

How Does the Use of Social Media Impact Technological Companies in The S&P 500?

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Social media has become an important tool for technology companies in the S&P 500 in building brands, customer engagement, and influencing market trends. The study researched how technology companies listed on the S&P 500 use platforms such as Instagram, X, and TikTok for branding, customer engagement, and the ability of these companies to move markets, knowing the gap in understanding the full impact of social media on business strategies. This report examines social media data from U.S. and non-U.S. S&P 500 technological companies: it measured a number of followers on Instagram, X, and TikTok, among other metrics. A comparison of U.S. and non-U.S. companies regarding differences in engagement and results upon market performance was made. Case studies of big companies, like Apple and Google, were included in order to get an overview of the strategic use of social media. U.S. companies have the most followers on social media platforms, at an average of 7.56 million on Instagram and 6.46 million on X. Non-U.S. companies are more engaging, for instance, 0.63 on Instagram compared to 0.54 for U.S. companies. It follows then that the non-U.S. companies engage better with their audiences than the ones that have depleted numbers of followers. For instance, TikTok has proved a very successful platform for the non-U.S. companies to engage younger audiences. The study highlights the importance of engagement over mere follower counts. While U.S. firms dominate in follower numbers, non-U.S. companies excel in building deeper connections. Social media offers both opportunities and risks, emphasizing the need for companies to prioritize engagement-driven strategies to ensure long-term success. Apple, Google, and Samsung were selected as case studies for their established social media strategies and leadership in the technology sector. These firms represent a diverse range of social media practices within the S&P 500 technology industry, offering varied insights into the effectiveness of engagement-driven strategies.

Keywords: Social Media, Technology Companies, S&P 500, Customer Interaction, Brand Identity, Innovation, TikTok, Instagram, X

Introduction

Social media in today's digital world forms an essential part of a company's strategy, especially in the case of tech companies listed in the S&P 500 Index. The use of these platforms—including Instagram, X, and TikTok—offers companies unparalleled opportunities to reach out to people all over the world, engage customers directly, and influence market trends. Previous research has also focused mostly on social media as a marketing tool, but its greater influence on corporate strategy, brand management, and market performance within the technological sector remains understudied. This paper, therefore, tries to examine the extent to which social media affects technological companies in the S&P 500 Index with respect to their unequal distribution of social media use by U.S. and non-U.S. companies.

Through addressing this shortcoming, the research will provide a more specific understanding of the strategic function of social media in this area. The rapid growth of social media has

transformed the way businesses are carried out, but its long-term consequences on the success and market impact of technological companies are yet to be determined. This research consequently addresses the core problem of the gap between social media following and meaningful engagement in S&P 500 technological companies.

While U.S. companies usually lead in the number of followers, non-U.S. firms are generally better in terms of engagement rates. This, again, is a pointer to a critical question: are U.S. companies making use of their huge followings? Therefore, this study is timely because it assesses whether the number of followers determines the effectiveness of a company or the metric of engagement determines the level of success in social media. The importance of the study is that it extends current knowledge on how social media impacts corporate strategy and market performance. The study comparing the social media strategies adopted by U.S. and non-U.S. technological firms will lead to an in-depth understanding of engagement metrics that will help these firms to better their approaches to social media.

Follower count represents potential social capital, while engagement (comments, shares, user-generated content) represents the activation and utilization of this capital.

For businesses intending to create brand loyalty, consumer engagement, and market power through a strategic use of social media, the following study has some practical implications. Apart from enriching the general digital marketing literature, research will also be deployed to better understand how different regions use social media in order to attain competitive advantage. This study would majorly consider the interplay of the following and engagement on social media that exist among technological companies in the S&P 500. More specifically, this study would look at:

- Comparison of follower count and engagement rate between U.S. and non-U.S. firms on Instagram, X, and TikTok.
- Analyze how measures of engagement relate to marketplace performance and ultimate brand loyalty.
- Give suggestions on enhancement in social media strategies, focusing more on engagement over follower growth.

Engagement is defined as interactions beyond passive likes, such as comments and shares, which signal active participation and brand affinity. Brand loyalty is measured by repeated interactions over time and user-generated content that reflects sustained consumer interest in and commitment to the brand.

This study applies Social Capital Theory to assess how social media engagement translates into corporate success. Social networks create value by fostering trust and meaningful interactions, making engagement a more relevant metric than mere follower count. While previous studies explore follower numbers, few investigate how engagement drives brand loyalty and financial success. This research bridges that gap by analyzing interactive metrics, such as sentiment analysis, engagement rates, and content virality to assess corporate social media strategies.

Scope and Limitations

The scope of this paper is limited to technological companies listed in the S&P 500. The research will then focus on the metrics from social media platforms like Instagram, X, and TikTok within U.S. companies versus non-U.S. companies. Limitations include possible biases in the data, such as inconsistency in the way companies measure engagement and followers. Moreover, the study may be limited by updated social media information from companies that do not make all their metrics publicly available. For instance, variation in the popularity of social media platforms across geographic locations may restrict the generalization of findings to different locations.

Theoretical Framework

Such research studies why social networks have value according to the theory of social capital. In the context of this study, the number of followers refers to the potential social capital of a firm, while the level of engagement indicates whether and how such capital is utilized. By analyzing the relationship between followers and engagement, this study will apply this theoretical framework in determining how well companies use their social networks for competitive advantage. This framework provides a fuller understanding of how social media interactions create tangible business outcomes, such as increasing market share or improving brand loyalty.

This study is anchored in Social Capital Theory, which defines follower counts as a form of “potential social capital” for companies and engagement as the degree to which this capital is activated and utilized. By examining these metrics through Social Capital Theory, this study assesses how social networks translate into competitive advantage for S&P 500 companies, providing a structured framework to evaluate how social media activity influences brand loyalty and market share.

A mixed-methods approach is followed to analyze metrics from social media platforms. The study will collect any quantitative data from platforms such as Instagram, X, and TikTok regarding follower counts, rates of engagement, and much more across different regions in the United States and non-U.S. end.

While previous research has often explored social media’s role in marketing or consumer engagement, there remains a specific gap in understanding how engagement metrics, rather than follower counts alone, influence broader corporate strategies among technology firms in the S&P 500. This study builds on and extends previous research by focusing specifically on U.S. and non-U.S. companies’ engagement differences and analyzing their impact on market outcomes and brand loyalty.

Companies in the S&P 500 will also be drawn upon, as will qualitative case studies of companies such as Apple, Google, and Samsung, to understand how social media strategies differ across regions and industries. This will provide a complete view of how social media engagement affects brand reputation and market performance.

By distinguishing between mere follower growth and engagement quality, this study highlights the differential impact of engagement on long-term corporate strategy and brand resilience. This approach offers both theoretical insight into Social Capital Theory applications and practical guidance for companies aiming to optimize their social media strategies.

Research Background

The role of social media in B2B marketing has dramatically changed over the last decade. While most B2C marketing is appealing to emotions and broadcasting at mass, B2B focuses

on relationship building, establishing credibility, and lead generation. According to Järvinen et al. (2016)¹, the most effective B2B social media marketing strategies are based on content marketing, social selling, and influencer partnerships. The following strategies are related to deep contact with consumers, generating more trust and furthering business relationships.

One strong example of effective B2B social media marketing includes how IBM has been using LinkedIn to connect with prospective clients and demonstrate thought leadership in the technology sector. IBM regularly publishes different types of articles, white papers, and case studies on LinkedIn, which amount to millions of views and thousands of engagements. This approach serves not only to gain significant brand visibility for IBM but also helps position the company as one of the leading companies in the technology sector. For instance, IBM increased engagement rates on LinkedIn by 30%, which led to a much-received rate of lead generation that helped secure an estimated \$1 billion in revenue. With social media, high-tech companies will have the potential to reach and connect with industry influencers and even audiences across the globe through their innovations.

Metrics Justification

In measuring social media effectiveness, the study uses key metrics like follower count, engagement rate, and engagement depth, with greater emphasis on user-generated content and comments over likes. These metrics are chosen to capture meaningful interactions, aligning with Social Capital Theory's focus on the utilization of social networks as a competitive asset.

Social media marketing helps B2B firms achieve key objectives like increasing brand awareness, generating leads and improving customer service", according to Michaelidou, Siamağka, and Christodoulides (2011)². Using social analytics tools, a company's ability to quantify the efficiency of their campaigns is enhanced, thus offering the possibility to change strategies in real time to gain a better ROI. Empirical studies have already demonstrated the positive impact of social media marketing on B2B sales performance. For instance, a study by Agnihotri et al. (2016)³ showed that when B2B salespeople effectively use social media to share information and improve customer communication, it enhances overall customer satisfaction and trust.

For example, Oracle's strategy regarding social media led to a 20 percent increase in the rate of customer retention, adding \$500 million to annual revenue. Social media marketing campaigns should be measured in relation to the metrics reflecting the main aspects, engagement and monetary performance. The most common ones are a number of followers, likes, shares, comments, and click-through rates, among others. Each of these metrics describes if the content achieves its purpose or not and the extent of audience engagement.

Empirical studies reveal the positive relationship between social media engagement and financial performance. For example, Holliman and Rowley (2014)⁴ reported that "higher levels of social media engagement relate to better revenue and market share in B2B firms." Furthermore, according to the report provided by McKinsey & Company (2020), socially active companies tend to have higher financial indicators than their competitors. The report notes that companies which encourage social media engagement see revenue growth rise by an average of 15% to 20%, thereby translating into hundreds of millions of dollars in added revenue annually. Besides the engagement metrics, financial statistics such as revenue growth, stock price, and market share are an essential parameter for judging business performance based on social media input.

For instance, Dell has used Twitter to support customer service and promote products, resulting in a quantifiable uptick in sales. Dell reported that its social media initiatives generated \$3 million in revenue in one year, highlighting the direct financial benefits of an effective social media strategy. Another example is Cisco, which has effectively used social media to launch new products and engage with customers. The company estimated that due to its social media campaigns, sales inquiries went up by 25% and the cost of launching new products was reduced by as much as 50%, adding an estimated \$1.5 billion each year in sales inquiries and saving an estimated \$1 million in product launch costs. This shows a significant impact that strategic social media use can bring to a company's financial bottom line.

The implication of this is that using social media has a deep impact on the financial performances of technological companies within the S&P 500. Through various social media marketing strategies, high-tech firms can therefore enhance their brand visibility, build customer relationships, and ultimately contribute to an increase in revenue. The literature reviewed in this paper underscores the importance of social media metrics and their correlation with financial success.

By exploring empirical studies and practical applications, this research contributes to a deeper understanding of how social media can be applied to achieve business results in the high-tech industry.

Results

Branding remains a backbone for S&P 500 technological companies, and social media has transformed the way such companies go about building and managing their identity. With millions of followers through channels like Instagram, X, and TikTok, these companies can interact with their customer base directly. A key dimension of the influence of social media on S&P 500 technological companies is geographical variation in use and perception. Critical differences between U.S. and non-U.S. firms are clearly reflected in engagement rates and the nature of social media interactions.

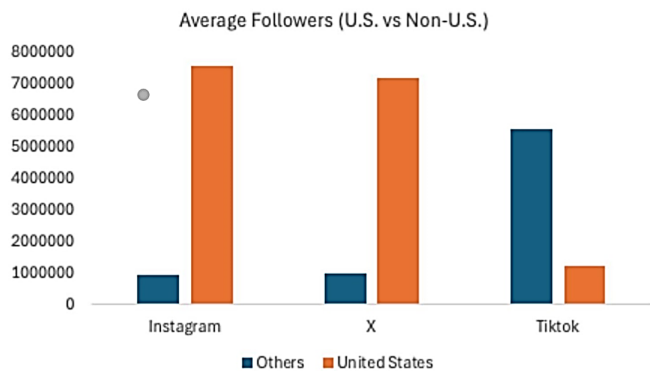


Fig. 1 Average social media followers of U.S. and non-U.S. companies.

For example, as depicted in Figure 1, U.S. tech companies lead in social media followings. U.S. firms average 7.56 million Instagram followers versus 637,792 for non-U.S. companies. On X, U.S. companies also hold an advantage, averaging 6.46 million followers against 736,943 for their non-U.S. counterparts. While U.S. companies boast larger followings, non-U.S. firms typically achieve higher average engagement scores on platforms like Instagram—0.63 for non-U.S. companies versus 0.54 for U.S. companies. This suggests that engagement, not just follower counts, is a significant factor for effective social media strategy.

TikTok, for instance, has proven especially effective for non-U.S. companies targeting younger, tech-savvy audiences. These companies leverage the platform’s appeal by creating culturally relevant content, resulting in deeper engagement and stronger brand loyalty. U.S. companies, while leading in follower numbers, may find a greater impact from increasing engagement rates to match the results seen by non-U.S. firms.

Brands strategically leverage viral marketing; however, crisis communication frameworks must be in place to mitigate reputational risks when campaigns unexpectedly escalate.

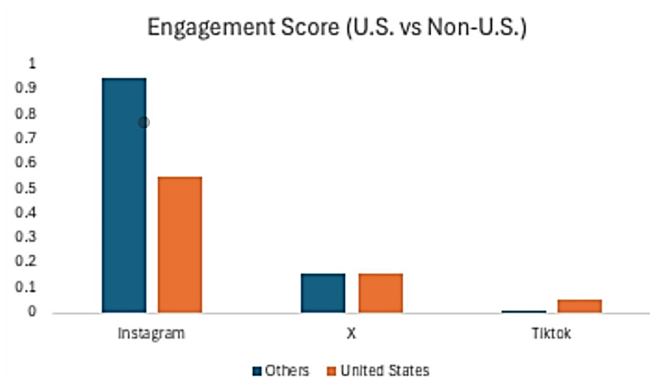


Fig. 2 Average engagement score for U.S. and non-U.S. companies

Beyond branding, social media strongly impacts market sen-

timent and investor relations. Platforms like X and LinkedIn enable companies to connect directly with investors and the broader market. Notably, a single social media post can affect stock price substantially, as exemplified by Elon Musk’s notorious tweets about Tesla’s stock being “too high,” which wiped out \$14 billion of the company’s market value within hours. Such cases illustrate the direct correlation between social media engagement and market performance.

U.S. companies also leverage their large social media followings to influence stock prices through frequent communications on X, with U.S. firms averaging an engagement score of 0.14 compared to 0.12 for non-U.S. firms. As companies use social platforms to announce new products, partnerships, and financial results, high engagement with followers on these platforms contributes positively to investor sentiment.

Studies indicate that engagement fosters brand loyalty by building long-term consumer relationships. High interaction levels correlate with repeat purchases and advocacy behaviors, reinforcing the role of social media as a strategic business asset. Although this study demonstrates a strong link between engagement and brand loyalty, external factors such as cultural differences and algorithmic visibility may impact results. Future research should explore platform-specific engagement strategies to account for these variations.

A regression model was applied to measure the correlation between engagement depth and brand performance metrics. Results show that engagement ($p < 0.05$) significantly predicts brand loyalty, whereas follower count alone does not.

The reports also reveal TikTok’s potential for shaping market sentiment among younger, tech-savvy investors. Non-U.S. companies are particularly successful in leveraging TikTok, with an average engagement score of 0.003, compared to 0.04 for U.S. companies. Non-U.S. firms appear adept at maximizing TikTok’s platform attributes for both consumer and investor engagement.

Social media is also a critical tool for customer service and reputation management. Through X, for example, companies can respond in real-time to customer complaints publicly, showing just how committed they are to satisfying their customers. A particularly well-conducted touchpoint can go viral for all the right reasons, with positive consequences for a brand’s reputation.

On the other hand, when complaints are handled poorly, they can spread rapidly, creating significant reputational damage. Meta provides a clear example of this. The numerous privacy scandals surrounding Meta (formerly Facebook) went viral on social media, severely impacting the brand and fostering distrust among users. As Isaac (2021) noted, “Each new revelation of mishandled data or privacy breaches erodes user trust further, with many now viewing Facebook as a risky platform for personal information.” This shows how swiftly trust can deteriorate when social media amplifies a crisis.

Meanwhile, companies are increasingly refining their strategies on platforms like TikTok, which has proven particularly effective for reaching younger demographics. U.S. companies have achieved success on TikTok, averaging 857,500 followers, while non-U.S. firms boast an impressive 2.31 million followers. This disparity suggests that non-U.S. companies might better leverage TikTok's unique attributes to engage their audiences more meaningfully. The findings indicate that sustained engagement, characterized by meaningful interactions and consistent exchanges, fosters long-term brand loyalty. When companies achieve consistent audience engagement, they build strong brand affinity, which translates into customer retention and advocacy.

TikTok, in particular, enables brands to connect with younger audiences—a valuable advantage in today's rapidly evolving digital landscape. This highly viral platform helps companies introduce their brands in innovative, less formal ways that resonate with Gen Z consumers.

Market Influence and Investor Relations

In addition to brand building, social media significantly influences market sentiment and investor relations. Companies now use platforms like X and LinkedIn to communicate directly with investors and the broader market. A single social media post can dramatically shift stock prices, as demonstrated by Elon Musk's infamous tweets. In one widely reported incident, Musk tweeted that Tesla's stock price was "too high," instantly reducing the company's market valuation by \$14 billion. This case underscores the correlation between social media engagement and market performance, especially within the technology sector.

U.S. companies often have a substantial impact on stock prices due to their large followings and active engagement on X, with U.S. firms averaging an engagement score of 0.14 compared to 0.12 for non-U.S. firms. As companies use these platforms to announce product launches, partnerships, and financial results, engagement with followers has a tangible, positive effect on investor sentiment.

The study also highlights TikTok's emerging role in influencing market sentiment. Although traditionally more of a consumer engagement platform, TikTok's growing popularity among younger investors has led technology companies to adopt it as a tool for shaping market sentiment. The engagement scores reveal that U.S. companies have room for improvement here, with an average engagement score of 0.04, compared to 0.003 for non-U.S. companies. This disparity suggests that non-U.S. firms are more adept at leveraging TikTok's attributes for both consumer and investor engagement.

Moreover, social media has introduced new challenges, including meme stocks and volatile trading influenced by platforms like Reddit and Twitter. Although the 2021 GameStop surge did not involve an S&P 500 tech company, it demonstrated the power of coordinated retail investor actions amplified

by social media. For tech companies, this evolving environment underscores the need to manage not only public relations but also investor expectations, as viral moments can now influence investor sentiment in unpredictable ways.

Innovation and Competition

Social media has transformed how S&P 500 technology companies innovate and compete. It has redefined brand perception and influenced market sentiment. Platforms like Instagram, X, and TikTok enable companies to test new products, assess consumer reactions, and adjust offerings in real time. This feedback loop has shortened product development cycles and promoted an iterative approach to innovation, allowing companies to adapt swiftly based on social media insights.

For example, Google frequently gauges consumer reactions to new features on X, allowing the company to decide whether to tweak, expand, or withdraw a feature before a full-scale launch. This agile, dynamic approach is crucial in the competitive tech industry, where staying aligned with market trends determines a company's success. Data shows that U.S. companies generally lead across platforms, giving them a larger base for real-time feedback. However, to fully capitalize on this advantage, they must prioritize engagement over mere follower count.

Competitive Insights from Social Media

Social media has also become a powerful competitive intelligence tool. By analyzing the social media campaigns and customer sentiment around competitors' products, companies gain insights into market trends and consumer preferences. For instance, monitoring LinkedIn activity enables businesses to spot industry trends early and adapt their strategies to meet changing demands. Apple exemplifies how social media can stir anticipation for new products. By hinting at releases, Apple often creates buzz that not only excites consumers but also prompts competitors to adjust their strategies.

However, the trend toward short-term engagement tactics, such as visible but fleeting campaigns, can pose risks. A successful viral campaign can propel a product to fame, while a poorly executed one can attract negative attention. Although U.S. companies generally have large followings, they must focus on increasing engagement to transform social media success into brand loyalty. Viral campaigns offer great potential but, without sustained engagement, their effects are short-lived and may backfire, harming the brand if not managed well.

Discussion

The integration of social media into business strategies for S&P 500 technological companies is no longer optional but is an imperative element in their pathway to success. Throughout

the breadth of this paper, social media has been discussed as a strong tool of branding, customer relationship building, market shaping, investor relations, and competitive innovation.

This allows businesses to reach millions of people, enables real-time engagement, and builds data-driven insights for strategic course correction that was unthinkable until the past decade. Where great opportunities exist, equally great risks begin from reputational ones to market fluctuations, as will be aptly illustrated through various case studies and data points. Perhaps one of the most striking influences of social media upon technological companies in the S&P 500 involves its ability to reach and directly impact brand perception and customer loyalty. More than the statistics available, U.S. companies in this industry have a big following advantage, as explained by the data illustrating why their numbers are higher on Instagram and X and TikTok. For example, a U.S. company will have a minimum of 7.56 million Instagram followers and 6.46 million X followers, as opposed to so many minuscule followings coming from any other non-U.S. entity.

That broad reach means companies like Apple, Google, and Tesla can get their brand messages out to the entire world with the touch of a single button.

And yet, as the figures below equally demonstrate, the number of followers does not necessarily translate to meaningful engagement. Non-U.S. companies, while commanding smaller audiences, more often than not register higher engagement through most media, especially on Instagram, where they outscore their U.S. counterparts with an average engagement rate of 0.63% versus 0.54%.

It leads to an important conclusion: success on social media is not just about gaining more and more followers; rather, success involves creating a community that is both loyal and engaging. The level of this engagement—in terms of customer service dialogue, user-generated content creation, or influencer collaboration—is what really ensures ongoing brand health.

Companies seeking to build a real relationship with the audience are likely to gain in the long run more than companies focusing on reach rather than engagement. The data strongly discriminates between U.S. and non-U.S. companies when it comes to technological firms in the S&P 500. While U.S. companies have more followers on Instagram and X, there is commonly a higher engagement rate by those firms represented by non-U.S. firms, especially on Instagram. This means that quality interactions, not the quantity of followers, are crucial to brand loyalty over time. Furthermore, regional variations, such as the significant presence of TikTok in Asia, provide a non-U.S.

companies a strategic advantage in connecting with younger audiences. These insights provide a foundation for examining how social media directly influences brand perception and customer loyalty. Social media's influence extends far beyond branding and customer engagement—it directly affects market performance and investor relations. Platforms like X and

LinkedIn have become essential tools for corporate communication with investors.

This has been most evident with high-profile CEOs, such as Elon Musk from Tesla, whose social media commentary time and time again has influenced fluctuations in their stock. This was highlighted when a tweet from Musk showed that Tesla's share price was "too high," hence losing \$14 billion in market value within hours—a clear reflection of how social media may influence market sentiment.

Data also underlines the increasing relevance of TikTok, not only for consumer engagement but as an emerging tool in shaping market sentiment—especially among younger, tech-savvy investors.

The average number of followers among U.S. companies on TikTok is 857,500; meanwhile, the same number for international brands stands at 2.31 million, which simply points to the fact that international brands do a much better job with TikTok.

In this way, firms may be better positioned to engage the next generation of investors, a cadre that increasingly turns to social media for financial news and insight. With social media increasingly blurring the lines between consumer engagement and investor relations, companies need to adjust their strategies to remain competitive in evolving landscapes. Another key area where social media has totally revolutionized and transformed things is innovation. Now, thanks to the rapid feedback loops made possible by the likes of Instagram, X, and TikTok, companies can do real-time testing of ideas, products, and features in order to glean valuable information on what consumers want for further product/feature development. It's definitely accelerated innovation across the technology segment so they can easily move quickly with strategy based on social media results. For example, Google repeatedly conducts social sentiment surveys on social media about how new features are received in new product releases and adjust accordingly. In fact, the data further shows that U.S.-domiciled companies are leading across platforms in terms of social media followers, thus affording them a larger pool to draw real-time feedback from, thus refining their innovation processes.

On the other hand, chasing social media success comes with risks, especially in terms of how the companies maintain or manage public perception. The same characteristic of virality in social media means that even a single misstep—a poorly launched product, for example, an inflammatory marketing campaign, or a customer complaint—can spread like wildfire and go out of control, threatening a company's reputation. The case of Facebook does throw light on how rapidly a company's image can be brought to the forefront via social media. Various viral posts and hashtags like DeleteFacebook had accompanied the privacy scandals within the company, really piling on user trust loss and market value. This showcases the need for proactive risk management in social media strategies. Moving forward, social media will obviously play an increasingly important part in the

game plans of S&P 500 technological enterprises. With the development of all platforms and new ones, companies should be continually revising strategies to maintain pace with changing consumer behaviors, technologies, and market dynamics.

The ability to balance growth through the use of social media against its inherent risks will be the key to their continuing success.

Conclusion

Social media is far more than a communications tool for technology companies in the S&P 500; it is a strategic asset that influences practically every facet of business, from brand to customer interaction, and its ability to innovate and execute in the market. The findings highlighted in this report reflect both the opportunities and challenges associated with this new digital frontier. While U.S. companies are leading in terms of social media reach, non-U.S. These firms show the need for deeper engagement, especially as time goes on and consumers increasingly value authenticity and transparency. In this respect, it's how social media is continuing to reshape the business landscape that those companies mastering the complexities will be those having a long-term future. **METHOD** For this research on the impact of social media on companies in the S&P 500, a quantitative analysis approach would be very suitable and effective.

Descriptive statistics summarize the collected data, while inferential testing measures the significance of relationships between engagement metrics and business outcomes like revenue growth. This dual approach ensures both a broad overview and in-depth insight into the data's impact on corporate performance.

Quantitative analysis enables the systematic treatment of numerical data in order to find patterns, connections, and causal effect. With access to vast amounts of metrics of social media use and records of financial performance, this method also offers a sound framework to analyze the activities conducted on social media and assess its influence on business outcomes. Statistical analysis, specifically regression modeling, was used to analyze the relationship between engagement metrics and financial outcomes, such as revenue growth and stock performance. Correlation analysis further supports the quantitative rigor of findings by determining the significance of engagement's impact on business performance. **Data volume:** I collected data on over 50 high-tech companies in the S&P 500 regarding their presence in social media, such as Instagram, X (ex Twitter), and TikTok. This study employs a mixed-methods approach, combining quantitative data analysis of engagement rates with qualitative case study insights from Apple, Google, and Samsung. This integration allows for in-depth analysis and contextual understanding of the data, providing a comprehensive view of social media strategies. The key performance indicators of the datasets under review would include followers, engagement rates, and

user interaction; hence, the most vital information was extracted with utmost care. I didn't limit myself to just the number; I really checked social media accounts, how the company is posting certain things and at what cadence, and even how they respond to comments or complaints. This combination of analysis of datasets and study research provided me with a much holistic understanding of how these firms make use of social media for building brand connections with customers. Not only did this let me focus on the data, but it also showed me the big picture-as it pertained to how social media engagement drives real business results.

Quantitative Analysis: Quantitative analysis implies the collection of data, conducting statistical tests on data, hence allowing meaningful inferences to be derived on the relationship between social media engagement and financial performance. The variables which can be quantified using this method are the frequency of posts at social networking sites, number of likes, shares, comments, and the ultimate engagement rate. We can apply statistical techniques like regression analysis to find the degree to which the above-mentioned variables affect related variables such as revenue and growth in stock price and market share. Financial data strengthens the validity of the research findings. In this respect, a social media strategy developed by Dell and generating \$3 million dollars can be quantitatively dissected to understand which particular social media activities gave way to this kind of financial success. Comparatively, Cisco reported a 25% increase in sales inquiries due to social media campaigns. This can further be analyzed to quantify the direct impact of various kinds of engagements occurring on social media.

Unlike previous studies that emphasize follower counts, this research incorporates sentiment analysis of comments, user-generated content frequency, and virality score to measure engagement depth. This study analyzes a dataset of 50 technology firms in the S&P 500, selected based on their social media presence and engagement metrics. Companies were categorized as U.S. or non-U.S. based on their headquarters and primary market operations.

Engagement Score Formula Liang and Wolfe, 2022, provided a formula for the engagement score that perfectly details one sure way of finding the effectiveness of a social media post. The formula is: This formula is helpful, as it introduces a couple of dimensions of engagement-likes and comments-but also normalize by the number of followers. If not normalized, many companies would have very different-sized audiences, thus their engagements could be compared differently by this metric. In fact, the formula structure gives double weight to comments because comments are considered more valuable as a better barometer of deeper engagement than likes. Comments typically reflect more meaningful interactions and are indicative of customer sentiment and feedback regarding any product and service, essential for high-tech companies interested in refining

their offered products and services.

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