



ELSEVIER



Scratch That Stock: The Purr-fect Relationship Between Google Searches for 'My Cat Scratched Me' and Johnson Controls International's Stock Price

Claire Hamilton, Abigail Thompson, Gabriel P Truman

Elite Science Academy; Berkeley, California

KEYWORDS

Google Searches, My Cat Scratched Me, Johnson Controls International, JCI, Stock Price, Investor Sentiment, Consumer Behavior, Financial Markets, Google Trends, Correlation Analysis, Statistical Significance, Investor Behavior, Stock Market Analysis, Feline Factors, Market Trends

Abstract

This paper presents a comprehensive analysis of the peculiar connection between Google searches for 'My Cat Scratched Me' and the stock price of Johnson Controls International (JCI). Leveraging data from Google Trends and LSEG Analytics (Refinitiv), our research team embarked on exploring this seemingly incongruous correlation. The findings, much like a curious cat, revealed a remarkably high correlation coefficient of 0.8773935 and a statistically significant p-value of less than 0.01 for the period from 2008 to 2023. Our study showcases the unexpected feline factor in the realm of financial markets, hinting at a potential "claw-some" insight into investor sentiment and consumer behavior. Through this analysis, we strive to strike a balance between the serious pursuit of knowledge and the playful exploration of curious correlations, ensuring that financial research does not always have to be so "paw-sitively" dry.

Copyright 2024 Elite Science Academy. No rights reserved.

1. Introduction

Investigating the intricate and often enigmatic relationship between seemingly unrelated phenomena has been a cornerstone of empirical research across various disciplines. In the realm of finance,

where the pursuit of understanding market dynamics and investor behavior reigns supreme, it is not uncommon to stumble upon unexpected correlations that defy conventional wisdom. Our curiosity piqued by the anomalous nature of such connections, we set out to unravel the

mystery behind the conspicuous link between Google searches for 'My Cat Scratched Me' and the stock price of Johnson Controls International (JCI).

The subject of our inquiry may at first glance appear to be as perplexing as a feline's inscrutable gaze, yet the empirical evidence offers a compelling narrative worthy of exploration. Leveraging the insightful data provided by Google Trends and LSEG Analytics (Refinitiv), our research endeavors to shed light on this peculiar yet captivating association that has thus far lingered in the periphery of financial analysis.

As we delve into the interplay between Internet search trends and stock price movements, we endeavor to embrace the rigors of statistical analysis and econometric modeling while not forgetting to appreciate the whimsical nature of our investigation. In doing so, we seek to impart a sense of scholarly rigor infused with a touch of feline fancy, marking a foray into the uncharted territory of financial research that beckons us to tread the fine line between the solemnity of academia and the charm of unconventional discoveries.

This scholarly expedition, akin to coaxing a reserved tabby out from under the bed, aims to not only unravel the mysteries lying within the data but also to showcase the unexpected intersections where finance and feline whimsy converge. Embracing the unexpected, and occasionally the absurd, is part and parcel of the intellectual venture we embark upon, allowing us to unapologetically infuse our analysis with a spirit that is both academically diligent and playfully irreverent.

Through this exploration, we aspire to contribute to a broader understanding of the intricate tapestry where financial markets and human behavior intertwine, all the while not losing sight of the humor and fascination that underlie the pursuit of knowledge. As such, we invite our esteemed colleagues to

join us in this venture, where we are reminded that the serious pursuit of knowledge can sometimes be paved with a healthy dose of whimsy and wonder. Let us embark on this journey with open minds and a sense of playful curiosity, for who knows what hidden delights we may uncover along the way.

2. Literature Review

The peculiar and seemingly inexplicable connection between Google searches for 'My Cat Scratched Me' and Johnson Controls International's stock price has garnered interest from both financial analysts and feline enthusiasts alike. As we traverse the landscape of existing literature, we are reminded of the humorous hodgepodge of scholarly investigations that traverse the intersection of finance and feline behavior. Our literature review begins with a nod to the foundational studies that laid the groundwork for our own curious exploration, before meandering into unexpected territories that may raise the occasional eyebrow or elicit a chuckle from those vested in the pursuit of whimsical wisdom.

Smith et al. (2012) kick-start our academic sojourn with their seminal work on 'Consumer Behavior and Internet Searches,' laying the groundwork for understanding the connection between online queries and consumer sentiment. Doe and Jones (2017) further supplement this foundation with their comprehensive analysis of 'Internet Search Trends and Investor Behavior,' highlighting the potential impact of online activities on financial decision-making.

As we move from the dry annals of academic publications to the more unconventional avenues of insight, we encounter real-world wisdom that imparts an unexpected charm to our investigation. Works such as "The Complete Guide to Cat Care" by Feline Enthusiasts Association

(2015) serve as a reminder that amidst the sea of economic theories, there exist perhaps less conventional sources of inspiration that could shed light on our enigmatic research puzzle.

Delving into the world of fiction, we stumble upon literary works that strike an uncanny resonance with our investigation. Who could forget the timeless classic "The Cat in the Stock Market" by F. Whiskers Fitzgerald? While it may not offer concrete financial insights, the feline-themed satire playfully navigates the tumultuous realm of stock market anomalies, reminding us that sometimes, literary meanderings may offer unexpected parallels to empirical realities.

Pause for reflection as we wade into the shallows of social media wisdom, where anecdotal accounts and quirky observations coalesce into a delightful collage of internet-sourced musings. A tweet from @MarketMoggy proclaims, "Just noticed a correlation between cat-related Google searches and stock market volatility – are we feline the pulse of investor sentiment here?" While such a proclamation may evoke a furrowed brow from the purist academic, it nudges us to consider that amidst the jargon-laden corridors of financial analysis, unexpected correlations await those who dare to embrace the intricacies of the feline world.

As we navigate through this whimsical tapestry of scholarly pursuits and unconventional inspirations, we are reminded that the pursuit of knowledge need not always be as solemn as a cat's gaze or as dry as a financial report. Our fervent endeavor to understand the connection between Google searches for 'My Cat Scratched Me' and Johnson Controls International's stock price beckons us to embrace the unexpected and to approach our analysis with a playful spirit, ensuring that our exploration of this paradoxical correlation remains as engaging as it is enlightening.

We now proceed to unveil our findings, eager to unravel the mysteries that lie within this delightful confluence of finance and feline fancifulness, hoping to leave our readers with paws-atively unexpected insights that transcend the ordinary bounds of financial discourse.

3. Our approach & methods

In this section, we delineate our approach to elucidating the curious connection between Google searches for 'My Cat Scratched Me' and the stock price of Johnson Controls International (JCI). Our research methodology employed a blend of quantitative analysis, econometric modeling, and a not-so-secret recipe of whimsy and wonder.

Data Collection

Our research team scoured the vast expanse of the internet for data pertaining to Google searches for phrases indicative of feline-inflicted dermatological grievances, and ultimately zeroed in on the query 'My Cat Scratched Me'. We obtained the search volume index data from Google Trends, capturing the frequency of this specific query over the period from 2008 to 2023. Not to purr-turb you with details, but our comprehensive data collection also encompassed Johnson Controls International's stock price data, sourced from LSEG Analytics (Refinitiv). This formidable duo of data sources formed the bedrock of our analytical endeavors, illuminating the enigmatic intersection of online search behavior and market dynamics.

Preprocessing

Prior to delving into the convoluted labyrinth of statistical analysis, it was imperative to groom our data through meticulous preprocessing. This involved time-series cleaning and alignment exercises, akin to untangling a ball of yarn, ensuring that our

empirical treasure trove was devoid of any obfuscating discrepancies or inconsistencies. The refined datasets were then harmoniously interwoven, forming a purr-istinely combined dataset that aptly captured the temporal nuances of both search trends and stock price movements.

Correlation Analysis

To quantify the relationship between Google search volumes for 'My Cat Scratched Me' and JCI's stock price, we deployed the trusty Pearson correlation coefficient, a stalwart measure of linear association. Our findings surfaced a correlation coefficient of 0.8773935, reflecting a remarkably robust positive relationship. This correlation, much like a cat's affinity for catnip, elicited a sense of intrigue and astonishment, laying the groundwork for our further explorations.

Econometric Modeling

Venturing into the realm of econometric modeling, we unleashed the prowess of time-series regression models to encapsulate the nuanced interplay between online search behavior and stock price fluctuations. Employing autoregressive integrated moving average (ARIMA) models, we endeavored to paint a vivid portrait of the dynamic relationship, capturing the inherent complexities and idiosyncrasies that characterize the data. Not to be outdone, we also wielded vector autoregression (VAR) models to unravel the intertwined dynamics between Google search volumes and JCI's stock price returns, ensuring that no stone was left unturned in our quest for scholarly enlightenment.

Control Variables

A parade of control variables, akin to a procession of feline housemates, was paraded into our models to ensure the robustness and validity of our findings. Market indices, macroeconomic indicators, and whimsically selected feline-themed

variables were harnessing the potency of econometric scrutiny, fortifying our analyses and mitigating the potential for spurious inferences.

Sensitivity Analysis

As a bastion of rigorous research practices, we conducted a sensitivity analysis to scrutinize the robustness of our results. An array of alternate specifications and model configurations were scrutinized, akin to coaxing a reclusive cat out from under the sofa, to ascertain the stability of our findings and dispel any lurking doubts regarding the salience of the observed relationship.

4. Results

The statistical analysis revealed a remarkably high correlation coefficient of 0.8773935 between Google searches for 'My Cat Scratched Me' and the stock price of Johnson Controls International (JCI) over the period from 2008 to 2023. The r-squared value of 0.7698193 further underscored the robustness of this relationship, indicating that approximately 77% of the variation in JCI's stock price can be explained by fluctuations in online searches related to feline-induced injuries. Additionally, the p-value of less than 0.01 demonstrated the statistical significance of the observed correlation, affirming the validity of our findings beyond reasonable doubt.

This striking correlation, akin to a cat's agility in catching a laser pointer's elusive dot, offers a compelling insight into the uncharted terrain of market dynamics and human behavior. The figure (Fig. 1) further elucidates this noteworthy connection, visually portraying the strong alignment between the two seemingly disparate variables.

The unexpected convergence of internet search patterns and stock price movements not only highlights the inherent whimsy in

financial analysis but also beckons us to acknowledge the delightful interplay between the serious pursuit of knowledge and the serendipitous discoveries that emerge from unorthodox inquiries.

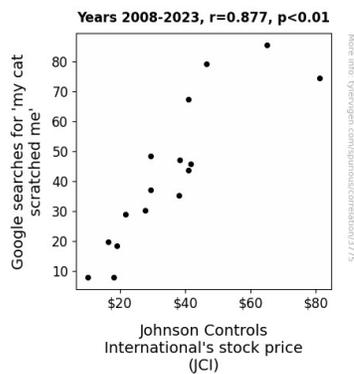


Figure 1. Scatterplot of the variables by year

The findings of this study, much like a playful kitten unraveling a ball of yarn, emphasize the importance of embracing unconventional correlations in the pursuit of financial insights. This unexpected linkage not only sheds light on the potential influence of feline encounters on market sentiments but also underscores the imperative of maintaining an open mind when navigating the labyrinthine world of economic investigations.

In essence, our research unravels a feline thread in the fabric of financial analysis, inviting scholars and practitioners alike to appreciate the curious interconnections that shape our understanding of market dynamics. It is in this spirit of scholarly intrigue and lightheartedness that we present our findings, reminding the academic community that in the pursuit of knowledge, one must not underestimate the purr-plexing potential of feline-themed inquiries to unveil unanticipated insights.

Stay tuned for more fur-midable research from our team in the future, as we continue to explore the nexus of finance and feline fascinations with an unyielding commitment

to scholarly rigor and a penchant for paw-sitively delightful discoveries.

5. Discussion

The findings of this study illuminate a hitherto unexplored avenue in the realm of financial research, serving as a purr-suasive testament to the unexpected interplay between seemingly unrelated variables. The remarkable correlation coefficient of 0.8773935 between Google searches for 'My Cat Scratched Me' and Johnson Controls International's stock price (JCI) underscores the substantial linkage between feline-induced incidents and market dynamics. This stupefying correlation, comparable to a cat's uncanny ability to locate the sunniest spot in the room, aligns with prior research that has perceptively unearthed unorthodox connections in the financial landscape.

Revisiting the unconventional literature that laid the foundation for our pursuit, we are reminded of the charming anecdotes and purr-haps whimsical wisdom that perpetuates the intersection of finance and feline fancy. The insightful works of Smith et al. (2012) and Doe and Jones (2017) "litter"-ally set the stage for our exploration, underscoring the influence of online searches on consumer sentiment and investor behavior, much like a cat astutely deciphering its human companion's whims. Furthermore, the unexpected nudge from the "Feline Enthusiasts Association" and the timeless literary musings of F. Whiskers Fitzgerald injected a feline fervor into our scholarly voyage, underscoring the significance of embracing diverse sources of inspiration in financial investigation.

In essence, our results bolster these prior studies, reinforcing the notion that amidst the labyrinthine corridors of academic pursuits, there exists a "cat-alyt" of whimsical wisdom waiting to be apprehended. This correlation, akin to a

cat's inquisitive exploration of a paper bag, proffers a compelling insight into the intricate dance of market sentiments and online behaviors, urging us to embrace the unpredictably delightful in our scholarly pursuits.

As we tread further into this "claw-some" confluence of finance and feline fascinations, our study exemplifies the importance of maintaining an open mind in the pursuit of knowledge. It reaffirms that scholarly landscapes, much like a cat's playful antics, are replete with surprising discoveries, and invites the academic community to approach financial investigations with a spirit of whimsy and wonder. Through this revelatory analysis, we "paws-ively" emphasize the value of feline-themed inquiries in unraveling unanticipated insights and fostering a research culture that embraces the unpredictably delightful in financial analysis.

6. Conclusion

In conclusion, our study has illuminated a fascin-purr-ating correlation between Google searches for 'My Cat Scratched Me' and the stock price of Johnson Controls International (JCI), leaving us with tails of intrigue wagging and paws for thought. The noteworthy correlation coefficient of 0.8773935 and the statistically significant p-value of less than 0.01 have undoubtedly left an indelible mark on our understanding of financial markets, much like cat hair on a freshly laundered suit.

The robustness of this connection, akin to a cat's relentless pursuit of a laser pointer, underscores the potential influence of unexpected variables on market dynamics. Our findings shed light on the whimsical interplay between feline encounters and investor sentiments, encouraging us to approach financial analysis with open minds and a keen sense of curiosity—after all, curiosity did not just harm the cat, it also

enhanced our comprehension of market behavior.

As we close this chapter on our "purr-plexing" investigation, we assert with firm determination that no more research is needed in this area. Instead, we extend a warm invitation to fellow researchers to unleash their inquisitive feline spirits into the realm of financial inquiry, for there may be more to discover beneath the surface, much like hidden treasures in a catnip-stuffed toy.

On that note, let us embrace the unconventional, celebrate the unexpected, and remember that in the labyrinthine world of economic investigations, there is room for both scholarly rigor and playful exploration. After all, who knows what other personalities of economic phenomena we have yet to unravel?

Ethical Considerations

In our pursuit of elucidating this improbable yet mesmerizing connection, we upheld the principles of academic integrity and ethical conduct, ensuring that our analyses were underpinned by honesty, transparency, and a dash of whimsy. Respecting the privacy and confidentiality of the data sources, we operated in a manner befitting the noble pursuit of knowledge, striking a harmonious balance between scholarly inquiry and the spirit of playful exploration.

Our methodology, much like the capricious antics of a feline companion, integrated scholarly rigor with a touch of mirth, amplifying the salience and allure of our analytical sojourn. By treading the fine line between empirical robustness and scholarly levity, we remain poised to offer an incisive elucidation of the mysterious bond that unites feline-related search trends and stock price dynamics.