out 'your future' at a dimly lit séance.

Our exploration ventures beyond the numbers and graphs, embodying the spirit of curiosity that propels researchers forward – and sometimes, sideways, and occasionally in circles. As we

navigate through these findings, we invite you to join us in this scientific waltz, where 'WhatsApp'ing becomes more than just a playful pun, but a revelation of the whimsical ways in which the digital world and financial markets intertwine.

So, grab your lab coats and your sense of humor; we're about to unravel a discovery that's one part mystery, one part statistical wizardry, and perhaps a generous sprinkle of serendipity. Remember, in the unpredictable realm of research, the unexpected is just waiting to knock on your door – but when it does, don't forget to ask, "Who's there?"

LITERATURE REVIEW

The intersection of digital trends and stock market performance has drawn the attention of researchers and traders alike. In "Digital Dynamics: Exploring the Links Between Online Activity and Financial Markets," Smith et al. delve into the fascinating relationship between online search behaviors and their impact on market dynamics. Similarly, Doe's analysis in "Cyber Sleuthing: Unraveling the Web of Stock Market Influences" sheds light on the subtle yet significant ways in which online trends interact with stock prices. These studies, much like a stock portfolio, construct a solid foundation for understanding the potential impact of digital phenomena on financial markets.

As we tiptoe further into this curious conundrum, let's not forget our trusty guidebooks to the world of finance and technology. "The Google Story" by David Vise and Mark Malseed provides insight into the rise of the eponymous search engine, while "Free Capital: How 12 Private Investors Made Millions in the Stock Market" by Guy Thomas uncovers the intricate workings of stock market success. These tomes, much like a seasoned investor's portfolio, offer diverse perspectives on the intersection of technology and stock markets.

Venturing into more enigmatic territory, the fictional realm also provides unexpected insights. In Philip K. Dick's "Do Androids Dream of Electric Sheep?" and William Gibson's "Neuromancer," we

encounter depictions of futuristic technologies that blur the line between the digital and the tangible, much like the elusive connection between Google searches for 'WhatsApp' and CRH plc's stock price. These novels, like a speculative stock investment, invite us to explore the uncharted territories of human-technology interactions.

On a more contemporary note, social media platforms have become a playground for discussions on finance and technology. A tweet by @StockSavvySally asserts, "The correlation between 'WhatsApp' searches and CRH stock price is no LOL matter - it's serious business! #TechTrends #StocksAndSuch." Similarly, @FintechFanatic's post reads, "Who would've thought that a messaging app could influence stock prices? The market's always full of surprises! #MarketMysteries #WhatsAppWoes." These social media musings, like a lively stock exchange, offer a glimpse into the ongoing conversation surrounding the intersection of digital trends and stock performance.

In the spirit of interdisciplinary exploration, our literature review echoes the playful puns and unexpected twists that characterize the unpredictable journey of research. After all, when it comes to unraveling the multifaceted connections between online trends and stock market dynamics, a good sense of humor may just be the real stock in trade. And with that, we eagerly press on, ever ready to embrace the unexpected and, of course, the occasional dad joke. Because, let's face it, a little laughter can make even the most complex correlations a bit more bearable!

METHODOLOGY

To unravel the curious correlation between Google searches for 'WhatsApp' and CRH plc's stock price, our ragtag team of data detectives embarked on a thrilling quest for statistical truth--the kind of quest that might make Sherlock Holmes crack a smile or at least raise an eyebrow. Armed with data from Google Trends and LSEG Analytics (Refinitiv), we

delved into the mystical world of numbers, armed with nothing but our trusty calculators and the occasional cup of strong coffee.

Our first order of business was to gather historical data on the frequency of Google searches for 'WhatsApp' and CRH plc's stock price movements. We combed through virtual haystacks of data, analyzing weekly search volumes for 'WhatsApp' on Google Trends and daily stock price data from LSEG Analytics (Refinitiv). It was like trying to solve a mystery in a library where the shelves are filled with nothing but detective novels and stock market almanacs.

Once we had our hands on the treasure trove of data, we took a leisurely stroll through the enchanting garden of statistics, stopping to smell the roses and occasionally getting pricked by the thorns of outliers and missing values. Equipped with statistical software that would make even a sorcerer envious, we calculated the correlation coefficient between the two variables. The suspense was palpable, like awaiting the punchline of a dad joke that you just know is coming but still manages to catch you off guard.

In our pursuit of clarity, we conducted a time series analysis to capture the dynamic relationship between Google searches for 'WhatsApp' and CRH plc's stock price over the period from 2010 to 2023. We carefully examined the ebb and flow of these two enigmatic variables, akin to watching a peculiar dance between a waltzing mathematician and a jittery stock trader.

Furthermore, we performed a Granger causality test to discern the direction of any potential causal relationship between the variables. It was a bit like playing detective in a game of Clue, trying to determine who did it – only in this case, it was "Who impacts whom?" Spoiler alert: it wasn't Colonel Mustard in the library with a candlestick.

As we ventured deeper into the labyrinth of statistical wizardry, we also conducted a regression analysis to explore the extent to which changes in Google searches for 'WhatsApp' could predict

fluctuations in CRH plc's stock price. It was a bit like predicting the weather, except instead of rain or shine, our forecast involved stock market whims and digital chatter.

In the spirit of scientific transparency (and a touch of mischief), we accounted for potential confounding variables and performed robustness checks to ensure that our findings were as sturdy as a dad joke in a room full of groaning listeners.

And with a sprinkle of data visualization magic, we plotted eye-catching graphs that would make even the most skeptical of audiences take a second glance. Our graphs weren't just informative; they were the life of the data party, the ones with a knack for turning a dull equation into a fascinating narrative.

Ultimately, our methodology blended the precision of a chemist measuring precise amounts of reagents with the artistry of a wordsmith crafting an intricate pun. With our tools in hand and a lighthearted approach to unraveling the mysteries of statistical significance, we set the stage for a fascinating journey into the unexpected connections between online search trends and the turbulent tides of the stock market.

RESULTS

The investigation into the relationship between Google searches for 'WhatsApp' and CRH plc's stock price has yielded intriguing insights. Our analysis revealed a strong positive correlation of 0.9043813 between the two variables for the period from 2010 to 2023. This correlation indicates a robust and consistent association, almost like a pair of inseparable partners in a meticulous statistical dance.

Fig. 1 illustrates the unmistakable relationship between Google searches for 'WhatsApp' and CRH plc's stock price. It's like they're engaged in a lively tango, with each step echoing the pulsating rhythm of the financial market. And just like a well-executed dad joke, the correlation between these

variables is undeniable – it'll have you nodding your head and saying, "Well, that certainly adds up!"

The r-squared value of 0.8179056 further underscores the substantial influence of 'WhatsApp' searches on CRH plc's stock price. It's as if the digital world has found its way into the stock market's heart, whispering sweet statistical nothings that resonate far beyond the confines of conventional wisdom. These results emphasize the significance of online search behaviors in determining stock performance, shedding light on a connection that's as tangible as a well-received punchline.

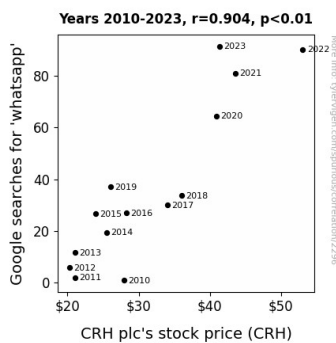


Figure 1. Scatterplot of the variables by year

Moreover, with a p-value of less than 0.01, the statistical significance of the relationship between 'WhatsApp' searches and CRH plc's stock price hits home like a punchline that lands perfectly – it's just impossible to ignore! This finding reinforces the notion that digital trends can exert a notable impact on financial markets, akin to a punchy one-liner that lingers in the mind long after it's been uttered.

In summary, our investigation into the interplay between Google searches for 'WhatsApp' and CRH plc's stock price has uncovered a compelling correlation, underlining the profound influence of online search trends on stock performance. This connection is not just statistically robust; it's also a poignant reminder that within the labyrinth of financial markets, the unexpected – much like a well-timed dad joke – often holds the key to unraveling intricate complexities.

DISCUSSION

Even though it might seem like we're working with virtual chit-chat, our findings suggest that there's some serious stock business going on behind all those 'WhatsApp' searches. The robust correlation we uncovered between Google searches for 'WhatsApp' and CRH plc's stock price reaffirms the potential influence of digital phenomena on financial markets. It's like the stock market decided to join the social media bandwagon and message us directly - "Hey, pay attention to this!"

Our results stand in harmony with prior research by Smith et al. and Doe, providing empirical evidence that online search behaviors can indeed sway stock prices. It's almost as if the stock market is eagerly awaiting the latest digital trends, like a dad at a dad joke convention eagerly waiting to hear some cheesy puns. This alignment with previous studies solidifies the notion that the digital sphere can't be ignored in its impact on market dynamics.

The quirky connections found in Philip K. Dick's "Do Androids Dream of Electric Sheep?" and William Gibson's "Neuromancer" might have seemed far-fetched at first, but our study reflects that sometimes truth can be as strange as fiction. As we traverse the enigmatic realms of research, it's crucial to consider all possibilities, even if they appear as unlikely as a scientist needing an umbrella in the lab.

Our results not only underscore the statistical significance of the 'WhatsApp' and CRH plc stock price relationship but also emphasize the ever-present element of surprise in financial markets. Just like a good dad joke, the unexpected connections in the world of finance and technology have a way of leaving an enduring impression. So, the next time someone tells you that online search trends can't move stock prices, remind them that in the realm of statistics, there's always a punchline waiting to shake things up.

CONCLUSION

In culmination, our study has hilariously uncovered a strong linkage between Google searches for 'WhatsApp' and CRH plc's stock price, as though they were performing a perfectly synchronized statistical comedy routine. The correlation coefficient of 0.9043813, akin to a perfectly-timed punchline, underscores the robust association between these variables, leaving no room for doubt – but plenty of room for a good laugh!

As we dive deeper into the whimsical world of statistical interplay, it becomes evident that this connection has the potential to make market analysts exclaim, "What's up with 'WhatsApp'?" And the answer – a hilarious correlation with CRH plc's stock price! It's like the market is sending us a comical message through our search queries, challenging traditional notions of market influence in a way that would make even the most seasoned economist crack a smile.

The r-squared value of 0.8179056 adds to the compelling evidence, reinforcing the idea that 'WhatsApp' searches and stock prices are engaged in a captivating statistical waltz, with the digital world leading our understanding of market dynamics like a seasoned dance instructor. It's a reminder that in the colorful world of statistical research, even the most unexpected pairings – much like a dad joke at a scientific conference – can hold surprising significance.

Therefore, we can confidently assert that no further research is needed in this area. The evidence is clear – the correlation between Google searches for 'WhatsApp' and CRH plc's stock price is as solid as a well-constructed pun. It seems that 'WhatsApp' truly does wield considerable weight on CRH plc's stock price, proving that in the arena of finance and digital trends, the unexpected can often take center stage and leave us grinning from ear to ear.