

# Preannouncement Effect of Innovative New Product on Global Telecom Industry: Focused on iPhone

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## Abstract

Innovative new product has an influence on society. Apple's iPhone is such a good example. As Apple's branding guidelines, it passes the marketing costs onto telecom companies which desire to sell iPhone. For this reason, investors are able to have negative position on these telecom companies. Therefore, preannouncements of innovative new product could negatively impact on telecom industry. Specifically this study uses the event study methods to estimate the preannouncement effect of innovative new iPhone on the telecom industry. This paper finds that iPhone preannouncements have negative effects on the telecom companies selling iPhone under market model.

**Keywords:** Event Study, Global Telecom Industry, Innovative New Product, iPhone Preannouncement

## 1. Introduction

When the iPhone was initially released, a large number of people were shocked on what features are inside iPhone. Without a keypad, people could play music, watch movies, surf the Internet via Wi-Fi, and download Apps. Due to these innovative traits of iPhone, iPhone could achieve the top place in competition with others. Many previous studies mentioned the importance of innovative new product preannouncements as marketing activity<sup>1,2</sup>. These marketing behaviors can inform consumers of new product. Hence, consumers are more likely to wait for buying preannounced product rather than available product of rival. Moreover, preannouncement companies can establish dominant technical standards, and gain the financial benefit by preannouncing new product<sup>2-5</sup>. Given these points, iPhone preannouncements provide the information to consumers, and freeze the smart phone market because of follower's waiting for this new product. This makes many telecom companies expect to sell iPhone and maintain their existing clients. For this reason, Apple has more powerful place than telecom companies

anticipating to sell iPhone. As Apple's marketing strategy, Apple passes the marketing costs onto those telecom companies.

In financial market, if there are new iPhone preannouncement events, investors have the information that the telecom companies must pay the marketing costs for the iPhone. Considering relationship Apple and telecom companies selling new iPhone, such investors could have a negative position on global telecom companies. As a result, this paper suggests that iPhone preannouncements have negative effects on the group of iPhone release firms under market model.

Although new product preannouncements have been studied, its influences in relation to telecom industry have been neglected. For the better understanding of preannouncements effects, it is essential to investigate short-term impacts of Apple's new product preannouncements on the telecom industry. In order to analyze this phenomenon, we reduced the target as global telecom companies, ranked within the top 100 from 2009 to 2013. We analyze the preannouncement effects using the event study methods as well.

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Section 2 investigates literature review about new product preannouncement and relation between Apple and global telecom industry. Section 3 suggests data and methodology for analysis of preannouncements effects. Section 4 analyzes the result of the preannouncement effect using the event study methods. In the last section, implications and limitations of this article are discussed.

## 2. Literature Review

### 2.1 New Product Preannouncement

In information technology industry, innovative new product makes it important to keep their stakeholders' support. Thus, companies expect to introduce and preannounce their next generation or upgraded products faster. Furthermore, because competitions are fierce in these industries, investors visit new products preannouncement events to evaluate a firm's competitiveness over its rivals or to search for the related information of new products. Therefore, it is natural that about half of new products are preannounced in these industries<sup>4</sup>.

In a marketing context, a preannouncement has been defined as an announcement that a firm makes it undertake a particular marketing action, such as the preannouncement of a new product<sup>4-6</sup>. Because a preannouncement precedes the occurrence of a corporate event, it has been conceptualized as a market signal directed at influencing the behavior of one or more stakeholders of the firm<sup>5,7</sup>. These stakeholders include customers, competitors, channel members, and investors who evaluate the expected reaction of the other market participants and appropriately adjust the firm's stock market value. Our study focused on channel members and investors.

Firms preannounce new products for various reasons. Firms could tell consumers and potentially prompt them to wait for their new products rather than buy available competitive<sup>5,8</sup>. Not only they can help establish dominant industry standards but channel partners or rivals may also start to seek substitutes, increasing the consumers' demand of the new product<sup>6,9</sup>. Furthermore, the financial rewards to new product introductions are positive and significant<sup>2,10-12</sup>. Given this point, some previous researches suggest that companies need to prepare more careful plan to preannounce the new product<sup>13</sup>. Other previous researches explain that these preannouncements effects improved by the growth of marketing costs<sup>2</sup> and innovation of new products<sup>3</sup>.

### 2.2 iPhone vs. Telecom Industry

Telecom industry is generating around US\$ 1.5 trillion of revenue. The number of users and revenue of mobile telecom sector are around 7 billion people and US\$ 960 billion in 2013<sup>14</sup>. Also, global smart phone users are nearly 1.4 billion people. Apple's iPhone is a situation in which the 150 million unit sales in 2013. Market share of iPhone is about 10% in smart phone market. That iPhone also has most faithful customers in the market. These figures indicate that iPhone is most powerful device in the telecom industry.

Apple's iPhone marketing strategy was exposed in 2014<sup>15</sup>. Apple never advertises or promotes their mobile phone products anywhere. Instead, telecom companies must advertise that they hold the iPhone. For acquiring additional iPhone units from Apple, they need to spend more advertising costs. Telecom companies cannot advertise Apple's trademark without complying with Apple's branding guidelines. If companies violate the rules, they must pay the penalty or could miss the priority of stock distribution. In fact, it can be seen that Apple transfers the marketing costs to those telecom companies and the preannouncement of the iPhone has negative effects on the global telecom companies.

## 3. Data and Methods

### 3.1 Data

**Table 1.** iPhone preannouncement day

Name	Pre announcement Day
iPhone 3GS	2009. 6. 8
iPhone 4	2010. 6. 7
iPhone 4S	2011. 10. 4
iPhone 5	2012. 9. 12
iPhone 5S, 5C	2013. 9. 10

From 2009 to 2013, innovative new iPhones are preannounced like as Table 1. Those days are regarded as preannouncement events of innovative new product for using the event study method.

In Table 2, this study gains 113 number of Global 100 telecom operators by the reports of Total telecom<sup>+</sup>, ranked by revenues<sup>16</sup>. Except for private company or missing data, this study finally uses 89 telecom companies' stock prices and 27 stock exchange indices from Yahoo! Finance and Google Finance. Total samples are 430 and iPhone release firm samples are 154.

**Table 2.** Global Telecom Companies ranked by revenue on total telecom +’s reports from 2009 to 2013

Continent	Numbers	Telecom Company Name
Africa	2	MTN, Telkom SA.
America	34	America Movil, AOL, AT&T, BCE, Brasil Telecom, Cablevision, CANTV, CenturyLink, Charter Comms, Comcast, Embarq, Frontier Comms, Global Crossing. IDT, Intelsat, Level 3, Leap Wireless, Liverty Global, MetroPCS, MTS Allstream, Net Serviços, NII Holdings, Oi, Rogers Comms, Shaw comms, Sprint, TDS, Telus, Telecom Argentina, Telmex, Time Warner Cable, US Cellular, Verizon, Virgin media, Windstream.
Asia	34	AIS, Bharti Airtel, BSNL, China Mobile, China Telecom, China Unicom, Chunghwa Telecom, Etisalat, Hutchison Whampoa, Idea Cellular, KDDI, KT, LG U+, Maxis Group, NTT, Ooredoo, Orascom Telecom, PCCW, PLDT, PT Telkom, Reliance Comms, Saudi Telecom, SingTel, SK Broadband, SK Telecom, Softbank, StarHub, Taiwan Mobile, Tata Comms, Telecom Egypt, Telekom Malaysia, Telekomunikasi, TOT, Zain.
Australia	2	Telecom NZ, Telstra.
Europe	41	Belgacom, Bezeq, BT, Bouygues Telecom, Cable and Wireless, Dixons Carphone, Cellcom Israel, Colt Telecom, Deutsche Telekom, Eircom, Elisa Corporation, Eutelsat, Freenet, Iliad, KPN, Maroc Telecom, MegaFon, Milicom, MTS, Orange, OTE, Polkomtel, Portugal Telecom, Rostelecom, SES Global, SFR, Svyazinvest, Swisscom, TalkTalk, Tele 2, Telefonica, Telecom Italia, Telekom Austria, TDC, Telenor, Telesonera, Turkcell, Turk Telekom, VimpelCom, Vodafone.
<b>Total</b>	<b>113</b>	

### 3.2 Event Study

An event study is a statistical method to evaluate the impact of an event on the value of a firm. Fundamental idea is to find the abnormal return caused by the event under researcher’s theoretical model.

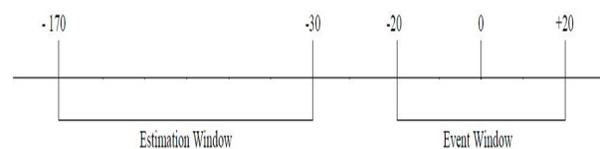
Searching previous studies, the method that is intrinsic same such as now was emerged in the late 1969s<sup>17</sup>. This study analyzes the effects of splitting stock after eliminating the effects of simultaneous dividend increases. Since these pioneering researches, many researchers modified and improved the event study methods.

These event study methods in business are useful research to assess the intensity of abnormal returns during the special event. As the event study can be used to extract the effects in any case of event, there are variously applicable areas. Some examples are preannouncement<sup>2,3,5</sup>, e-commerce event<sup>18</sup>, strategic alliances<sup>19</sup>, earning announcement<sup>20</sup>, new product introduction<sup>4,7,10</sup>, and brand extensions<sup>21</sup>.

Therefore, we use the event study methods to precisely ascertain the shock of the iPhone preannouncement on global telecom companies’ stock price.

#### 3.2.1 Window of the Event Study

As typical event study methods, this study considered preannouncement day and the event window length are from -20 to +20 days. This facilitates the use of abnormal returns around the event day in the analysis (Figure 1).



**Figure 1.** Window of event study.

### 3.2.2 Measuring and Analyzing Abnormal Returns

#### 3.2.2.1 Estimation of the Market Model

The market model is a statistical model that relates stock returns to market returns. The market model is following:

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + \epsilon_{i,t}$$

$$s.t. E[\epsilon_{i,t}] = 0, Var[\epsilon_{i,t}] = \sigma_{i,t}^2 \tag{1}$$

$R_{i,t}$  and  $R_{m,t}$  are excess returns of i-company and index at t-period.  $\alpha_i$  and  $\beta_i$  are ordinary least square estimates from market model.

#### 3.2.2.2 Statistical Properties of Abnormal Returns

Given the market model parameter estimates, we measure and analyze the Average Abnormal Returns (AAR) and Cumulative Abnormal Returns (CAR). For stock  $i$  in the event window, the sample AAR and CAR are measured by using the market model as following:

$$AAR_{i,t} = R_{i,t} - \alpha_i + \beta_i R_m \tag{2}$$

$$AAR_t = \frac{1}{n} \sum_{i=1}^n AAR_{i,t} \tag{3}$$

$$CAR_{t_1,t_2} = \sum_{t_1}^{t_2} AAR_t \tag{4}$$

$AAR_{i,t}$  and  $AAR_t$  are abnormal returns of i-company and average abnormal returns at t-period.  $CAR_{t_1,t_2}$  is cumulative abnormal returns from t1-period to t2-period.

During the event window, we have t-tests to check the significance of AAR and CAR using t-statistics as following:

$$t_{AAR_t} = \sqrt{n} \sum_{i=1}^n \frac{AAR_{i,t}}{\delta[(AAR_{i,t})]} \tag{5}$$

$$t_{CAR_{t_1,t_2}} = \sum_{i=t_1}^n \frac{AAR_{i,t}}{\sqrt{t_2 - t_1 + 1}} \delta[(AAR_{i,t})] \tag{6}$$

### 4. Results

Table 3 and Figure 2 report AAR, CAR and t-value of preannouncement effect under the market model based on each stock exchange index. This result shows that preannouncements of new iPhone have no effect on iPhone non-release firms statistically.

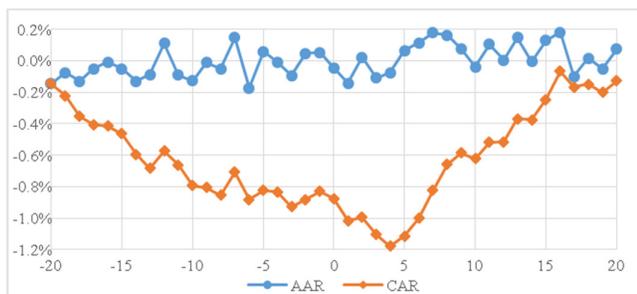


Figure 2. iPhone non-release firms results.

In contrast, Table 4 and Figure 3 indicate that ARR-3 is -0.3 percent and t-value of AAR is 1.68 and the null hypothesis is rejected.  $CAR_{-20it-3}$  of iPhone release firms is -1.25 percent and t-value of CAR is 1.67 and this is closely significant. These results support that iPhone preannouncements have negative influence on the iPhone release firms.

Table 3. iPhone release firms results.

Day	AAR	t-value	CAR	t-value
-20	-0.10%	-0.5	-0.10%	-0.5
-10	-0.12%	-0.57	-0.71%	-1.05
-5	0.04%	0.21	-0.85%	-1.04
-4	0.02%	0.07	-0.84%	-0.99
-3	0.03%	0.14	-0.81%	-0.93
-2	-0.02%	-0.09	-0.83%	-0.92
-1	-0.04%	-0.21	-0.87%	-0.95
0	-0.06%	-0.29	-0.93%	-0.99
1	-0.14%	-0.68	-1.07%	-1.11
2	0.00%	0.02	-1.06%	-1.08
3	-0.10%	-0.5	-1.17%	-1.16
4	-0.02%	-0.1	-1.19%	-1.15
5	0.05%	0.24	-1.14%	-1.08
10	-0.10%	-0.5	-0.61%	-0.53
20	0.05%	0.23	0.03%	0.03

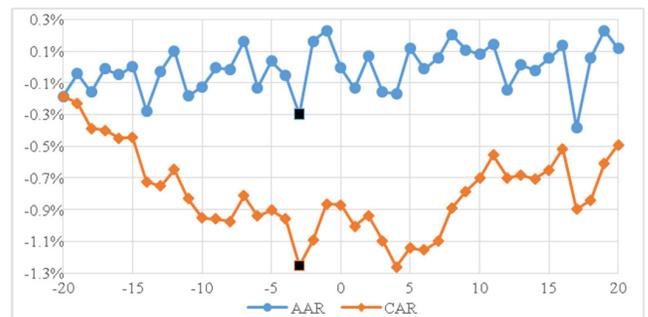


Figure 3. iPhone release firms results.

Table 4. iPhone Release firms results

Day	AAR	t-value	CAR	t-value
-20	-0.19%	-1.05	-0.19%	-1.05
-10	-0.12%	-0.7	-0.95%	-1.62
-5	0.04%	0.21	-0.90%	-1.28
-4	-0.05%	-0.3	-0.96%	-1.31
-3	-0.30%	-1.68*	-1.25%	-1.67
-2	0.16%	0.91	-1.09%	-1.42
-1	0.23%	1.29	-0.86%	-1.09
0	-0.01%	-0.03	-0.87%	-1.07
1	-0.13%	-0.76	-1.00%	-1.21
2	0.07%	0.39	-0.94%	-1.1
3	-0.16%	-0.9	-1.10%	-1.26
4	-0.17%	-0.94	-1.26%	-1.43
5	0.12%	0.68	-1.14%	-1.27
10	0.08%	0.46	-0.70%	-0.71
20	0.12%	0.67	-0.49%	-0.43

P-value: \* > 90.

These results caused by telecom industry's attribute. In the telecom industry, telecom companies are under the zero sum game which whatever is gained by one side is lost by the other. However, innovative new product manufacturer, such as Apple, are more powerful than these telecom companies. Since telecom companies desire to sell iPhone for protecting current customers, they have to comply with the Apple's branding guideline. As iPhone marketing strategy, Apple shifts the marketing costs on global telecom companies which expect to sell the iPhone.

For this reason, if investors knew the Apple's innovative new iPhone preannouncement event, they have negative position to global telecom companies which want to sell innovative new iPhone. This result shows that investors thoughtfully consider innovative new products preannouncements effects on the telecom industry.

## 5. Conclusion

Our results present that iPhone preannouncements have negative effects on the iPhone release firms under the market model. As global telecom industry's attribute, innovative new product manufacturer has financial benefits compared to telecom companies. Telecom companies expend more marketing costs for this innovative new product than manufacturer. Therefore, investors have a negative position on these companies.

While previous studies on preannouncement effects are generally focused on manufacturers of new product, our paper is the first study to analyze the effects on global telecom industry by the preannouncement of innovative new products.

However, there are some limitations in this study. This study just uses iPhone on behalf of innovative new products. These negative effects merely result from Apple's special marketing strategy. Therefore, future research could be required to analyze and compare it with regard to innovative new products of other companies such as Samsung and Google.

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