

The Effect of Samsung Pay Release Event on Samsung Pay's Strategic Alliances in Korea Equity Market

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Abstract

This paper examines that the relationship between Samsung and its relationship in regards to Samsung Pay. As Samsung Pay was introduced to Korea to analyze how the firm value of those allied companies fluctuates. Applying an event study with the OLS market model, Device Vendors have a negative effect on the release day while Software Vendors have relational positive effects simultaneously. In detail, the former have the negative effect because of vertical integration (technical alliance) whereas the latter brings about a positive effect due to horizontal relationship (marketing alliance) and substitute effect relevant to the free fee.

Keywords: *New Product Announcement, Mobile Payment Services, Strategic Alliances, Event Study*

1. Introduction

Apple Pay, innovative new service, leads to the change in mobile payment market. Such a service has considerable effects in the global Fintech industries. The release event regarding new service as marketing activity plays an important role to inform a wide range of stakeholders. Among those, consumers are more willing to use new service rather than existing services. Hence, releasing firms may have the opportunity to expand the market share, occupy faithful consumers, and eventually gain the financial benefits [1].

According to Gartner, Inc., in the field of mobile payments market, the growth rate of Non-Banking Financial Companies (NBFCs) was expected to be two times faster than bank from 2015 to 2020 [2]. A wide range of Global ICT companies such as the internet platform service companies, carriers and smart phone makers are competing in the mobile payments market. Compared to rival companies, smart phone makers like Apple and Samsung enter the market late, but provide innovative new payment services for consumers.

As Apple Pay was introduced in 2014, smart phones and related payment services have become a crucial part in daily life. However, Samsung is now adopting an older payment technology to pave the way for new growth and de-Google. In February 2015, it acquired LoopPay with patented technology which is called Magnetic Secure Transmission (MST) and then be able to provide customers it instead of the Near Field Communication (NFC). Such MST technology makes payment contactless over existing payment infrastructures. This enables Samsung Pay to emulate a card swipe by sending tokenized payment credentials from the device to a payment terminal via an electromagnetic field [3].

Samsung has focused essentially on providing user value through Samsung Pay, which is to show benefits in the form of convenience, low cost, better security or capabilities. Hence, Samsung Pay is attempting to expand the market share by using the existing payment system. To occupy online and offline market, Samsung has concluded strategic alliances with companies such as credit cards, banks, carriers, PG-VAN providers and component module suppliers.

This paper uses the event study method to evaluate the impacts of Samsung Pay release on Samsung's strategic alliance.

2. Literature Reviews

2.1. New Product Announcement

New product announcement (NPA) is an essential activity for survival. There are many reasons why companies release new products. As consumer 'needs' constantly change, companies respond to these changes [4]. Otherwise, consumers will switch to rival products that satisfy their requirements. Because the product may be at the end of its product life cycle, the companies are required to launch new or improved products [5]. There may be environmental changes and severe competition in the marketplace. This is very apparent in the technology market; new products are constantly being introduced to a target market that welcomes change and innovation [6].

In terms of marketing strategy, NPA serves as a formal and deliberate communication from a company to undertake a particular marketing action, for example, the introduction of a new product or service [7].

NPA could be a market signal relevant to the behavior of stakeholders such as channel members, suppliers and investors [8]. Such stakeholders evaluate the expected reaction of the other market participants and appropriately adjust the firm's stock market value [9].

2.2. Mobile Payment Services

Fintech combines finance and technology in ways that will interrupt traditional financial models and refers to financial services or products delivered via technology [10]. The convergence of technology with the traditional processes of finance replaces traditional structures and ways of working with new technology push-based processes [11].

Mobile payments were defined as payments for goods, services, and bills with a mobile device by taking advantage of wireless and other communication technologies [12]. Mobile Payment Services (MPS) is also an emerging and innovative market [13]. The mobile payment ecosystem is made up of various stakeholders in a multiple industries (consumers, merchants, wireless carriers, financial institutions, smart phone manufacturers, software and technology provider, regulators) [14].

Some researchers suggest that convenience, usefulness, security, cost, and compatibility are the most important contributors to consumers' utilization of mobile payments [12]. Samsung is driving the change through contactless payment systems based on Samsung Pay in MPS market. It could continue to and consume quite a bit of the financial service business and expand into mobile banking including m-banking, m-payments, m-transfers and m-finance [15].

The adoption of mobile payments can be described in various ways. The Technology Acceptance Model (TAM) is very popular as a framework for examining intentions to adopt m-banking [16]. This theory asserts that perceived usefulness and ease of use are fundamental determinants of system adoption and usage [17]. Many m-banking adoption studies extend or supplement the original TAM by including additional constructs, such as relative advantage and personal innovativeness [18].

2.3. Strategic Alliances

To release new product, firms can provide licenses, join strategic alliances, form joint ventures, or acquire in other firms. Strategic alliances are defined as voluntary arrangements of products, technologies, or services [19]. These cooperative strategies enable firms to work together without acquiring know-hows from the market or lacking resources [20].

When the goal is extension of an existing technology in a marketplace, alliance is the right way. Using the alliance partner to gain access to a new service has also proven most successful when each firm in the alliance can gain service shares. Hence, the firm can avoid the cost of entry barriers while gaining quick access to a Greenfield market.

The existing literature concerning the strategic alliances essentially focuses on non-financial industries [21]. Specifically, the strategic alliance announcement in a particular supply chain changes the value of firms [22]. It may be beneficial when firms face more uncertain circumstances [23]. Forming a strategic alliance helps firms to choose more appropriate partners and facilitates the collaboration process [24]. In technical alliance, abnormal return seems to be high as the similarity of business is more relative among companies [25]. Hence, the abnormal return of another (de-dominant) partner could be affected by dominant partner which forces to follow the same direction [26]. However, in market alliance, dominant partner do not have any effect on the de-dominant partner.

2.4. The Event Study

An event study is a statistical method to access the impact of an event on the value of a firm. The basic idea of the event study is to assess the abnormal return caused by the event under theoretical model. Abnormal returns are the differences between the observed returns and the estimated returns derived from a market model [27-29].

The abnormal return is the discrepancy between actual stock return and its index returns for identical period. This method is appropriate in business research to evaluate impacts of special events like announcement [30-31], strategic alliances [32] and new product release [33].

3. Method

3.1. Data

Our paper used the data related to Samsung Pay's strategic alliances by Korean list from 2014 to 2015. All the firms involved in alliance announcements were obtained from Korea Integrated News Database System (KINDS). We combined keywords 'Samsung Pay' and 'strategic alliance' to obtain the information related to strategic alliances. Then, we filtered the initial sample by excluding some firms that are not directly related to our interests on the basis of the following criteria: firms not listed on the Korea Stock Exchange (KSE) in the sample period, firms not matched with the daily price index of the KOSPI and KOSDAQ.

With this filtering, the total samples in relation to Samsung Pay's strategic alliances in this paper are 72 over the full sample period.

Table 1 describes the total samples of Samsung Pay's strategic alliances from Korean listed firms. We have classified them into subsamples based on whether the similarity of business such as device vendors and software vendors.

Table 1. Samsung Pay Related Strategic Alliances Firms

Division	Category	No	Company Name
MST+NFC Module	Device Vendors	11	Samsung Electro-Mechanics*, Solueta, Amotech, SKC*, Partron, Signal Entertainment Group, RFTECH, Hansol Technics*, Haesung Optics, Sung-Woo Electronics, Optrontec
Biometrics	Device Vendors	10	Crucialtec, Trais, Fine DNC, FINE TECHNIX, Samjin LND, KJ Pretech, CHA Diostech, Lms, Wooree E&L, Kolen
Mobile Security	Software Vendors	9	RaonSecure, SGA, Suprema, ESTsoft, INFOvine, Initech, SoftForum, Ubcare, Minwise Co Ltd
Information Certification	Software Vendors	11	UbiVelox, Eluon, Solacia, ICK, Kona I, WonikQnC, iA, Hancorn GMD, HanyangDigitech, Nice Information Service, Ksign Co Ltd
Payment Gateway	Software Vendors	9	KG Inicis, LG Uplus*, KCP, KG Mobilians, Danal, SBI Axes, Galaxia Communications, Nice Total Cash Management, Hyosung ITX*
Value-Added Network	Software Vendors	9	Korea Electronic Certification Authority, NICE Information & Telecommunication, Korea Information & Communication, E-Credible, Seohwa, Hanbit Soft, Union Semiconductor Equipment Co Ltd, Ktis Corp, KTCS Corp, BRIDGETEC Corp
Value-Added Service	Software Vendors	6	Atec, Hyundai Information Technology, HansolNexG, BG T&A, TELEFIELD, Korea Digital Communications
Banks / Credit Cards Issuing Company	Software Vendors	11	Samsung Card Co Ltd*, Shinhan Card Co., Ltd* (Shinhan Financial Group Co., Ltd.)*, KB Kookmin Card Co., Ltd.* (KB Financial Group Inc), Hyundai Card Co., Ltd.(non-listed), Lotte Card(non-listed), NH Nonghyup Card(Nonghyup Financial Group Inc.), BC Card, Woori Card Co., Ltd. (Woori Financial Group), Citibank Korea Inc., KEB Hana Card Co., Ltd., Woori Bank*
Carriers	Software Vendors	3	SK Telecom Co Ltd. *, KT Corp*, LG Uplus Corp*
Total	Vendors	79	Indicators(*) mean KOSPI and the others mean KOSDAQ.

3.2. The Event Study

We conducted an event study with the OLS market model [25]. It is assumed that the market is efficient in terms of information reflected so that a change of firm value attributable to any information disclosure can be assessed by observing a change in abnormal stock returns around the release.

In August 20, 2015, Samsung launched Samsung Pay. The event day is Samsung Pay release day. The estimation window is from -250 to -30 day and the event window lengths are from -5 to +5 day.

Using the regression method, individual daily stocks (R_{it}) and market portfolio return (R_{mt}) was estimated to acquire the coefficients of α_i and β_i in equation (1) over the

estimation period. The expected return $[E(R_{it})]$ of an individual stock i was obtained by plugging the estimated $(\hat{\alpha}_i)$ and $(\hat{\beta}_i)$ into equation (2). For the event period of -5 to $+5$, the daily abnormal return (AR_{it}) of an individual stock was then gained by calculating the difference between the actual daily return and the return predicted by the market model in equation (3).

$$R_{it} = \alpha_i + \beta_i R_{mt} + \epsilon_{it} \quad (1)$$

$$E(R_{it}) = \hat{\alpha}_i + \hat{\beta}_i R_{mt} \quad (2)$$

$$AR_{it} = R_{it} - E(R_{it}) \quad (3)$$

The average abnormal return (AAR_t) for the sample period is the mean of summed abnormal returns (AR_{it}) of all individual stocks,

$$AAR_t = \frac{1}{N} \sum_{i=1}^N AR_{it} \quad (4)$$

The t-statistic of the AAR_t is obtained by

$$t_{AAR_t} = AAR_t / (\hat{\sigma}(AAR_{t-250,t-31})) \quad (5)$$

Cumulative average abnormal returns (CAR_{t_1,t_2}) were reached by the sum of averaged abnormal returns as follows,

$$CAR_{t_1,t_n} = \sum_{t_1}^{t_n} AAR_t \quad (6)$$

Then, the t-statistics of CAR_{t_1,t_n} was estimated by

$$t_{CAR_{t_1,t_2}} = \frac{CAR_{t_1,t_2}}{\frac{\hat{\sigma}(CAR_{t-250,t-31})}{\sqrt{N}}} \quad (7)$$

4. Empirical Results

4.1. Market Reaction for Samsung Pay Release in Total Companies

In Figure 1, the AARs of market model move a similar way over the event period. The AARs of market model fell from three day before the event date.

Table 2 presents the results of AARs and CARs estimated by the market model. AAR is significantly negative (-1.54%) at the 5% level. This suggests that, in the case of the Korean stock market, Samsung Pay's release contributes to decreasing firm value on the event date.

Interestingly, from D-3 to the event day, AARs in entire sample is negative. These results show the negative market reaction of investors.

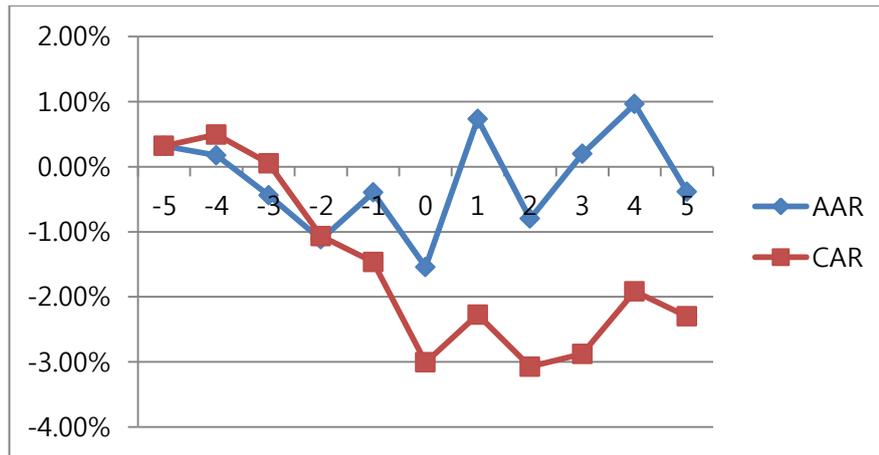


Figure 1. AARs and CARs for Samsung Pay's Release in Total Companies

Table 2. Samsung Pay's Strategic Alliances AARs in Total Companies

Day	AAR	t-value	CAR	t-value
-5	0.32%	0.45	0.32%	0.45
-4	0.18%	0.25	0.49%	0.17
-3	-0.44%	-0.62	0.05%	-0.36
-2	-1.12%	-1.58	-1.07%	-0.79
-1	-0.40%	-0.56	-1.46%	-0.25
0	-1.54%	-2.18**	-3.01%	-0.89
1	0.73%	1.03	-2.27%	0.39
2	-0.80%	-1.13	-3.07%	-0.40
3	0.20%	0.28	-2.88%	0.09
4	0.96%	1.36	-1.92%	0.43
5	-0.38%	-0.54	-2.30%	-0.16

* denote significance at 10% level. ** denote significance at 5% level.

4.2. Market Reaction for Samsung Pay Release in Device Vendors

In Figure 2, the AARs of market model move in a somewhat similar way from -5 to +5. The AAR fell sharply at the event date.

Table 3 presents the results of AARs and CARs estimated by the market model. AAR is significantly negative (-3.47%) at the 5% level. This suggests that, in the case of the Korean stock market, Samsung Pay's release contributes to decreasing the firm value of device vendors on the event date.

This result is due to technology alliance (vertical integration). As it is high in relation with the similarity of business, dominant partner (Samsung) impacts on de-dominant (device vendors) partner. Because Samsung has negative effect on the firm value on release day, both Samsung and its device vendors have a negative effect on the firm value.

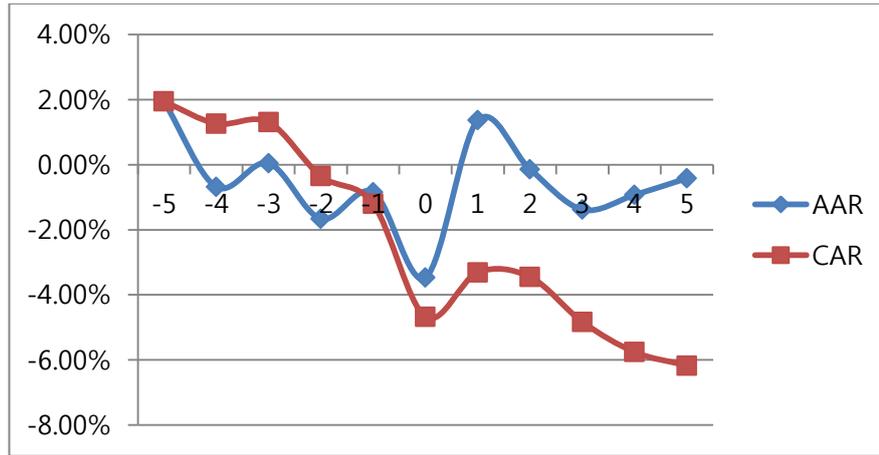


Figure 2. AAR and CAR for Samsung Pay's release in Device Vendors

Table 3. AARs for Samsung Pay's Release in Device Vendors

Day	AAR	t-value	CAR	t-value
-5	1.94%	1.31	1.94%	1.31
-4	-0.68%	-0.46	1.26%	0.60
-3	0.05%	0.03	1.31%	0.51
-2	-1.66%	-1.12	-0.35%	-0.12
-1	-0.85%	-0.58	-1.21%	-0.36
0	-3.47%	-2.35**	-4.67%	-1.29
1	1.36%	0.92	-3.31%	-0.85
2	-0.14%	-0.10	-3.45%	-0.83
3	-1.38%	-0.93	-4.83%	-1.09
4	-0.93%	-0.63	-5.76%	-1.23
5	-0.42%	-0.28	-6.18%	-1.26

* denote significance at 10% level. ** denote significance at 5% level.

4.3. Market Reaction for Samsung Pay Release in Software Vendors

In Figure 3, the AARs of market model move in a similar way over the event period from -5 to +5. The AARs of market model rise one day the event date.

Table 4 presents the device vendors results of AARs and CARs estimated by market model. Market model indicates significantly negative AARs (2.07%) at the 5% level, at the Samsung Pay's release date. This result suggests that, in the case of the Korean stock market, Samsung Pay's release contribute to increasing the firm value of software vendors on the event date.

Such a result attributes to two factors. One factor is that as Samsung has allied with software vendors at free fee, it can be seen no risk in terms of. Namely, it can be seen that software vendors could obtain constant substitutes against Apple Pay or other services. Another factor is marketing alliance (horizontal relationship). As it is low in relation with the similarity of business, dominant partner (Samsung) has no impact on de-dominant

(software vendors) partner [25]. In fact, software vendors have the positive effect on the firm value at the release day.

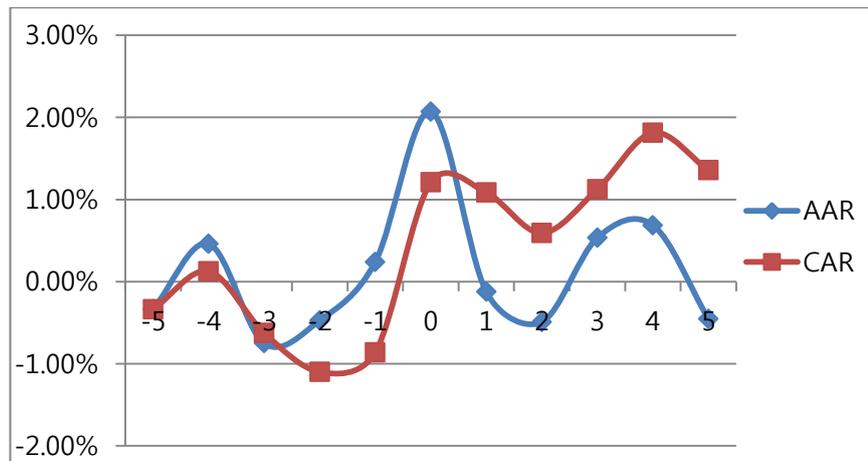


Figure 3. AAR and CAR for Samsung Pay's Release in Software Vendors

Table 4. AARs for Samsung Pay's Release in Software Vendors

Day	AAR	t-value	CAR	t-value
-5	-0.34%	-0.41	-0.34%	-0.41
-4	0.46%	0.56	0.12%	0.11
-3	-0.75%	-0.92	-0.63%	-0.44
-2	-0.47%	-0.58	-1.10%	-0.67
-1	0.24%	0.29	-0.86%	-0.47
0	2.07%	2.53**	1.21%	0.60
1	-0.12%	-0.15	1.08%	0.50
2	-0.49%	-0.60	0.59%	0.26
3	0.53%	0.65	1.13%	0.46
4	0.69%	0.84	1.81%	0.70
5	-0.45%	-0.56	1.36%	0.50

* Denote Significance at 10% level. ** Denote Significance at 5% level.

4. Conclusions

In the field of mobile payment services, Game-changer (Apple Pay) and Fast-follower (Samsung Pay) are competing with each other. Compared to Apple Pay, Samsung Pay, an innovative new service, has better advantage of utilizing existing credit cards.

When Samsung has launched Samsung Pay, there are contradictory results among device and software vendors. On the one hand, device vendors had the negative effect on the abnormal return like Samsung. This is because of vertical integration. The vertical integration is related to the similarity of business. Visa versa, software vendors have a positive effect regardless of the fact that Samsung recorded adversely on the abnormal return. This outcome is caused by the horizontal relationship which means that there is no relation between the dominant partners and de-dominant partner. Also, software vendors

could have had more opportunity to ally with partners not only Apple Pay but also Samsung Pay in viewpoint of strategic alliance.

At present, Samsung released Samsung Pay in U.S.A. and Korea and also has been in progress to enter into other market such as China and Europe. In case of China, it has allied with a mobile payment provider, Union Pay. For that reason, Samsung eventually achieves to control the mobile platform market in the long-term. Namely, it could be expected to generate a huge amount of profit with issuing coupons and gift cards through the Samsung Pay by concentrating on the advertising market in the mobile platform.

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