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FINANCIAL ECONOMICS | RESEARCH ARTICLE

Does the market respond differently to the timing of the announcement of corporate actions?

Juniarti Juniarti[1]*, Dea Devina Theja[1], Novita Tenoyo[1] and Alan Darmasaputra[1]

Abstract: This study aims to expand research evidence related to investor responses to the timing of corporate action announcements. In contrast to previous studies, this study distinguishes corporate action announcements during the development and realization stage. Furthermore, we will also distinguish the types of corporate actions, consisting of new products and systems and technology innovation. Investor's reactions are measured using cumulative abnormal returns (CAR) with (−5,+5) and (−2,+2) event windows. The Sample is based on 257 corporate action announcements in the automobile manufacturing firms in East Asia from 2017 to 2021. This research found a significant difference in CAR between the development and realization of announcements. Furthermore, it indicates that investors in East Asia react more positively when companies announce the realization of a new product and system and technology innovation rather than when it is still under the planning or development process.

Subjects: Corporate Finance; Financial Accounting; Financial Management

Keywords: corporate action; new product; innovation; development; realization; introduction; investor's response

ABOUT THE AUTHOR

This research on corporate action is part of the capital expenditure research project. According to the research roadmap, this topic is examined in stages, starting from the reputational aspects of capital expenditures, fundamental analysis, and analysis of corporate actions of capital expenditures, including long-term corporate performance and market response which are the center of this research. Research results for each stage have been published in conferences, books, and reputable international journals.

Juniarti Juniarti

PUBLIC INTEREST STATEMENT

An efficient capital market requires the broadest possible information support so that security prices reflect the company's fundamental value. Corporate action is a medium to inform the market of the company's value in the future. Although market response related to corporate action has been widely studied before, this research provides specific evidence of market response to the timing of companies taking corporate action in the automotive sector.

1. Introduction

Several studies provide evidence of market response to corporate action (Kelm et al., 1995); Khanal and Mishra (2017); Krieger et al. (2021); Pandey and Kumari (2021); Pandey et al. (2022). Pauwels et al. (2004) noted that investors pay attention to corporate action. Investors react when companies introduce new products and initiate innovations (A. Sorescu et al., 2007; Pauwels et al., 2004; R. P. Lee & Chen, 2009; Warren & Sorescu, 2017). Rubenstein et al. (1676) and Cooper (1979) found that a success of a new product can be seen from the product's uniqueness in the market. The announcement of the corporate action being responded to the market shows a long-term impact on the company's value, and the market marks this. A. Sorescu et al. (2007) looked deeper at the response. They found that investors began to respond when the company announced plans for new product development or other innovations, but the response was only sometimes positive. In the end, it depends on the extent of the investor's assessment of whether the plan will be realized. Dobija et al. (2012) conducted a study to test the market's responses toward the company's announcement of the in-progress development stage and completed product realization. The study found that investors reacted more positively towards company announcements on the completion stage of technology than the project in progress. While studies in recent years have highlighted the market response to dividend announcements, stock splits, and rights issues in pandemic conditions and compared with conditions before the pandemic. (Khanal & Mishra, 2017; Krieger et al., 2021; Pandey & Kumari, 2021; Pandey et al., 2022)

However, there still needs to be more evidence regarding the market response to the timing of announcements, during development or at the time of realization, and types of corporate actions. Previous researchers have done multi-sector studies (Eddy & Saunders, 1980; Kaur & Kaur, 2019; R. P. Lee & Chen, 2009; R. P. Lee et al., 2015; Warren & Sorescu, 2017). Not much has been revealed about how the market responds in specific industries. A study focusing on one sector is essential, considering that each industry has specific characteristics. Previous studies have tended to ignore each sector's specific characteristics, which creates a bias if it is generalized. Therefore, more evidence is needed in certain sectors to get a complete picture of how that sector responds to corporate action.

This study contributes to the existing literature in the following ways. First, this study complements the results of previous research on market response to corporate actions by showing differences in responses related to announcement times and in terms of types of corporate actions, such as new products or innovations (A. Sorescu et al., 2007; Pauwels et al., 2004; R. P. Lee & Chen, 2009; R. P. Lee et al., 2015; Warren & Sorescu, 2017). Companies can take advantage of progress in development to reduce market uncertainty and positively impact company returns (Sood & Tellis, 2016). Secondly, this study used a sample on one sector, hoping the results would be more accurate. The choice of the automotive industry as the research sample in a study on corporate actions can be motivated by several factors, including differences in the responses to announcement times and types of corporate actions. Firstly, the automotive industry is significant in terms of its economic impact and the role it plays in shaping the global economy. It is one of the largest and most complex industries in the world, with a wide range of stakeholders, including manufacturers, suppliers, dealers, and customers. Therefore, understanding the impact of corporate actions in the automotive industry is crucial for investors and stakeholders alike.

Secondly, the automotive industry has unique characteristics that make it an interesting and relevant area of study for corporate actions. For example, the industry has high product development and development costs, which can have a significant impact on the stock returns of firms in the industry (Nada & Payne, 2018). In addition, the automotive industry is known for frequent product announcements and innovations, which can have a substantial impact on the stock returns of firms in the industry . (Talay et.al., 2019)

Finally, a study on corporate actions in the automotive industry can provide valuable insights into the market's response to announcements in the context of a complex and highly competitive

industry (Kelleher, 2014). The responses to announcement times and types of corporate actions, such as new products or innovations, in the automotive industry may differ from those in other industries, making it an interesting area of study. In summary, the automotive industry provides a rich and diverse research sample for studying corporate actions, and the differences in responses related to announcement times and types of corporate actions can provide valuable insights into the market's perception of the value of such actions for investors and stakeholders.

By using 257 samples of automobile manufacturing firms in the Southeast Asia region, during the 2017–2021 period, this study finds that there is a significant difference in cumulative abnormal return (CAR) in the (−5,+5) and (−2,+2) windows, between stages of development and realization. The market responds positively to announcements of new products and system and technology innovations at the time of realization compared to announcements during the development stage; because of the high uncertainty at the planning stage. As a result, the new product development plan may fail or not be realized.

The remainder of the paper is organized as follows. Section 1 provides the literature review and hypothesis development. Section 2 describes the research method in the study. Section 3 presents our results and discussions. Finally, we offer our conclusions in Section 4.

2. Literature Review and Hypothesis Development

Corporate actions are events that directly or indirectly affect the total value of investor ownership. Corporate actions aim to increase returns for shareholders where an investor can use information related to corporate actions to support their investment decisions so that it will eventually cause stock price fluctuations around the announcement date (Venkatesan & Rakesh, 2018). Some examples of corporate actions are launching new products and innovations in systems and technology.

Product development and launch are essential; the more innovative a new product is, the more it can attract the attention of investors and consumers. The consumer's response is to purchase the product, while the investor's response is to the market price. Product innovation can be negative or positive for investors; when the product has advantages or is innovative, the market will respond positively (Y. Lee et al., 2011). When a company develops an innovative new product, it can maintain its competitive advantage, while its position in the market can threaten the competing companies (Debruyne et al., 2002). Therefore, managers make product development and launch announcements, hoping investors will appreciate the product development efforts (Warren & Sorescu, 2017). R. P. Lee and Chen (2009) argue that the public considers the development of new products as new information because it can change the company's future cash flows.

Innovation is the process of making significant or minor changes to a product, process, or service produced by a company to be valid and add value to the company in customers' view (Kuratko et al., 2014). According to Sood and Tellis (2016), innovation is one of the critical factors for companies, supporting business sustainability, creating new markets, increasing global competitiveness, and encouraging growth in new products. Investors form their trust to invest in a company by looking at the impact of innovation on a company's future. In this study, the innovation in question relates to systems and technology. H. Lee et al. (2000) and A. B. Sorescu et al. (2003) identified that the stock market reaction is positive to announcements of innovations and can attract investors to invest their capital.

Signaling theory reduces information asymmetry between two parties (Spence, 2002). The signaling approach closely relates to the availability of information in a company. Signal theory explains the company's efforts to signal to investors that the company has excellent and quality performance, which can be reflected through financial reports and corporate actions (Katti & Phani, 2016).

Information related to corporate actions carried out by the company can signal investors about the company's prospects and provide benefits for investors as material for consideration in the investment decision-making process. If investors catch signals from the company and consider the information essential, investors will respond to the information (Abdullah et al., 2002; Scott, 2015). Companies can develop or create new products to signal product innovation that is consistent and in line with investor expectations. The signals given have different levels of reliability (P. Sharma et al., 2016), where information related to corporate action plans still has more uncertainty than information on the realization of corporate actions (A. Sharma & Lacey, 2004). Investors will perceive product development announcements, as well as system and technology innovations, as positive signals if they are considered to increase the value and future growth of the company (A. Sorescu et al., 2007; Dobija et al., 2012; Pauwels et al., 2004; R. P. Lee & Chen, 2009; Warren & Sorescu, 2017).

After receiving such information or signals, the market reactions to new information are reflected in the price changes (Khalik, 1972). In an efficient capital market, prices fully reflect all published information (Fama, 1970). If the stock market is efficient, investors will immediately respond to announcements related to new product launches and system and technology innovations. In Efficient Market Hypothesis (EMH), shares are always traded at their fair value on the stock exchange, making it impossible for investors to buy undervalued shares or sell shares at inflated prices (Thomas & Dileep, 2010).

Investors have access to all public information where; investors will only react to the content of the information, and it is assumed that the time and source of information do not provide additional information to investors (Warren & Sorescu, 2017). According to Jones (1998), stock prices reflect two types of information: "all known information" and "information that can reasonably be inferred. "all known information" includes two types of information: past information and current information, where current information also provides information related to events that will still occur in the future. This situation shows that both the announcement of plans and realizations related to corporate actions will be quickly responded to by investors and are fully reflected in the company's share price.

Investors responded positively to corporate actions, such as product development and product launch (A. Sorescu et al., 2007; Pauwels et al., 2004; R. P. Lee & Chen, 2009; Warren & Sorescu, 2017) because they can reflect the company's business prospects. A. Sorescu et al. (2007) found that investors have started to respond since the announcement of the product launch plan appeared, but investors' response depends on the content of the notification published. Specific content will make investors believe that the company is committed and able to launch innovative products (R. P. Lee et al., 2015). Investors hope that the development of new products can provide benefits. However, there is uncertainty when product development plans affect investor response, where if the company fails to launch a new product, it will negatively affect the company's performance (A. Sharma & Lacey, 2004). A. Sorescu et al. (2007) argue that information related to product development can also pose a risk if, in the end, the company cannot realize it. Because of it, the realization of product launches generates higher abnormal returns than when the company carries out development plans (such as when displaying product prototypes/concepts). This is because product launches are the culmination of product development and ultimately are more responsive to consumers, competitors, and investors (Talay et al., 2019). The launch of new products shows that the company completes product development. Kleinschmidt and Cooper (1991), Subramaniam and Venkatraman (2001), and Srinivasan et al. (2009) argue that companies with successful new products launch are to have the opportunity to grow in the future and have a substantial and significant impact on the company's performance in the future. This success is also the main driver in increasing the company's competitiveness in the market.

H1: *Investors react more positively when a company launches an announcement related to the realization of product launches than when announcing new product plans.*

Sood and Tellis (2016) divide innovation projects into three activities; Initiation activities (covering alliances, funding, and expansion), Development activities (including prototypes, demonstrations, patents, and pre-launch announcements), and Commercialization activities (including launching and awarding). They found that development activities produced the most significant returns of the three movements, but no strong theory could explain these findings. Dobija et al. (2012) find that investors pay more attention to information related to the completion of technology investment projects. Investors more positively respond to the realization of innovation because it can provide a more robust signal regarding its competitiveness and impact the product portfolio. This condition can happen because investors do not believe the investment project plan will succeed and positively affect the company's performance. The uncertainty of the business and economic environment is also a factor supporting the realization of innovation, which investors more positively responded to than the development plan. Therefore, more significant effort is needed to convince investors about the project's success.

H2: *Investors react more positively when a company publishes announcements regarding the realization of innovations related to systems and technology than when it announces its plans.*

3. Method

3.1. Model of Analysis

Looking at the difference between the actual return and the expected return on the stock value can assess the impact of an event. Previous research used cumulative abnormal return (CAR) to test investor response to an event (A. Sorescu et al., 2007; Warren & Sorescu, 2017). This study uses several control variables that can affect the cumulative abnormal return (CAR); leverage, firm size, age, market share, and growth. Firm size is a significant variable affecting abnormal returns (Kaur & Kaur, 2019). A. Sorescu et al. (2007) find that firm size can affect returns when issuing product-related announcements. Chang et al. (2010) argue that firm size is an important measure explaining variations in stock market responses. This condition is because large and small companies have different availability of resources and market competition. Dimitrov and Jain (2008) argue that firm leverage can affect investor response because it can reflect its performance and predict future earnings, operating cash flows, accruals, and asset growth. Lim and Tan (2007) say higher firm leverage can be associated with higher risk and volatility, affecting investor response. The company's age can determine the Firm Age since the company was established (Frankort, 2016). Firm age can affect the company's ability to learn and utilize resources, whereas older companies have more experience (Mu & Benedetto, 2011). Market share indicates the company's competitive position in the industrial sector (O'Regan & Ghobadian, 2002; Stacia & Juniarti, 2015). Companies with high market share are industry leaders. Market share is measured by dividing the company's sales by the industry's total sales. Growth is the company's potential to increase in the future. Companies that have high growth rates have high value for investors as well. Company growth is measured by sales growth (Juniarti & Juniarti, 2015).

Equation (1) is the Model of Analysis of this study:

$$CAR_{i,t} = \beta_0 + \beta_1 DUMMCAA_{i,t} + \beta_2 DUMCDT_{i,t} + \beta_3 LEV_{i,t} + \beta_4 FIRM_{i,t} + \beta_5 AGE_{i,t} + \beta_6 MSHARE_{i,t} + \beta_7 GROWTH_{i,t} + \varepsilon_{i,t}$$

(1)

3.2. Variable's Operationalization

3.2.1. Dependent variable

This study investigates the effect of a company's corporate actions announcement through the investors' responses by reviewing CAR's value around the date of the corporate action announcement.

The researcher uses stock prices for 120 active trading days with an event window [−2,+2] to be more targeted so that they are not affected by the effects of other announcements and can cover the overall investor response in the days before and after the announcement (Eddy & Saunders, 1980). Announcements of corporate actions will affect stock prices. Cumulative abnormal returns (CAR), the sum of abnormal returns, measure the effect. Abnormal returns are the difference between actual and expected returns (McWilliams & Siegel, 1997). If the announcement of corporate actions contains essential information and is responded to by investors, it will cause abnormal returns. The stages of calculating CAR are in equation (2) to equation (6).

First, the researcher calculated the actual return and expected return with the formula, such as:

$$R_{i,t} = \frac{P_{i,t} - P_{i,t-1}}{P_{i,t}} \tag{2}$$

$$R_{i,t} = \frac{IHSG_t - IHSG_{t-1}}{IHSG_{i,t}} \tag{3}$$

Furthermore, the researcher carried out the regression testing of daily individual stock returns with daily market returns to obtain α dan β. The researcher uses several stock price indices for the companies studied, such as Japan (TOPIX), Korea (KOSPI), Taiwan (TWII), Hong Kong (HSE), and China (SSE). We use the composite stock price index in the transportation sector because this research is devoted to that sector. The use of sectoral indices is more accurate because it only relates to the volatility of stock prices in the sector under study. The formula calculates the daily expected return:

$$\sum(R_{jt}) = \alpha_i + \beta_i + \sum(R_{mt}) \tag{4}$$

Researchers calculated abnormal returns on each date of corporate action announcements with the formula:

$$AR_{jt} = R_{jt} - \sum(R_{jt}) \tag{5}$$

Next, the CAR for five days would be calculated with an event window of 2 days after, day 0, and 2 days before the announcement date of the plan and realization of corporate action, with the formula:

$$CAR_{it} = \sum_{t=-2}^{t=+2} AR_{it} \tag{6}$$

3.2.2. Independent variables
This study has two dummy variables that act as independent variables. The researcher used the first dummy variable (DUMCAA) to distinguish categories of corporate action announcements, where number 1 is for system and technology innovation and number 0 is for new products. The researcher used the second dummy variable (DUMCDT) to distinguish the timing of corporate action announcements, where 1 is for realization and 0 for development.

3.2.3. Control variables
(1) Firm leverage (LEV) is measured by the ratio of total debt divided by total assets (Dimitrov & Jain, 2008; Islam & Khandaker, 2015; Chugh, 2016).

(2) Firm size (FIRM) is calculated based on the log of the company's total assets (A. Sorescu et al., 2007; S. S. Chen et al., 2002; Warren & Sorescu, 2017). Then, the total assets of each company are converted into U.S. Dollars to be compared and provide valid results.

(3) Firm age (AGE) is measured from the log of the company's age from its establishment until now (Frankort, 2016; Mu & Benedetto, 2011).

(4) Market share (MSHARE) is the firm's position in the industry sector (O'Regan & Ghobadian, 2002; Stacia & Juniarti, 2015) that is usually used to express competitive positions. Market share is measured by dividing the firm's sales by the total industry's sales.

(5) Company Growth (GROWTH) is the potential increase of the company in the future, which is measured by the growth of sales (Juniarti, 2015)

3.3. Research Sample

This study uses corporate action announcements from automobile manufacturers in East Asia. Researchers classified corporate action announcements into two categories: new products and also systems and technology innovation. The new product category includes all types of cars, trucks, buses, and motorcycles, while the system and technology innovation category include announcements related to technology and systems innovation. Furthermore, each category is divided into two dates: the planned date and the realization date. For New Product, the planned date is when the company announces product development and displays a concept or prototype related to a new product. The realization date is when the company conducts a world premiere or product launch. For System and Technology Innovation, the planned date is when the company plans or invests in developing innovations related to systems and technology. The realization date is when the company launches the innovation or the system and technology have been developed and are ready to be used.

Samples are selected based on the following criteria: (1) Companies must have at least one announcement in the new product or system and technology innovation category, where announcements per each category that are sampled must not clash with each other. In addition, it is at least five days before, and five days after the announcement, so the effect on the share price per category is different and can be more visible (2). In addition, companies must have daily stock price data, year of establishment, and annual financial statements containing total assets and total debt (short-term debt and long-term debt), (3) The announcement date must be within the period 2017–2021, and (4). Announcements are available on the company's official website.

4. Analysis and Discussion

There are 36 companies in East Asia in the automotive industry (automobile manufacturers sector). After eliminating companies that do not meet the criteria, this study finally finds a sample of 257 corporate action announcements from 2017–2021 from 27 companies. Table 1 shows the final Sample composition by category and type of corporate action announcement date.

4.1. Hypothesis Testing

The main objective of this study is to obtain empirical evidence that investors respond more to announcements related to product realization and system and technology innovations rather than

Table 1. Final sample based on the category and timing of announcement			
Category	**Type**	**Total**	**%**
New Product	Development	50	19,46%
	Realization	107	41,63%
System and Technology innovation	Development	50	19,46%
	Realization	50	19,46%
		257	**100,00%**

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Table 2. Descriptive statistics for the development sample group and realization sample group								
	Development t (*N*=100)				Realization (*N*=157)			
Variable	**Mean**	**Min**	**Max**	**Std dev**	**Mean**	**Min**	**Max**	**Std dev**
CAR (−5, +5)	0,008	−0,083	0,107	0,036	0,015	−0,066	0,097	0,031
CAR (−2, +2)	0,007	−0,061	0,083	0,025	0,014	−0,049	0,080	0,024
LEV	0,271	0,002	0,622	0,147	0,240	0,002	0,466	0,152
SIZE	10,715	9,433	11,763	0,567	10,719	8,935	11,763	0,647
AGE	1,762	1,279	2,037	0,221	1,777	1,204	2,037	0,215
MSHARE	0,028	0,000	0,223	0,054	0,023	0,000	0,223	0,045
GROWTH	37,564	−1,000	368,68	61,719	22,167	−1,000	149,250	62,050

Table 3. Descriptive statistics per announcement category: new product vs. system and technology innovation								
	New Product (*N*=156)				System and Technology Innovation (*N*=101)			
Variable	**Mean**	**Min**	**Max**	**Std dev**	**Mean**	**Min**	**Max**	**Std dev**
CAR (−5, +5)	0,018	−0,071	0,107	0,032	0,002	−0,083	0,086	0,033
CAR (−2, +2)	0,017	−0,031	0,083	0,024	0,003	−0,061	0,057	0,023
LEV	0,250	0,002	0,622	0,153	0,255	0,003	0,622	0,147
SIZE	10,697	8,935	11,763	0,640	10,750	9,433	11,688	0,576
AGE	1,747	1,204	2,033	0,219	1,809	1,279	2,037	0,210
MSHARE	0,029	0,000	0,223	0,053	0,018	0,000	0,223	0,040
GROWTH	30,429	−1,000	368,680	79,189	17,690	−1,000	368,678	60,237

Table 4. Descriptive statistics of full sample				
Variable	Full Sample (*N*=257)			
	Mean	**Min**	**Max**	**Std dev**
CAR (−5,+5)	0,012	−0,083	0,107	0,033
CAR (−2,+2)	0,011	−0,061	0,083	0,025
LEV	0,252	0,002	0,622	0,151
SIZE	10,718	8,935	11,763	0,616
AGE	1,771	1,204	2,037	0,217
MSHARE	0,025	0,000	0,223	0,049
GROWTH	29,458	−1,000	368,680	98,256

announcements about their development plans. This research requires the sample companies to carry out at least one corporate action (launching new products or developing innovations related to systems and technology) in the last five years. This research is different from previous studies in which this study distinguishes corporate announcement date types into two groups, the development and realization dates related to new products and systems & technology innovation.

Tables 2 to 4 provide an overview of the research variable profiles. Table 2 shows that the average CAR for the Realization sample group is generally higher than the Development

sample group, both for the 11-day event window and 5-day event window CAR. Looking at the mean scores for the Development and Realization sample groups (Table 3) show that for CAR (−5,+5), the mean CAR score for the Realization group (0.015) is higher than the Development group (0.008), which suggests that companies in the Realization group performed better in terms of their stock market returns compared to the Development group. While for CAR (−2, +2), the mean CAR score for the Realization group (0.014) is also higher than the Development group (0.007), which reinforces the conclusion that companies in the Realization group performed better in terms of their stock market returns. The Realization group also had lower leverage and market share, and grew at a slower rate compared to the Development group. Table 4 shows the mean score of CAR (−5,+5) is 0.012, which indicates a slightly positive average change in the company's stock returns. The mean score of CAR (−2,+2) is 0.011, indicating a similar trend but with a smaller range. The mean score of LEV, SIZE and AGE respectively is 0.252, 10.718 and 1.771 indicates that, on average, the company has a moderate level of leverage, medium-sized and relatively young. The mean score of MSHARE is 0.025, indicating that, on average, the company has a low market share. While, the mean score of GROWTH is 29.458, which indicates that, on average, the company's growth rate is moderate. However, the standard deviation of GROWTH is quite high, which suggests that there is a wide range of growth rates across the sample.

Table 5 presents the correlation between research variables. The description of the correlation between the dependent variables shows that DUMCAA has a significant negative correlation with both CAR (−5,+5) and CAR (−2.+2). On the other hand, DUMCDT shows a significant positive correlation with both CAR (−5+5) and CAR (−2,+2), but the correlation coefficient is higher for CAR (−2,+2) than for CAR (−5,+5). Meanwhile, for the correlation between independent variables, the average correlation coefficient is below 0.5, so there is no potential for multicollinearity.

4.1.1. Impact of Different Corporate Action Date Types on Cumulative Abnormal Return for New Product Category

Furthermore, the researcher used two event windows on the dependent variable (CAR) to test the first hypothesis as a comparison. The researcher used an independent sample t-test, where the data must meet the criteria before carrying out the test. First, the researcher conducted the Kolmogorov-Smirnov normality test and found a significance value of 0.200 in both event windows. This indicates that the data is usually distributed because the significance value is>0.05. Furthermore, the data must be homogeneous, so the researchers conducted a homogeneity of variances test using Levene's Equality Test. From the test of homogeneity of variances, the researcher found that the data is homogeneous because the significance value is>0.05, both for the event window (−5,+5) and (−2,+2). After testing the normality and homogeneity of the data, the researcher conducted an Independent Sample T-test on the dependent variable, CAR 5, and the independent variable, Corporate Date. Corporate Date Type has two types: Development and Realization. Table 6 shows the mean for CAR Realization > CAR Development, with a difference of 1.52% in CAR (−5,+5) and 1.45% in CAR (−2,+2). The significance value in Table 6 shows that the difference in the mean CAR during development and realization in the event window (−2,+2) and (−5,+5) are significant at<0.001. Based on Table 6, H1 is accepted, where investors respond positively to announcements related to realization rather than the development of new product categories. There are significant differences in investor responses to the two types of announcements.

4.1.2. Impact of Different Corporate Action Date Types on Cumulative Abnormal Return for System and Technology Innovation Category

To test the second hypothesis, the researcher uses two event windows on the dependent variable (CAR). The data used for the second test is typically distributed based on the Kolmogorov-Smirnov normality test and is homogeneous based on Levene's Equality Test. After testing the normality and homogeneity of the data, the researcher conducted an Independent Sample T-test on the dependent variable, CAR, and the independent variable, Corporate Date. Table 7 shows the mean

Table 5. Correlation among variables

	CAR (−5,+5)	CAR(−2,+2)	DUMCAA	DUMCDT	LEV	FSIZE	LOGAGE	MSHARE	GROWTH
CAR (−5,+5)	1								
CAR (−2,+2)	0,521(**)	1							
DUMCAA	−0,106(*)	−0,128(*)	1						
DUMCDT	0,230(**)	0,274(**)	−0,175(**)	1					
LEV	−0,176(**)	−0,174(**)	0,101	−0,015	1				
FSIZE	−0,214(**)	−0,293(**)	−0,003	−0,041	0,695(**)	1			
LOGAGE	−0,065	−0,188(**)	−0,034	−0,139(*)	0,103	0,480(**)	1		
MSHARE	−0,061	0,077	0,05	0,114(*)	0,014	0,026	0,067	1	
GROWTH	0,009	0,073	0,081	0,094	0,022	0,009	−0,002	291(**)	1

*= Correlation is significance at the 0,05 level (2-tailed)

**= Correlation is significance at the 0,001 level (2-tailed)

for CAR Realization > CAR Development, with a difference of 1.139% for CAR (−5,+5) and 1.24% for CAR (−2, +2). The difference is quite significant at the value<0.05, both in the event windows (−5, 0, +5) and (−2, 0, +2). Based on Table 7, then H2 is accepted. There is a significant difference between announcements related to development and realization in the system & technology innovation category, where investors respond positively to announcements related to realization compared to development.

Before conducting the linear regression test, the researcher conducted several tests on the Sample of new products, systems & technology innovation categories. First, the researcher tested the multicollinearity sample, and the results show that VIF<10 and Tolerance>0.10, so the conclusion is there is no multicollinearity in the regression model. The scatter plot in the linear regression test shows the data distribution without forming a pattern, so the conclusion is that there is no heteroscedasticity in the regression model. Finally, the researcher conducted a normality test on the regression model using non-parametric tests, Kolmogorov-Smirnov. The normality test results indicate that the regression model is normally distributed because it has a significance value of $>_{0.05.}$

The researcher conducted a multiple linear regression test using all the selected data samples, as many as 257 corporate action announcements. In Table 8, model 1, the researcher conducted a regression test without inputting control variables. The DUMCAA significance value is 0.1770, which means that the DUMCAA variable does not significantly affect the CAR value. Furthermore, it means that the difference in the category of corporate action announcements does not cause a substantial difference in investor responses. For the DUMCDT variable, the significance value is 0.000, so the conclusion is that there is a significant effect between DUMCDT on CAR. This situation shows that the different types of dates (planned and realized) can explain variations in market response due to corporate action announcements. Based on the adjusted R-square coefficient, the result is 0.074, which means that the DUMCAA and DUMCDT variables can simultaneously explain 7.4% of CAR value changes, while other variables explain 92.6%.

Table 6. Mean difference of CAR development and realization for new product category				
			CAR	
	Type	N	(−5,+5)	(−2,+2)
Mean	Development	50	0,0045	0,0038
	Realization	106	0,0197	0,0183
Significance			0,004***	0,001***

***=significance level <0,01

Table 7. Mean difference of CAR development and realization for system & technology innovation category				
			CAR	
	Type	N	(−5,+5)	(−2,+2)
Mean	Development	50	0,0008	0,0004
	Realization	51	0,0147	0,0128
Significance			0,056*	0,012**

*= significance level <0,1

**=significance level <0,05

Table 8. Regression (total sample)

Variables	Model without control variables				A model with control variables			
	Coef	t-stat	Sig		Coef	t-stat	Sig	
DUMCAA	−0,827	−1,354	0,177		−0,156	−2,502	0,116	
DUMCDT	0,259	4,244	0,000	***	0,218	3,569	0,000	***
LEV					0,248	2,368	0,019	**
SIZE					−0,412	−3,738	0,000	***
AGE					0,263	2,305	0,022	**
MSHARE					0,058	0,936	0,350	
GROWTH					0,039	0,630	0,530	
DUMMHK					0,299	2,953	0,003	***
DUMMKO					0,145	2,029	0,044	**
DUMMTA					0,001	0,012	0,990	
DUMMCH					0,211	2,085	0,038	**
C	0,050	1,677	0,095	*	0,119	2,528	0,012	**
R2	0,082				0,202			
Adj R2	0,074				0,165			
F	11,723		0,000	***	5,938		0,000	***

In Table 8, model 2, researchers conducted multiple linear regression tests by inputting control variables. Following model 1, the DUMCDT variable still has a significance value of 0.000, so the DUMCDT variable significantly affects CAR. The following control variables, such as SIZE, LEV, and LOGAGE, significantly affect investor response, while MSHARE and GROWTH do not affect investor response. The SIZE significance value is 0.000, meaning that the company's size substantially affects the CAR value. The t-stat value on the SIZE variable is −3.738; this shows a negative relationship between company size and CAR value, meaning that the smaller the size of a company, the more investors will respond positively when the company takes corporate action and vice versa. The country variable becomes a significant control variable in the research model. The country variable coefficient is positive and significant, except for DUMMTA, a dummy variable for Taiwan. All countries except Taiwan are quite famous for their automotive products, so investors trust them immensely. There is an increase in adjusted R-square in Model 2, where the result is 0.165, which means that the DUMCAA, DUMCDT, and control variables can simultaneously explain 16.5% of CAR changes.

4.2. Discussion

This study examines investor responses to corporate announcements during planning and realization and by types of corporate announcements. This study found that investors responded positively to corporate announcements at the time of realization compared to the announcement of new product plans or innovation plans; thus, the study accepted hypothesis 1 and hypothesis 2. The results of this study support the findings of previous research, which states that investors respond positively to new product launches (Talay et al., 2019; Woolridge & Snow, 1990). The company announcements regarding corporate actions reduce information asymmetry and signal investors about the company's prospects. P. Sharma et al. (2016) argue that the signals given by companies have different levels of reliability. This difference in the level of reliability causes investor responses to be varied in each company's announcement. The finding of this study states that information related to the launch of new products has a better level of reliability than information when the product is still in the development process. Investors respond more positively to the officially launched product than the introduced product in the form of a concept or prototype. Eddy and Saunders (1980) stated that investors did not respond to news related to new product plans and that the news had no effect on stock returns. This situation occurs because the uncertainty factor during the development process is greater than during realization, where there is a possibility that the product development will fail or even not be launched (A. Sharma & Lacey, 2004; A. Sorescu et al., 2007).

In order to test the category of system and technology innovation, this study found that investors responded more to the realization. Furthermore, investors respond more positively when the system and technology have been developed and are ready to use than when the company announces a development investment plan for the innovation. This finding is consistent with previous research, which states that investors do not believe that the development investment made by the company will be successfully realized (Dobija et al., 2012).

The critical implication of this research for companies is that investors perceive that companies launching new products or innovating systems and technology can increase company value in the future. In addition, corporate action reflects that the company is stable and ready to compete in its industry (Elad & Bongbee, 2017; Maitra & Dey, 2012). Thus, companies that take corporate action are responded to positively by investors. This response is reflected in the positive CAR value around the date of the corporate action announcement (Dehning et al., 2003; Miyajima & Yafeh, 2007; Rosario & Chavali, 2016; Samet et al., 2018; Singh, 2018; Sood & Tellis, 2016). The results of this research also confirm the signaling theory because the signals sent by the company through corporate actions have succeeded in revising and increasing investor confidence about the company's prospects in the future. As a result, companies that take corporate actions are perceived as more promising prosperity; .

Another implication is variations in investor responses to corporate actions (Kaur & Kaur, 2019; Woolridge & Snow, 1990). The difference in abnormal returns reflects that the market perceives various categories of company investment decisions differently. Investor response depends on investor confidence in the future impact of the corporate action. In some cases, the stock market can also respond negatively to investments made by companies because they lack confidence in the impact of these investments on the company's prospects (Woolridge & Snow, 1990).

Furthermore, this study implies that the signals sent by companies have different levels of reliability (P. Sharma et al., 2016). This causes various investor responses to each corporate action news. In this study, it was found that the new product category was responded to positively by investors compared to the system and technology innovation category. This is because the automotive industry is very competitive in launching new products (Droge et al., 2000; Singh, 2018). Launching a new product is one of the critical events for a company, which has the most impact on a company's income (Warren & Sorescu, 2017). This causes news related to the launch of new products in the automotive industry to be considered more attractive by investors, customers, and competitors.

For managers, the results of this study have important implications for corporate action strategies. First, managers need to have appropriate strategies regarding when they should announce corporate action because timing plays an important role. Incorrect timing will eliminate the benefits of corporate action announcements (Boubaker et al., 2022; Pandey & Kumari, 2021; Pandey et al., 2022; Rao et al., 2021). In the context of this research, realization is the best time to announce new products or innovations in new systems and technologies to the public.

5. Conclusion and Limitation

This study proves the differences in the investor's response to corporate announcements when they plan to carry out specific corporate actions compared to announcements of the realization of these corporate actions. This study found that investors responded more positively to the announcement of the realization of corporate actions than to the plan's announcement. The announcement of corporate action plans has yet to receive a positive response because there is much uncertainty; therefore, the company must be more active in conveying the carried-out development activities to reduce the uncertainty. Companies must pay attention to helpful information and reduce uncertainty to make investors believe that the company can realize the plan and respond more positively. Firm size contributes significantly in a negative direction to the CAR in this research model. Small firms tend to be more innovative and prepare more thoroughly before taking corporate actions. The high level of competition with large companies with a better reputation encourages small companies to be more motivated to innovate.

This study contributes to investors' response to the announcement of the corporate action plan compared to the announcement of the realization of the corporate action, where previous studies have yet to reach the differences in investor responses during the plan and the realization. On the other hand, this study also has some limitations. First, this study is limited to the automobile manufacturers subsector, so researchers must be careful in generalizing the results to other sectors. Further research can follow up on different sectors to prove the consistency of the influence and how much the characteristics of the industrial sector vary in this relationship. Second, this study concludes that the market does not respond to the announcement of new products or innovations during development. However, this study did not examine the company's readiness level at the planning time, the company's reputation for completing previous development projects, and the investor's partnership to fund the project. These factors can affect the success rate of the new project plans announced by the company, so that future research can further examine the factors in testing the market response to the announcement of new project developments.

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