Market Response to the Diversification Strategy of Internet Technology Companies: A Case Study of Xiaomi

Tianxing Yun

Overseas Chinese College, Capital University of Economics and Business, Beijing, China

yuntianxing04@gmail.com

Abstract. On March 30, 2021, Lei Jun, Chairman of Xiaomi Technology Co., Ltd. (hereinafter referred to as Xiaomi), announced that Xiaomi will establish a wholly-owned subsidiary responsible for the innovative electric vehicle business. After three years of research and development, Xiaomi released its first electric car, Xiaomi SU7, on March 28, 2024. This paper uses the event study method to compare the event of Xiaomi's announcement of its entry into the automotive field with the release of its first car. The study examines how the two events affect Xiaomi's stock price. The results demonstrate that the impact of Xiaomi's release of its first car on its stock price is more evident through the significance test. This shows that the first practical implementation of Xiaomi's automotive strategy has achieved remarkable results and met market expectations. This study is significant for studying the company's diversification strategic transformation by studying the changes in Xiaomi's stock price.

Keywords: Diversification Strategy, Event Study, Cumulative Abnormal Returns.

1. Introduction

In recent years, various companies have been implementing diversification strategies to expand their businesses beyond their core businesses. In 2020, China's new energy vehicle sales reached 1.367 million units. When everything started to develop well, the Coronavirus Disease 2019 (COVID-19) pandemic broke out. The COVID-19 pandemic has seriously impacted many industries, such as the capital market, labor market, foreign trade, consumer spending, and production. In 2020, the global economy experienced a negative growth of about 3%. In the economic forecast released in April of that year, the expected value of China's Gross Domestic Product (GDP) for the whole year was lowered by about 5% compared with the forecast in January [1]. After a year of the COVID-19 pandemic, China focused on economic recovery, and various state departments issued relevant policies to promote consumption and green industrial chains. This has dramatically increased the production and consumption of new energy vehicles in China. One of the main advantages of new energy vehicles is that they reduce pollution on busy roads and cities and improve public health conditions [2]. However, the Chinese mobile phone industry is highly competitive, and the market is gradually saturated. Xiaomi urgently needs to diversify its company to increase its brand awareness. Company diversification mainly expands product lines and increases additional revenue. Product diversification refers to a company conducting business in more than one industry or product market [3]. A diversification strategy brings many potential benefits to enterprises. Among them, the cash flow advantage generated by diversification can improve the financing efficiency of the internal capital market [4]. Xiaomi's entry into the new energy vehicle industry has undoubtedly injected new vitality into the market. At the latest car launch conference, Xiaomi Motors developed intelligent driving systems and announced the first zoom Bird's Eye View (BEV) technology. This technology allows technical drivers to easily control the vehicle by measuring the area around the vehicle on a single display [5]. It improves the driver's driving experience and car safety.

The event study method can effectively study the market reaction to important nodes in Xiaomi's diversified new energy vehicle strategy, study the cumulative abnormal returns of Xiaomi's stock price, and then explore the effectiveness of Xiaomi's diversification strategy. If the company achieves positive results through manufacturing, procurement, etc., these results will further strengthen its existing strategy [6]. Regarding the impact of relevant events on stock prices, the event study method

is commonly used in academia. Zou Wenli et al. used the event study method to study the financial market response to central bank communication. They pointed out that different types of central bank communication affect stock prices differently. Written communication behavior significantly impacts stock prices, while oral communication has no significant effect [7]. Imran Yousaf et al. studied the impact of the Ukraine-Russia conflict outbreak on other countries' stock markets [8]. Kumar et al. used the event study method to study the impact of green bonds on corporate stock prices and found that issuing green bonds would increase investor returns [9].

The research significance of this paper mainly revolves around two aspects. This study can provide investors with a reference to research methods and data. By referring to the capital market's immediate response to corporate diversification, investors can be provided with a reference for judging the company's future growth potential and strategic feasibility. For companies, this study can provide a reference for other diversified strategic companies. By referring to Xiaomi's diversified industry direction, time, and policy orientation, it can help peer diversified strategic companies evaluate the risks and opportunities of their diversification strategies. In addition, since there are few cases of studying the diversification strategies of Internet technology companies, this study can also fill the gap to a certain extent. This paper uses the event study method, which is currently more recognized in the academic community, to conduct research. Dolley originally proposed the event analysis method, which was later continuously improved by scholars such as Bakay to become a mature theory [10]. There are sufficient cases that use the event study method as a research method to study the impact of a specific event on investor returns.

2. Research Design and Procedures

An event study includes six steps: defining the event and the event study window, selecting the research sample, calculating the normal return, calculating the abnormal return, testing the significance of the abnormal return, and interpreting the empirical results.

2.1. Defining Events and Event Study Windows

To understand its effectiveness, this article examines the market's response to key milestones in the diversification strategy. This study focuses on two events: Xiaomi's announcement of the establishment of Xiaomi Motors and the official launch of Xiaomi Motors' first vehicle, the Xiaomi SU7. The events are:

Event 1: On March 30, 2021, Xiaomi held a press conference to officially announce the establishment of a wholly-owned subsidiary responsible for its innovative electric vehicle business. Therefore, March 30, 2021, is defined as the event date, denoted as T=0. The nine trading days before and after the event are defined as the event window, denoted as T=-9, -8, ..., -1, and T=1, ..., 8, 9, respectively. There is no strict definition of the number of days used for estimation in academia; to estimate expected returns, that is, to account for normal data influenced by diversification strategies, the estimation window is set to 90 days.

Event 2: On March 28, 2024, Xiaomi held a press conference to release the Xiaomi Mi SU7. Therefore, March 28, 2024, is defined as the event date, denoted as T=0. The 10 trading days before and after the event are defined as the event window, denoted as T=-10, -9, ..., -1, and T=1, ..., 9, 10, respectively. There is no strict definition of the number of days for estimation in academia. To estimate abnormal returns, that is, to account for normal data affected by the car's release, the estimation window is set to 90 days.

This article selects the Hang Seng Index and Xiaomi's stock price (Xiaomi Group-W (1810)) as research data.

2.2. Calculate the Normal Return

This article calculates the normal return according to the market model method:

$$E(R_{it})=a_i+\beta_i \times R_{mt}+\varepsilon_{it} \quad (1)$$

$R_{it}$is the stock return on day t, R_{mt} and is the market return on day t. In this paper, the Hang Seng Index is selected. $a_i$and $\beta_i$is the regression coefficient. The estimated window Hang Seng Index daily return is regressed on Xiaomi's daily return to obtain the event window normal return:

Event 1:

$$E(R_{it})=-0.0003+1.0638R_{mt} \quad (2)$$

This means that in event 1, α=-0.0003, β=1.0638

Event 2:

$$E(R_{it})=0.0015+1.2895R_{mt} \quad (3)$$

In event 2, α=0.0015, β=1.2895

2.3. Calculating Abnormal Returns

Abnormal returns is defined as the difference between actual and normal returns in the event study method. That is:

$$AR_{it}=R_{it}-(a_i+\beta_i \times R_{mt}) \quad (4)$$

At the same time, the cumulative abnormal returns is:

$$CAR_{it}=\sum_{T=-9}^{9} AR_{it} \quad (5)$$

2.4. Significance Test

Significance test: The significance test of the cumulative abnormal returns is conducted, and the following assumptions are made:

For event one:

H_0: Cumulative Abnormal Return (CAR_{it})=0, which means that the decision to establish Xiaomi Auto Company has no significant impact on its stock price

H_1: $CAR_{it}\neq0$, it means that the decision to establish Xiaomi Auto Company has a significant impact on its stock price

Table 1. Results of the significance test for the cumulative abnormal returns of event 1

CAR_{it}	sd	n	t-value	P-value	Star
-0.0098219	0.017549781	19	-2.4395	0.0253	**

As shown in Table 1, the final cumulative abnormal return of Event 1 is -0.0098219, with a P value of 0.0253, which is not significant at a confidence level of 99%, and the original hypothesis is maintained. This indicates that the decision to establish Xiaomi Auto Company has no significant impact on its stock price.

For event 2:

H_0: CAR_{it}=0, it means that "Xiaomi's car launch conference" has no significant impact on its stock price

H_1: $CAR_{it}\neq0$, it means that "Xiaomi's car launch conference" has a significant impact on its stock price

Table 2. Significance test results of the cumulative abnormal return of event 2

CAR_{it}	sd	n	t-value	P-value	Star
0.1178	0.0322907	19	15.896	0.000	***

As shown in Table 2, the final cumulative abnormal return of Event 2 is 0.1178, and the P value is less than 0.01, so it is significant at a confidence level of 99%, and the null hypothesis is rejected. "CAR_{it}Xiaomi's car launch conference "significantly impacts its stock price.

2.5. Empirical Results

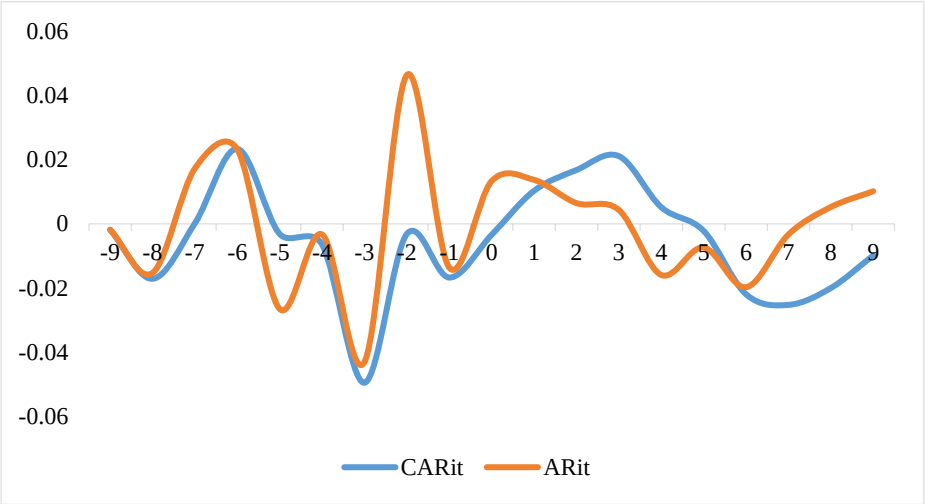

Fig. 1. Event 1 abnormal return and cumulative abnormal return curves(Picture credit: Original).

Figure 1 shows a relatively weak market reaction to Xiaomi's car manufacturing announcement. The cumulative abnormal return during the selected event window was -0.0098219, indicating investor skepticism about Xiaomi's diversification strategy. This is due to the broad scope of the automotive sector for internet technology companies and Xiaomi's limited experience in diversification strategies.

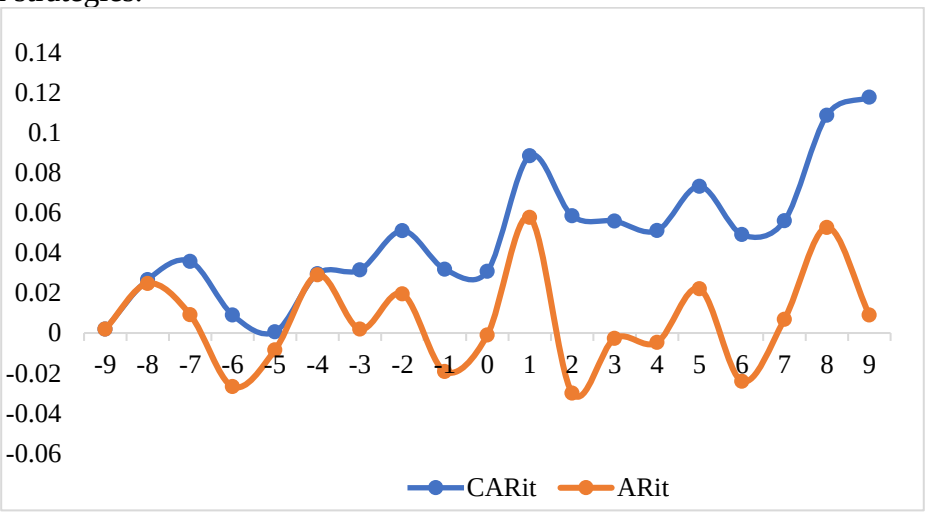

Fig. 2. Event 2 abnormal return and cumulative abnormal return curves (Picture credit: Original).

Figure 2 demonstrates that the launch of Xiaomi's first car, the Xiaomi SU7, largely met investor expectations. On T+1, the day after the SU7's release, the abnormal return reached 5.76%. Investor interest subsequently slowed, reaching its second-highest abnormal return during the event window on T+8. Combined with the increased investor satisfaction following the initial deliveries, the abnormal return naturally reached 5.27%. This demonstrates the economic success of Xiaomi's diversification strategy.

3. Conclusion

Investor willingness to invest has increased, and the company's diversification strategy is showing initial success. The above research shows that the cumulative abnormal return increased by 11 percentage points, from -0.0098 to 0.1178. This suggests that the Xiaomi SU7 met investor expectations in both price and performance. Coupled with favorable Chinese policies for new energy vehicles, including purchase tax exemptions, this makes it more attractive in price than fuel-powered vehicles. Furthermore, new energy vehicles have significantly lower annual electricity costs than

traditional fuel-powered vehicles. This is also a key factor in the increased investor interest. Both events caused significant market volatility. In event one, the cumulative return turned negative three days after the event. In event two, the volatility was even more pronounced, with an abnormal return of 5.76% on the next trading day following the launch of the new vehicle. Furthermore, the abnormal return repeatedly shifted from positive to negative, and vice versa, during the subsequent event window. The mixed market fluctuations in stock prices suggest investors remain skeptical of the key decisions in Xiaomi's diversification strategy.

Xiaomi should continue to increase R&D investment and maintain electric vehicle production. It should avoid unquestioningly expanding into the fuel-powered vehicle industry. Furthermore, regarding safety performance, it should conduct multi-dimensional vehicle safety testing. For example, testing the vehicle's ability to escape in an emergency can reduce accident fatalities and enhance its brand image. Diversification strategies are key to increasing company revenue and a significant factor in securing financing. Companies considering diversification should carefully assess the current social environment and people's spending power. While promoting their development, they should also stimulate consumption and contribute to national economic development.

References

[1] Naseer, S., Khalid, S., Parveen, S., Abbass, K., Song, H., Achim, M. V.: COVID-19 outbreak: impact on the global economy. Frontiers in Public Health 10(05), 100-109 (2023).

[2] Milev, G., Hastings, A., Al-Habaibeh, A.: The environmental and financial implications of expanding the use of electric cars - a case study of Scotland. Energy and Built Environment 2(2), 204-213 (2021).

[3] Su, W., Tsang, E. W.: Product diversification and financial performance: the moderating role of secondary stakeholders. Academy of Management Journal 58(4), 1128-1148 (2015).

[4] Martin, J. D., Sayrak, A.: Corporate diversification and shareholder value: a survey of recent literature. Journal of Corporate Finance 9(1), 37-57 (2003).

[5] Liu, Y. C., Lin, K. Y., Chen, Y. S.: Bird's-eye view vision system for vehicle surrounding monitoring. In: International Workshop on Robot Vision 12(5), 207-218 (2008).

[6] Borah, A., Tellis, G. J.: Make, buy, or ally? Choice of and payoff from announcements of alternate strategies for innovations. Marketing Science 33(1), 114-133 (2014).

[7] Zou, W., Wang, X., Xie, X.: Financial market response to central bank communication: an event study based on the stock market. Financial Research 11(2), 34-50 (2020).

[8] Yousaf, I., Patel, R., Yarovaya, L.: The reaction of G20+ stock markets to the Russia-Ukraine conflict "black-swan" event: evidence from the event study approach. Journal of Behavioral and Experimental Finance 35(5), 100-107 (2022).

[9] Verma, R. K., Bansal, R.: Stock market reaction on green-bond issue: evidence from Indian green-bond issuers. Vision 27(2), 264-272 (2023).

[10] MacKinlay, A. C.: Event studies in economics and finance. Journal of Economic Literature 35(1), 13-39 (1997).