

Digital Pivot Strategies for MSMEs: A Case Study of BirkinPet in the Era of Economic Uncertainty

Lusi Zafriana¹, Prihono², Anita Hakim Nasution³

¹UPN "Veteran" Jawa Timur

²Universitas PGRI Adi Buana, Surabaya

³Telkom University

e-mail : ¹lusizaf69@gmail.com, ²prihono@unipasby.ac.id, ³anitahakimnst@gmail.com

Abstract - Amid economic uncertainty, adopting digital pivot strategies has become crucial, particularly for Micro, Small, and Medium Enterprises (MSMEs) to sustain business growth. Social media marketing, as a vital component of the digital pivot, offers a platform for entrepreneurs to reach audiences more efficiently and effectively. This study aims to explore the correlation between social media metrics and the monthly revenue of MSMEs, focusing on BirkinPet, a pet harness apparel business. A multiple linear regression analysis method was employed to evaluate the relationship between the number of posts, likes, followers, shares, and engagement rate with monthly revenue. The analysis results indicate that the number of posts has a significant negative relationship with monthly revenue ($\beta = -1.1224$; $p = 0.051$), while likes, shares, followers, and engagement rate showed no significant relationship. These findings highlight the importance of a more focused and relevant content strategy in social media marketing to support business revenue growth. In conclusion, while social media holds substantial potential as a marketing tool, success is not entirely dependent on the quantity of activity. A data-driven strategic approach is a key factor in converting social media activities into revenue growth, warranting further exploration to identify the most effective optimization strategies.

Keywords: digital pivot, social media marketing, regression analysis, MSMEs, content strategy.

1. INTRODUCTION.

1.1. Background.

Amid the economic uncertainties caused by various factors such as the global pandemic and market fluctuations, Micro, Small, and Medium Enterprises (MSMEs) face significant challenges in maintaining business operations. Compared to large corporations, MSMEs are more vulnerable to economic instability as they have limited access to resources and capital [1]. MSMEs bear full responsibility for their communities and business activities [2]. Therefore, effective and adaptive business strategies are essential to mitigate risks and capitalize on opportunities.

One effective strategy for helping businesses navigate economic uncertainties is the digital pivot. According to [3], a digital pivot involves adopting and integrating digital technologies into business operations to enhance efficiency, reach broader markets, and create added value for customers. Furthermore, [4] highlights that digital technologies, particularly social media, have proven to be effective marketing tools for improving visibility, building customer relationships, and facilitating business transactions. [5] notes that online reviews of products and services significantly influence customer attitudes and purchase intentions.

Using social media as a marketing medium represents an initial step for MSMEs [6]. Social media has become essential for business operations to reach audiences and increase revenue [7]. Social media leverages web- and mobile-based technologies to create interactive platforms and modify content [8]. Content analysis provides insights into the quantity and quality of social media usage for

communication purposes [9]. Digital pivot strategies in marketing require technology to achieve marketing goals [10], and big data analytics significantly enhances marketing success [11]. Digital technology can optimize business pivots by enhancing digital capabilities such as digital sensing, digital seizing, and digital transforming, which are highly relevant in unstable environments [12]. Innovative marketing strategies through social media, such as SEO, content-based marketing, email campaigns, and data-driven analytics, have become essential tools for boosting competitiveness and fostering sustainable growth for SMEs [13].

Birkin Pet is a business led by a young entrepreneur in the pet apparel industry, exploring digital pivot strategies through the use of social media as a marketing tool. This study aims to understand how variables such as the number of posts, likes, shares, and followers on social media platforms correlate with revenue and how the strategic management of these platforms can be used as an efficient and effective digital pivot strategy.

1.2. Problem Statement.

- a. How do social media variables interact with revenue?
- b. How can Birkin Pet implement a digital pivot strategy through social media to increase revenue, particularly amid economic uncertainties?

1.3. Objectives.

- a. To analyse the impact of social media marketing activities (number of posts, likes, shares, followers, and engagement rate) on Birkin Pet's monthly revenue.
- b. To identify social media marketing metrics that significantly influence revenue.

2. LITERATURE REVIEW

2.1. Social Media Marketing and Revenue.

Social media marketing has proven to be an essential tool for businesses to enhance brand awareness and revenue [14]. The use of social media platforms enables businesses to connect directly with their audiences and build closer relationships with consumers, ultimately fostering loyalty and brand advocacy [15]. Unique and engaging content strategies on

social media platforms can influence consumer perceptions and purchasing decisions [16]. Influencers play a significant role as role models, encouraging actions and adding value to brands, thereby attracting customers to purchase products highlighted in their posts [17].

2.2. Digital Pivot Strategies.

Digital pivot strategies involve significant transformations in business models through the utilization of digital technology to adapt to ever-changing market conditions [3]. The implementation of digital strategies includes developing e-commerce, enhancing social media presence, and leveraging data analytics to understand consumer behaviour and market trends [18]. Digital pivot strategies enable organizations to identify and capitalize on available opportunities [19]. These strategies foster digital innovation to create or modify business processes and models [20]. Innovation management within a digital pivot applies systematic approaches to generating, developing, and implementing new ideas, solving problems, and creating business opportunities [21].

2.3. The Relationship Between Social Media Marketing and Revenue.

Several studies have shown a positive relationship between social media marketing activities and a company's financial performance. [22] found that effective digital marketing strategies can expand market reach, ultimately increasing revenue. The relationship between the number of posts and the level of interaction draws attention to the importance of relevant and value-adding content in fostering significant engagement [23]. Participants who engage with authentic and well-known influencers experience elevated Para social interactions, which significantly influence their purchasing tendencies [24].

2.4. Conceptual Framework

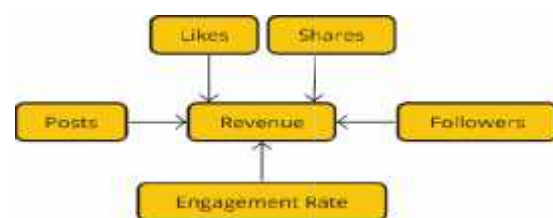


Figure 1. Conceptual Framework

The conceptual framework, developed as a multiple linear regression model, illustrates the relationships between independent variables (Posts, Likes, Shares, Followers, and Engagement Rate) and the dependent variable (Revenue). Each arrow connecting these variables represents the hypothesis that an increase in independent variables—such as a higher number of posts leading to greater customer interaction—may contribute to increased revenue.

3. METHODOLOGY

3.1. Type of Research.

This study employs quantitative exploratory research, aimed at exploring and measuring the impact of social media variables on revenue through the analysis of numerical and statistical data.

3.2. Research Design.

The research design is a case study focusing on "Birkin Pet," a business run by a young entrepreneur specializing in pet harness apparel.

3.3. Data Collection Methods.

- a. Secondary Data: Collected from historical records within the business and literature reviews to gather theoretical and empirical insights.
- b. Primary Data: Obtained through surveys or interviews with relevant stakeholders.

3.4. Data Analysis Techniques.

The study employs Multiple Linear Regression Analysis to evaluate the influence of multiple independent variables (Posts, Likes, Shares, Followers, and Engagement Rate) on the dependent variable (Revenue).

3.5. Research Phases

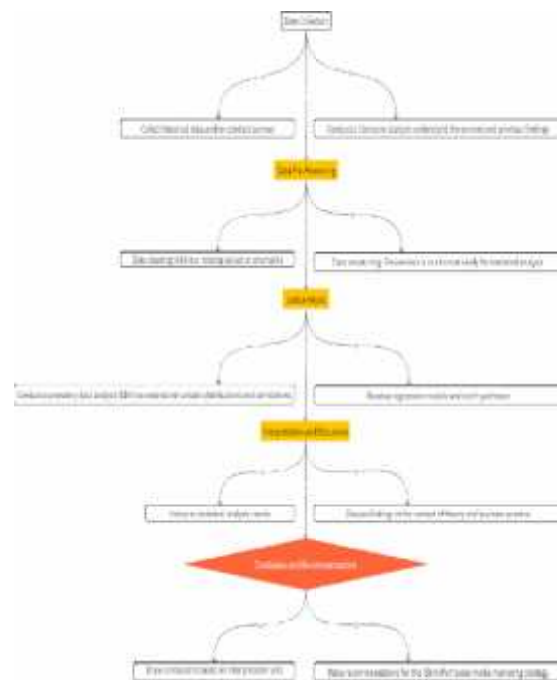


Figure 2. Research Phases

The research is conducted in structured phases, including data collection, data processing, statistical analysis, and interpretation of results to ensure a comprehensive evaluation of the relationship between social media activities and revenue.

4. ANALYSIS AND DISCUSSION

4.1. Hypotheses

- a. Hypothesis 1: Relationship Between Number of Posts and Revenue
 - H0: There is no significant relationship between the number of social media posts and monthly revenue.
 - H1: There is a significant relationship between the number of social media posts and monthly revenue.
- b. Hypothesis 2: Relationship Between Number of Likes and Revenue
 - H0: There is no significant relationship between the number of likes on social media and monthly revenue.
 - H1: There is a significant relationship between the number of likes on social media and monthly revenue.

- c. Hypothesis 3: Relationship Between Number of Shares and Revenue
- H0: There is no significant relationship between the number of shares on social media and monthly revenue.
 - H1: There is a significant relationship between the number of shares on social media and monthly revenue.
- d. Hypothesis 4: Relationship Between Number of Followers and Revenue
- H0: There is no significant relationship between the number of followers on social media and monthly revenue.
 - H1: There is a significant relationship between the number of followers on social media and monthly revenue.
- e. Hypothesis 5: Relationship Between Engagement Rate and Revenue
- H0: There is no significant relationship between engagement rate on social media and monthly revenue.
 - H1: There is a significant relationship between engagement rate on social media and monthly revenue.

4.2. Data Collection

a. Independent Variables:

- Number of Posts (per month)
- Number of Likes (total per month)
- Number of Shares (total per month)
- Number of Followers (per month)
- Engagement Rate = $(\text{Likes} + \text{Shares}) / \text{Followers} \times 100\%$

b. Dependent Variable:

- Revenue (monthly, in millions)

4.3. Data Cleaning

4.3.1. Missing Value Inspection

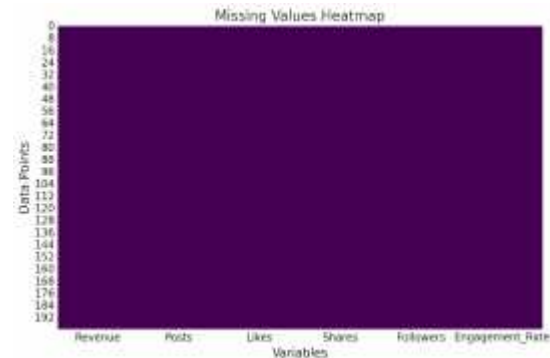


Figure 3. Missing Values Heatmap

No missing values were detected in the dataset; all columns have 0 missing values. The heatmap above visualizes the absence of missing data in the dataset.

4.3.2. Anomaly Detection

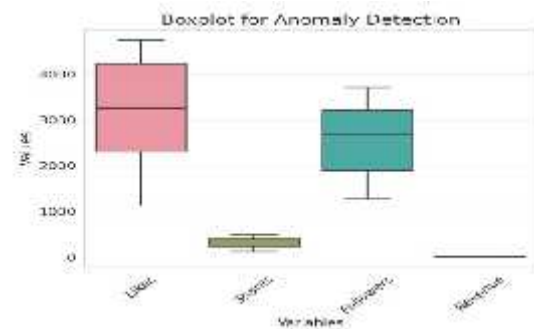


Figure 4. Boxplot for Anomaly Detection

No anomalies or unreasonable values were found in the dataset. All numerical columns contain 0 values less than or equal to zero. This ensures that the data is clean and ready for further analysis.

4.4. Data Structuring

The dataset comprises various columns with specific data types: Month is an object (string), while Posts, Likes, Shares and Followers are integers. Additionally, Engagement Rate and Revenue are represented as float data types. This structured data allows for analysis focused on time trends and correlations.

4.4.1. Monthly Revenue Over Time



Figure 5. Monthly Revenue Over Time

The x-axis represents the months from January 2023 to December 2023, while the y-axis represents monthly revenue within a predetermined range. Each point on the line indicates the revenue for a specific month, and the line connecting these points demonstrates the trend of revenue movement over time.

4.4.2. Monthly Posts, Likes, and Shares Over Time

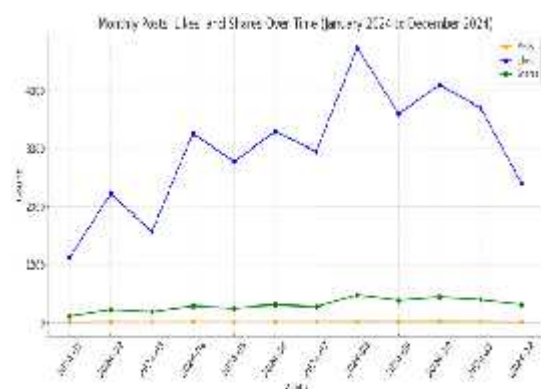


Figure 6. Monthly Posts, Likes, and Shares Over Time

The x-axis represents the months from January 2023 to December 2023, while the y-axis shows the number of Posts, Likes, and Shares. The legend provides color-coded labels for Posts, Likes, and Shares, allowing for clear differentiation between the metrics.

4.4.3. Follower Growth Over Time

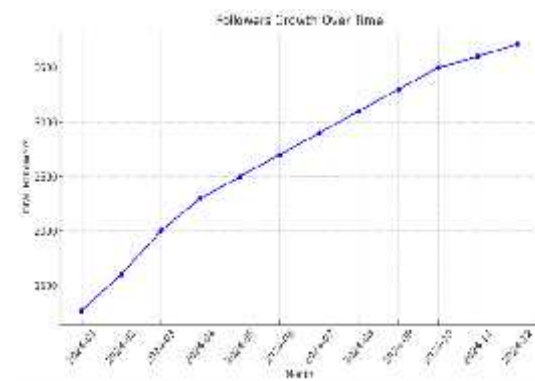


Figure 7. Follower Growth Over Time

The x-axis represents the months from January 2023 to December 2023, while the y-axis represents the cumulative total number of followers. The blue line in the plot illustrates the growth in followers over time, with new followers added each month, showing a steady increase.

4.4.4. Correlation Heatmap

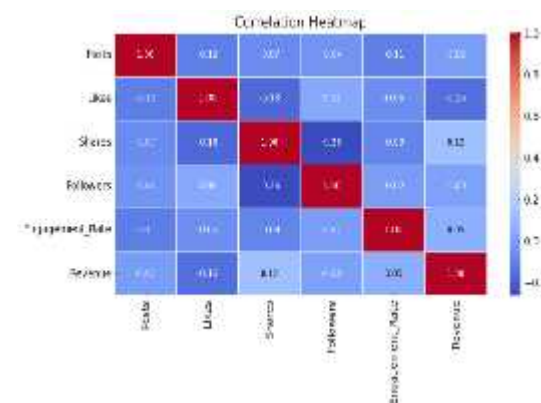


Figure 8. Correlation Heatmap

Correlation values range from -1 to 1, where 1 indicates a perfect positive correlation, -1 indicates a perfect negative correlation, and 0 indicates no correlation. The cells in the heatmap are color-coded based on the correlation values, with warmer colors (closer to 1) representing strong positive correlations and cooler colors (closer to -1) representing strong negative correlations.

4.5. Initial Data Exploration

4.5.1. Descriptive Analysis

- Posts: The average number of posts per month is approximately 23, ranging from 17 to 29 posts.
- Likes: The average number of likes per month is around 3,131, with a minimum of 1,130 and a maximum of 4,735 likes.
- Shares: The average number of shares per month is approximately 315, ranging from 121 to 485 shares.
- Followers: The average number of followers is 2,557, growing from 1,269 to 3,715 followers during the observed period.
- Engagement Rate: The average engagement rate is 146.70%.
- Revenue: The average monthly revenue is approximately 18.30 million, with a standard deviation of 4.78 million.

4.5.2. Variable Distribution

4.5.2.1. Post Distribution

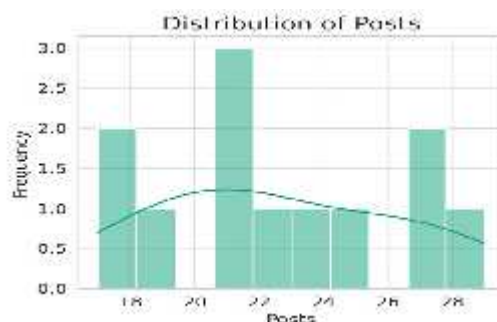


Figure 9. Post Distribution

The distribution of posts per month is uniform, with no specific month showing an unusually high or low number of posts.

4.5.2.2. Likes Distribution

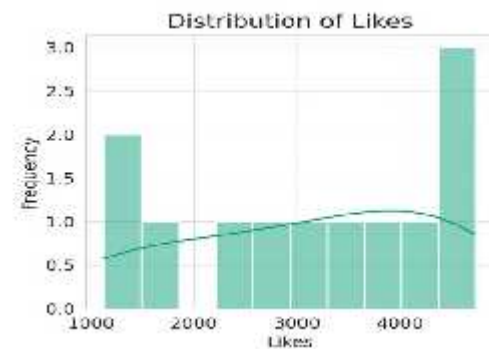


Figure 10. Likes Distribution

The distribution of likes shows some variation, with certain months receiving significantly higher likes compared to others.

4.5.2.3. Shares Distribution

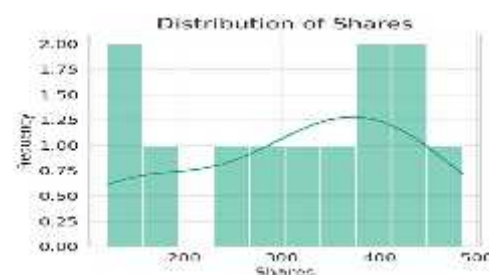


Figure 11. Shares Distribution

The distribution of likes shows some variation, with certain months receiving significantly higher likes compared to others.

4.5.2.4. Distribution of Followers

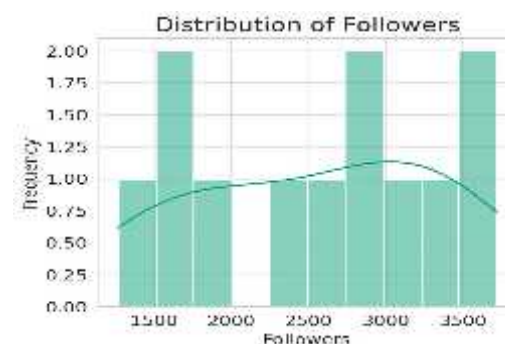


Figure 12. Distribution of Followers

The distribution of followers shows consistent growth, reflecting the accumulation of followers over time.

4.5.2.5. Distribution of Engagement Rate.

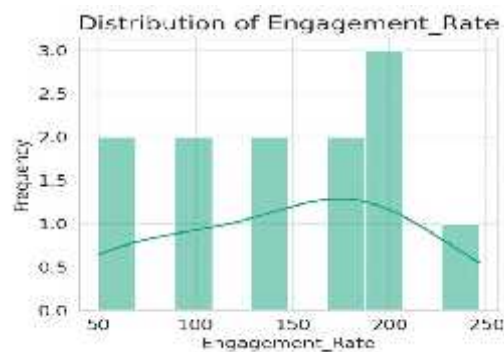


Figure 13. Distribution of Engagement Rate

The engagement rate demonstrates a wide distribution, indicating variation in the level of audience interaction with posts.

4.5.2.6. Distribution of Revenue

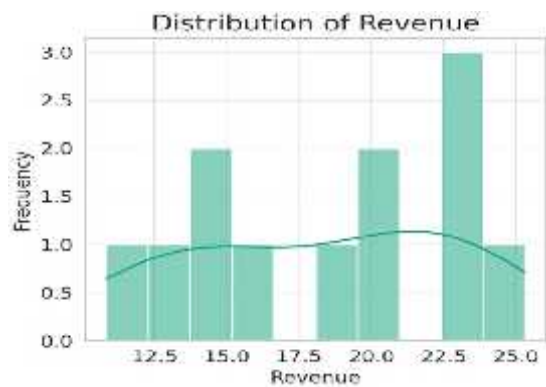


Figure 14. Distribution of Revenue

Monthly revenue shows variability, with certain months exhibiting significantly higher revenue compared to others.

4.6. Multiple Linear Regression Model.

The regression model equation:

$$\text{Revenue} = 19.5637 - 1.1224 \times \text{Posts} + 0.0025 \times \text{Likes} + 0.0011 \times \text{Shares} + 0.0017 \times \text{Followers} + 0.0788 \times \text{Engagement Rate}$$

4.6.1. Regression Model Coefficients

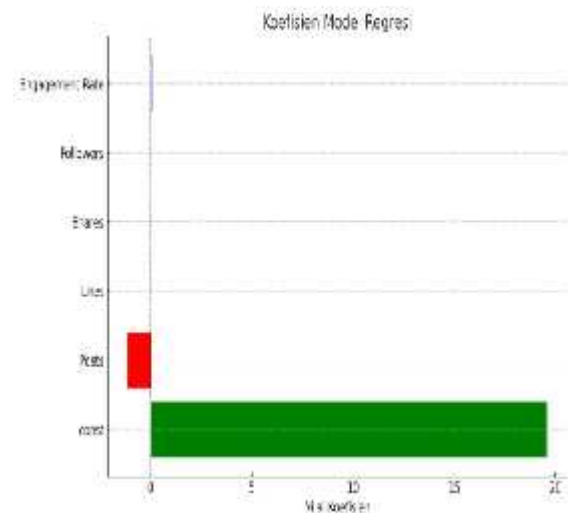


Figure 15. Regression Model Coefficients

Const: The intercept of the model, represents the expected revenue when all predictor variables are zero. Posts, Likes, Shares, Followers, Engagement Rate: The coefficients represent the impact of each independent variable on the dependent variable (Revenue).

4.6.2. Key Metrics

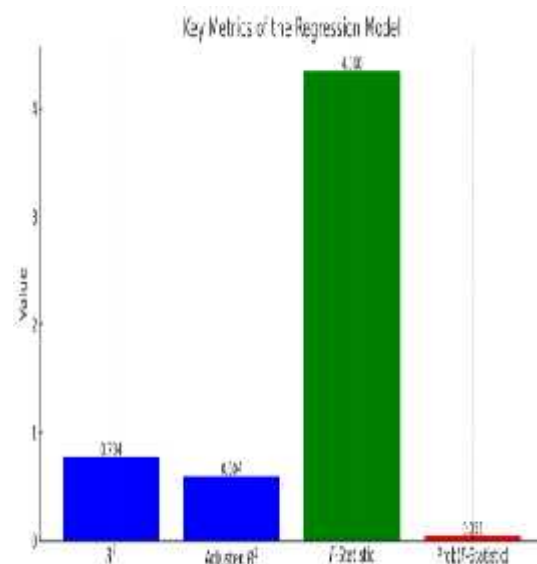


Figure 16. Key Regression Model Metrics

R^2 (78.4%): Indicates that the model explains 78.4% of the variability in revenue.

Adjusted R^2 (60.4%): Corrects for the number of variables in the model. F-Statistic (4.360): Measures the overall significance of the model. Prob (F-Statistic) (0.0507): The p-value for the F-statistic indicates the statistical significance of the model.

4.6.3. Model Evaluation

4.6.3.1. Linearity

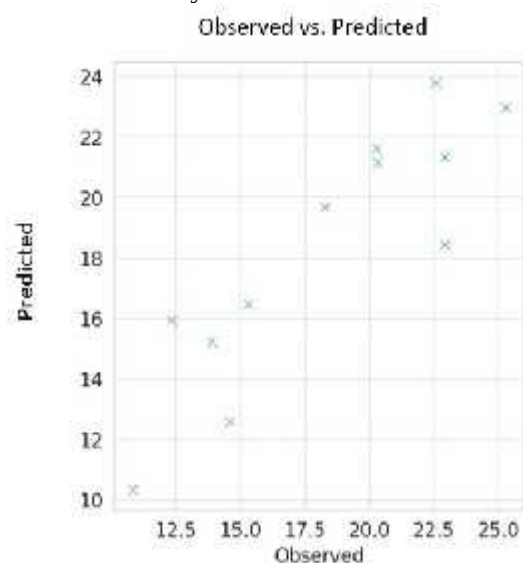


Figure 17. Observed vs. Predicted Plot

Some patterns in the data suggest the relationship may not be entirely linear.

4.6.3.2. Homoscedasticity

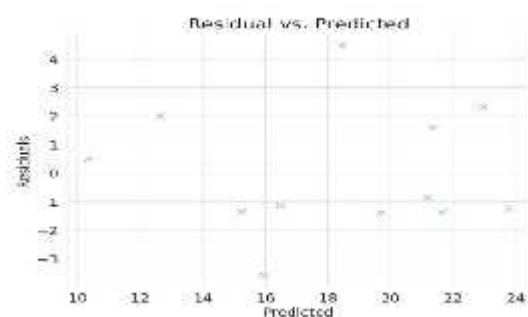


Figure 18. Residuals vs. Predicted Values Plot

The plot shows random patterns, suggesting the homoscedasticity assumption is reasonably met, despite some slight clustering.

4.6.3.3. Residual Normality

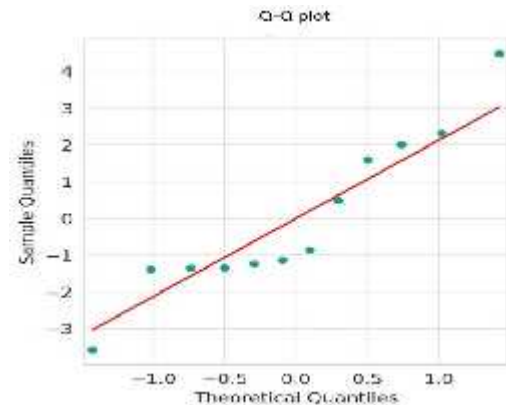


Figure 19. Q-Q Plot

Residuals are not entirely normal, particularly at the distribution's tails. The "S" shape in the plot indicates deviations from normality.

4.7. Interpretation of Regression Results

4.7.1. Interpretation of Coefficients

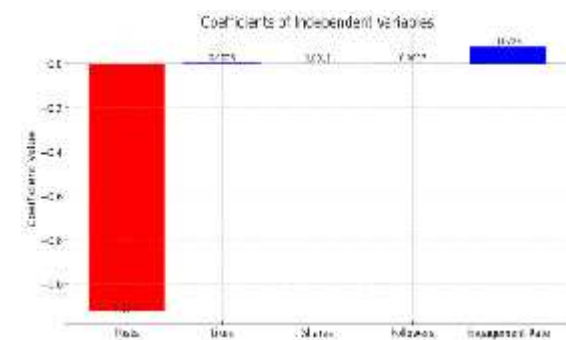


Figure 20. Independent Variable Coefficients

Posts: Coefficient of -1.1224 (red). An additional post is associated with a decrease in revenue of 1.1224 units. Likes: Coefficient of 0.0025 (blue). An additional like is associated with an increase in revenue of 0.0025 units. Shares: Coefficient of 0.0011 (blue). An additional share is associated with an increase in revenue of 0.0011 units. Followers: Coefficient of 0.0017 (blue). An additional follower is associated with an increase in revenue of 0.0017 units. Engagement Rate: Coefficient of 0.0788 (blue). A 1% increase in engagement rate is associated with an increase in revenue of 0.0788 units.

4.7.2. Interpretation of P-Values

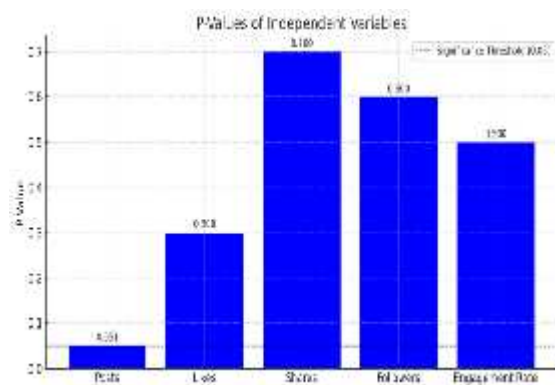


Figure 21. P-Values of Independent Variables

Posts: P-value of 0.051, nearly significant at the 0.05 level. Likes, Shares, Followers, Engagement Rate: P-values well above 0.05, indicating these variables are not statistically significant predictors of revenue.

5. CONCLUSION

- a. Utilizing the multiple linear regression model, this study reveals that a higher number of posts is associated with a decrease in revenue (with a coefficient of

REFERENCES

- [1] Ayyagari, M., Demirgüç-Kunt, A., & Maksimovic, V. (2011). Small vs. young firms across the world: contribution to employment, job creation, and growth. World Bank policy research working paper, (5631).
- [2] Perrini, F., Russo, A., & Tencati, A. (2007). CSR strategies of SMEs and large firms. Evidence from Italy. *Journal of business ethics*, 74, 285-300.
- [3] Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatraman, N. V. (2013). Digital business strategy: toward a next generation of insights. *MIS quarterly*, 471-482.
- [4] Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business horizons*, 53(1), 59-68.
- [5] MÜLLER, R. A., & MULLER, C. (2024). Influence of Consumer-Based Brand Equity on the Purchase Intention of Wearable Activity Tracker Brands. *Expert Journal of Marketing*, 12(1).
- [6] McCann, M., & Barlow, A. (2015). Use and measurement of social media for SMEs. *Journal of small business and enterprise development*, 22(2), 273-287.
- [7] Smith, A. N., Fischer, E., & Yongjian, C. (2012). How does brand-related user-generated content differ across YouTube, Facebook, and Twitter?. *Journal of interactive marketing*, 26(2), 102-113..
- [8] Kietzmann, J. H., Hermkens, K., McCarthy, I. P., & Silvestre, B. S. (2011). Social media? Get serious! Understanding the functional building blocks of social media. *Business horizons*, 54(3), 241-251.
- [9] Lai, L. S., & To, W. M. (2015). Content analysis of social media: A grounded theory approach. *Journal of electronic commerce research*, 16(2), 138.
- [10] Chaffey, D., Ellis-Chadwick, F., & Mayer, R. (2009). *Internet marketing: strategy, implementation and practice*. Pearson education.
- [11] Hajli, N., Tajvidi, M., Gbadamosi, A., & Nadeem, W. (2020). Understanding market agility for new product success with big data analytics. *Industrial Marketing Management*, 86, 135-143.
- [12] Ijomah, T. I., Idemudia, C., Eyo-Udo, N. L., & Anjorin, K. F. (2024). Innovative digital marketing strategies for SMEs:

-1.1224) and is nearly significant (P-value of 0.051). In contrast, Likes, Shares, Followers, and Engagement Rate do not have a significant impact on revenue, suggesting that social media interactions are not directly linked to revenue growth.

- b. In implementing a digital pivot strategy for BirkinPet through social media to increase revenue, particularly amidst economic uncertainty, it was found that a higher number of posts does not necessarily lead to higher revenue. This could be attributed to factors such as the high costs and time investment required for content creation, an overabundance of irrelevant content reducing audience interest, excessive posting causing consumers to lose focus or become disinterested, and economic instability influencing audience consumption behavior.

- Driving competitive advantage and sustainable growth. *International Journal of Management & Entrepreneurship Research*, 6(7), 2173-2188..
- [13] Balta, M. E., Papadopoulos, T., & Spanaki, K. (2024). Business model pivoting and digital technologies in turbulent environments. *International Journal of Entrepreneurial Behavior & Research*, 30(2/3), 773-799.
- [14] Taiminen, H. M., & Karjaluoto, H. (2015). The usage of digital marketing channels in SMEs. *Journal of small business and enterprise development*, 22(4), 633-651.
- [15] Lamberton, C., & Stephen, A. T. (2016). A thematic exploration of digital, social media, and mobile marketing: Research evolution from 2000 to 2015 and an agenda for future inquiry. *Journal of Marketing*, 80(6), 146-172.
- [16] Luarn, P., Lin, Y. F., & Chiu, Y. P. (2015). Influence of Facebook brand-page posts on online engagement. *Online Information Review*, 39(4), 505-519.
- [17] Masuda, H., Han, S. H., & Lee, J. (2022). Impacts of influencer attributes on purchase intentions in social media influencer marketing: Mediating roles of characterizations. *Technological Forecasting and Social Change*, 174, 121246.
- [18] Nambisan, S. (2017). Digital entrepreneurship: Toward a digital technology perspective of entrepreneurship. *Entrepreneurship theory and practice*, 41(6), 1029-1055.
- [19] Matt, C., Hess, T., & Benlian, A. (2015). Digital transformation strategies. *Business & information systems engineering*, 57, 339-343.
- [20] Hess, T., Matt, C., Benlian, A., & Wiesböck, F. (2016). Options for formulating a digital transformation strategy. *MIS Quarterly Executive*, 15(2).
- [21] Nambisan, S., Lyytinen, K., Majchrzak, A., & Song, M. (2017). Digital innovation management. *MIS quarterly*, 41(1), 223-238.
- [22] Leeflang, P. S., Verhoef, P. C., Dahlström, P., & Freundt, T. (2014). Challenges and solutions for marketing in a digital era. *European management journal*, 32(1), 1-12.
- [23] De Vries, L., Gensler, S., & Leeflang, P. S. (2012). Popularity of brand posts on brand fan pages: An investigation of the effects of social media marketing. *Journal of interactive marketing*, 26(2), 83-91.
- [24] Folkvord, F., Roes, E., & Bevelander, K. (2020). Promoting healthy foods in the new digital era on Instagram: an experimental study on the effect of a popular real versus fictitious fit influencer on brand attitude and purchase intentions. *BMC public health*, 20, 1-8.