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## Web 3.0 Adoption and Financial Performance in Fortune Global 500 Companies

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**Abstract.** *The purpose of this paper is to examine whether the adoption of Web 3.0 is associated with stronger firm-level financial performance among Fortune Global 500 companies. The study addresses a gap in the literature by moving beyond predominantly conceptual and technology-centered discussions of Web 3.0 and evaluating its relationship with measurable economic outcomes, including revenues, profits, market value, and profitability ratios. The study uses publicly available data on 2024 Fortune Global 500 firms and classifies companies as Web 3.0 adopters or non-adopters. The dataset includes annual revenue, profit, market value, assets, employee count, and industry affiliation. The empirical analysis combines descriptive statistics, independent-sample t-tests, Mann–Whitney U-tests, chi-square analysis, Spearman correlation analysis, and regression modelling to assess differences between the two groups and to test four hypotheses related to financial performance, industry variation, firm size, and profit efficiency. The findings indicate that Web 3.0 adopters systematically outperform non-adopters across several financial dimensions, including annual revenues, profits, market value, and profitability ratios. The results also confirm that adoption varies significantly across industries, with technology-oriented sectors demonstrating higher adoption intensity, while firm size shows a positive but weak association with adoption. At the same time, the evidence supports an associative rather than causal interpretation, and some regression results warrant caution due to specification weaknesses and potential technical inconsistencies, with practical implications. The paper is relevant for managers, investors, and policymakers because it suggests that Web 3.0 adoption may serve as a strategic signal of digital readiness, innovation capability, and competitive positioning. For large corporations, the findings imply that Web 3.0 should be considered not merely a technological trend but part of a broader organizational profile linked to adaptation and competitiveness in the digital economy. The paper's originality lies in positioning Web 3.0 adoption as an empirical strategic variable and linking it to firm performance analysis within a large-scale sample of the world's leading corporations. In doing so, the study extends research on digital transformation, strategic management, and marketing capability by providing a structured empirical assessment of the economic profile of corporate Web 3.0 adopters.*

**Keywords:** *Web 3.0, digital transformation, financial performance, Fortune Global 500, strategic management, marketing capability, corporate adoption.*

**JEL Classification:** *G30, M10, M15, M21, O33*

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## Впровадження Web 3.0 та фінансова результативність компаній із списку Fortune Global 500

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**Анотація.** Метою статті є дослідження зв'язку між впровадженням Web 3.0 та фінансовою результативністю компаній, що входять до Fortune Global 500. Актуальність дослідження зумовлена тим, що у сучасній науковій літературі Web 3.0 переважно розглядається як технологічний або концептуальний феномен, тоді як його зв'язок із конкретними економічними результатами діяльності великих корпорацій залишається недостатньо вивченим. Особливу увагу приділено оцінюванню того, чи пов'язане впровадження Web 3.0 з вищими показниками доходів, прибутку, ринкової вартості та рентабельності компаній. Емпіричною базою дослідження стали відкриті дані про компанії Fortune Global 500 за 2024 рік. У межах дослідження компанії було поділено на дві групи: ті, що впроваджують Web 3.0, і ті, що не демонструють впровадження. До аналізу включено показники річного доходу, прибутку, ринкової вартості, активів, чисельності працівників та галузевої приналежності. Для досягнення поставленої мети використано методи описової статистики, t-тести для незалежних вибірок, U-тест Манна-Вітні,  $\chi^2$ -аналіз, кореляційний аналіз Спірмена та регресійне моделювання. Установлено, що компанії, які впроваджують Web 3.0, у середньому демонструють вищі показники фінансової результативності порівняно з тими, хто не демонструє впровадження. Зокрема, вони характеризуються вищими значеннями річного доходу, прибутку, ринкової вартості та кращими показниками рентабельності. Водночас підтверджено, що рівень впровадження Web 3.0 істотно відрізняється залежно від галузі: найбільша інтенсивність спостерігається у технологічно орієнтованих секторах. Виявлено також позитивний, хоча й слабкий, зв'язок між розміром компанії та ймовірністю впровадження Web 3.0. Отримані результати дають підстави говорити про наявність статистично значущого зв'язку між впровадженням Web 3.0 та фінансовою результативністю, однак не дозволяють робити однозначні висновки щодо причинно-наслідкового характеру цього зв'язку. Результати дослідження можуть бути використані керівниками компаній, інвесторами та суб'єктами формування економічної політики для оцінювання Web 3.0 як індикатора цифрової готовності, інноваційної спроможності та конкурентного позиціонування компаній. Для великого бізнесу це означає, що впровадження Web 3.0 доцільно розглядати не лише як технологічний тренд, а як складову ширшої стратегії адаптації до цифрової економіки. Наукова новизна статті полягає в тому, що впровадження Web 3.0 розглядається як емпірично вимірювана стратегічна змінна та аналізується у взаємозв'язку з показниками фінансової результативності на основі великої вибірки провідних корпорацій світу. Це дає змогу поглибити наукові уявлення про роль Web 3.0 у процесах цифрової трансформації, стратегічного менеджменту та розвитку маркетингових спроможностей компаній.

**Ключові слова:** Web 3.0, цифрова трансформація, фінансова результативність, Fortune Global 500, стратегічний менеджмент, маркетинг, корпоративне впровадження.

### 1 Introduction

Despite the rising prominence of Web 3.0 in corporate discussions, its economic impact remains unclear. Current debates often focus on technological topics such as decentralization, blockchain infrastructure, smart contracts, tokenization, and new digital interaction models [4]. However, for strategic management and marketing research, a larger question is whether

adopting Web 3.0 yields noticeable differences in firm-level economic outcomes. In other words, aside from its technological innovation, Web 3.0 should be assessed as a possible indicator of organizational strength, innovation capacity, and market success [5, 6].

This article is especially relevant for large multinational corporations, where digital transformation is not just about experimentation but

also increasingly shapes capital allocation, strategic positioning, and long-term competitiveness. For these companies, adopting Web 3.0 technologies may reflect a broader willingness to overhaul data architecture, customer interaction models, and innovation processes [3]. Therefore, it is likely that firms engaging with Web 3.0 differ from non-adopters not only in technological focus but also in size, profitability, and market performance. However, this relationship has not been thoroughly examined through structured empirical research.

The Fortune Global 500 provides an especially useful basis for addressing this issue. As a list of the world's largest corporations by revenue, these companies represent a wide-ranging and economically important cross-section of industries and national business systems. Their size, visibility, and reporting practices allow for comparisons of strategic behavior and financial metrics across firms operating in different environments but facing broadly similar conditions of global competition [7]. The empirical data used in this study come from publicly available information on company revenues, profits, market value, assets, employment, sector affiliation, country of origin, and Web 3.0 adoption status, establishing a foundation for systematic comparison between adopters and non-adopters.

The research gap this article addresses is the limited integration of Web 3.0 discourse into firm performance analysis [2]. While previous discussions often describe Web 3.0 as transformative for strategic planning, customer engagement, and digital business models, they less frequently test whether firms that adopt these technologies demonstrate stronger financial characteristics than those that do not [3]. This limitation is significant because the strategic importance of Web 3.0 depends not only on its conceptual promise but also on whether adoption is linked to tangible economic outcomes. If adopters consistently show higher revenues, stronger profits, greater market value, or better performance ratios, then Web 3.0 might be viewed not just as an innovation trend but as part of a broader pattern of competitive capability.

Therefore, the article explores the link between Web 3.0 adoption and specific indicators of corporate financial performance in the Fortune Global 500. The empirical design compares companies identified as adopters and non-adopters and evaluates their differences using descriptive statistics, hypothesis testing, correlation analysis, and regression modeling. In addition to core financial indicators such as annual revenue, profits, market value, and assets, the study also considers

employee count, industry affiliation, and country background to understand the structural context of adoption better.

Accordingly, the article is guided by four hypotheses. The first suggests that Web 3.0 adopters outperform non-adopters in annual revenues, profitability, and market valuation. The second proposes that adoption levels differ across industries. The third indicates that larger companies are more likely to adopt. The fourth assumes that adopters demonstrate stronger innovation-related performance, measured by profit margins relative to revenues and assets. Together, these hypotheses allow the study to move from a broad discussion of Web 3.0 to a more focused empirical analysis of whether adoption correlates with better firm-level economic outcomes.

By emphasizing this relationship, the article contributes to the literature in two ways. First, it shifts the focus from descriptive accounts of Web 3.0 to how companies differentiate their performance. Second, it presents Web 3.0 adoption as a strategic factor that can be examined within the broader context of digital transformation, strategic management, and marketing capabilities [1]. In this way, the study does not see Web 3.0 solely as a technological category but also as a potential indicator of how companies adapt to new forms of competition in the digital economy.

## 2 Research design and hypotheses

The dataset includes vital information about 2024 Fortune Global 500 companies, such as rankings, company names, headquarters, industries, firm types, employee counts, annual revenues, profits, market values, assets, and additional financial percentages [7]. A separate indicator shows whether a company has adopted Web 3.0 technologies. Based on this, Fortune Global 500 firms are categorized into adopters and non-adopters. The empirical approach combines descriptive statistics, group comparisons, correlation analysis, and regression modeling.

The research design tests four hypotheses:

**H1:** Companies that have embraced Web 3.0 technology surpass non-adopters in annual revenues, profitability, and market valuation.

**H2:** The adoption of Web 3.0 is more pronounced in some industries, such as Internet Services and Technology, than in others.

**H3:** Company size, as indicated by employee count, positively correlates with the propensity to adopt Web 3.0 technology.

**H4:** Web 3.0 adopters exhibit elevated innovation rates, resulting in enhanced profit margins relative to revenues and assets.

### 3 Descriptive comparison of adopters and non-adopters

The first level of analysis compares the average financial outcomes between the two groups. According to the dataset, there are 216 Web 3.0 adopters and 284 non-adopters. The findings show that adopters have significantly higher average performance across the main indicators examined. Web 3.0 adopters report average annual revenues of \$107,705.89 million, compared to \$62,423.39 million for non-adopters. Average profits are \$9,528.64 million for adopters and \$3,194.97 million for non-adopters. The same section also notes higher market values for adopters than for non-adopters.

In relative terms, adopters are reported to have approximately 72.5% higher annual revenues and about 198.2% higher profits than non-adopters. The median values also follow this trend. The median revenue for adopters is \$75,748.15 million, compared with \$45,983.4 million for non-adopters, and the median profit for adopters is more than three times that of non-adopters. These descriptive results indicate a significant gap between the two groups.

The empirical chapter also notes that adopters show higher standard deviations across financial measures, indicating greater variability. This is significant because it suggests that Web 3.0 adoption may be linked not only to better average results but also to a broader range of firm performance. Practically, this may reflect the presence of both successful and experimental adoption paths among large firms.

### 4 Hypothesis verification

#### H1: Revenues, profits, and market value.

The first hypothesis receives strong support from the empirical results. Independent sample t-tests show statistically significant differences between adopters and non-adopters. For annual revenues, the reported t-statistic is 6.469 with a p-value of 3.539e-10. For profits, the t-statistic is 5.828 with a p-value of 1.489e-08. Market value also differs significantly between the groups. These findings suggest that the likelihood of such differences occurring by chance is very small.

The non-parametric Mann–Whitney U tests yield the same overall conclusion. Annual revenues and market value both have U-statistics of 44,887.0 with very low p-values, while profits also show a highly significant difference. These findings reinforce that the gap between adopters and non-adopters is consistent even with fewer distributional assumptions.

#### H2: Industry-specific intensity of adoption.

The second hypothesis is also supported. The

empirical chapter presents strong evidence that adoption varies significantly across sectors. The Chi-square statistic for industry type is 146.6083 ( $p = 2.890e-10$ ), indicating a strong link between industry affiliation and the likelihood of adoption. Essentially, this confirms that technology-related industries tend to have higher adoption rates, while more traditional sectors adopt more slowly or selectively.

**H3: Firm size and adoption.** The third hypothesis receives weaker but still statistically significant support. A correlation analysis between employee count and Web 3.0 adoption shows a coefficient of about 0.142, indicating a weak positive relationship. The empirical chapter interprets this as evidence that larger firms might be slightly more likely to adopt Web 3.0, but size alone is not a strong predictor. Chi-square analysis also indicates a statistically significant relationship between firm size and adoption ( $p = 0.0115$ ).

This result is significant because it indicates that resource availability is important but not decisive. Larger firms may have more capacity to invest in experimentation, infrastructure, and talent, yet other factors, such as industry dynamics, strategic intent, and digital maturity, likely have a stronger influence.

#### H4: Innovation rates and profit margins.

A comparative analysis of profit margins supports the fourth hypothesis. Web 3.0 adopters report an average profit margin of 8.94% of revenues, compared to 4.95% for non-adopters. Profit as a percentage of assets is also higher for adopters, at 4.33% versus 3.68% for non-adopters. These findings indicate that adopters are not only larger in revenue but also more profitable relative to their resource base.

Although the empirical chapter interprets this as evidence of higher innovation rates, a more cautious conclusion is that Web 3.0 adoption is associated with stronger margin performance. Whether this indicates innovation directly or a broader pattern of organizational capability cannot be determined from the current dataset alone.

### 5 Correlation and regression analysis

The Spearman correlation analysis confirms the overall trend. The reported coefficients show moderate positive correlations between Web 3.0 adoption and annual revenues (0.3976), profits (0.4080), market value (0.3976), and assets (0.4163). All p-values are very low, indicating that these relationships are statistically significant.

Regression analysis provides a more detailed view. For annual revenue, the model shows an R-squared of 0.5877, indicating a fairly strong fit.

Web 3.0 adoption is positively linked with higher revenues, even when controlling for employee count, industry, and country. However, the profit model performs poorly, with an R-squared of -0.1005, indicating that it isn't suitable for explaining differences in profit. This is one of the main limitations in the empirical chapter, suggesting that the profit results should be viewed with caution.

The regression section also shows identical results for annual revenue and market value, which may suggest a technical issue in the analysis or an unresolved duplication in the model output. Therefore, the regression results are more useful as directional indicators rather than a definitive basis for strong conclusions.

## 6 Discussion

Taken together, the results suggest that Web 3.0 adopters within the Fortune Global 500 tend to perform better than non-adopters across a broad range of financial indicators. They generate higher revenue, are more profitable on average, and have stronger asset and market-value profiles. The statistical tests consistently indicate that these differences are unlikely to be due to chance.

At the same time, the evidence supports an interpretation based on association rather than causation. The empirical data itself acknowledges that other variables could influence the observed differences. Companies implementing Web 3.0 may already have stronger digital capabilities, larger budgets, better management systems, or more innovation-focused cultures. In other words, adopting Web 3.0 might serve more as a sign of overall organizational preparedness than as a direct cause of better performance.

## 7 Conclusions

This study aimed to determine whether Web 3.0 adoption is associated with stronger firm-level financial outcomes among Fortune Global 500 companies. The results consistently show that firms identified as Web 3.0 adopters differ systematically from non-adopters across several key performance metrics. Specifically, adopters report higher annual revenues, greater profits, increased market value, and more favorable profitability ratios. These differences are further validated by inferential tests, which reveal statistically significant gaps between the two groups and suggest that the observed pattern is unlikely to be due to chance.

The findings strongly support the four hypotheses. First, the evidence clearly shows that Web 3.0 adopters outperform non-adopters in

annual revenue, profitability, and market valuation. Second, adoption varies greatly across industries, confirming that sectoral context remains a key factor in the diffusion of Web 3.0. Third, firm size has only a weak but statistically significant relationship with adoption, indicating that organizational scale may aid experimentation and implementation but is not a decisive factor on its own. Fourth, adopters demonstrate stronger profit-based efficiency ratios relative to revenues and assets, suggesting that Web 3.0 adoption is linked not only to scale benefits but also to improved economic performance quality.

Overall, these results show that Web 3.0 adoption is more than just a technological signal. Among Fortune Global 500 companies, it appears to reflect a broader level of strategic preparation, digital skills, and competitive strength. Companies adopting Web 3.0 can therefore be seen as better prepared to adopt new technologies, restructure processes, and coordinate innovation efforts with market opportunities. In this way, Web 3.0 adoption serves as a key strategic indicator within the larger process of digital transformation.

Simultaneously, the findings do not warrant a causal interpretation. The empirical design supports conclusions about correlation, not about the direction of effect. It remains plausible that firms adopting Web 3.0 already possess superior resources, stronger managerial capabilities, more advanced digital infrastructures, or more innovation-oriented cultures, which in turn contribute to both adoption and improved performance. Therefore, Web 3.0 adoption should not be viewed as an isolated cause of financial success, but rather as part of a larger organizational profile associated with adaptation and competitiveness in the digital economy.

Several limitations should also be acknowledged. First, the binary measure of Web 3.0 adoption does not capture differences in the depth, maturity, or strategic scope of implementation. Second, relying on publicly available corporate information may introduce reporting disparities, as firms vary in how explicitly they disclose digital initiatives. Third, some regression results should be interpreted with caution due to potential specification weaknesses and technical inconsistencies in the reported output. These limitations do not invalidate the overall pattern observed in the analysis, but they do limit the strength of the conclusions and highlight the need for more refined future modeling.

Despite these limitations, the study makes a valuable contribution to the literature by linking the Web 3.0 discussion to quantifiable firm-level outcomes. While much of the existing debate

remains conceptual or technology-focused, this article demonstrates that Web 3.0 adoption can be empirically examined through the frameworks of strategic management, digital transformation, and marketing capability. The findings thus extend current understanding by showing that adoption correlates with significant differences in financial and structural characteristics among the world's largest firms.

Future research should go beyond simple binary classification and develop more detailed measures of adoption intensity, strategic embeddedness, and

technological scope. Longitudinal studies would be especially valuable in determining whether Web 3.0 adoption leads to performance improvements or occurs alongside them. Additional research should also distinguish between different types of Web 3.0 technologies and explore whether their effects on performance vary across industries, institutional settings, and business models. This work would help clarify whether Web 3.0 is just a temporary wave of innovation or a lasting source of competitive advantage in the evolving global digital economy.

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