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THE ECONOMIC VALUE OF BACK-SOURCING: AN EVENT STUDY

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Abstract

Back-sourcing is the practice of bringing a once outsourced process back to the originating firm. Prior research have established that the opposite of back-sourcing, outsourcing, has generated positive market reactions. This study uses event study methodology to examine market reactions to back-sourcing. The results strongly support the idea that back-sourcing is a good strategic decision.

Keywords:

Back-sourcing, event study

1. Introduction

A thorough business strategy is critical to the competitive success of any firm. For many businesses, that strategy involves using outside sources to process business tasks, a process referred to as outsourcing. However, in recent years businesses have been motivated to bring tasks back from outside sources by changing business situations, government regulations, contractual issues or quality of service (Bhagwatwar, Hackney, Desouza, 2011). Back-sourcing opportunities have generated significant attention in media recently. A back-sourced activity is an activity that originated from an outsourced arrangement. To this end, the outside business activity contracted either expires or terminates.

Prior research on back-sourcing implementation has focused on identifying factors that lead to its success or failure (Overby, 2005; Benaroch, Dai, Kauffman, 2010; Bhagwatwar, et al., 2011), task and structure (McLaughlin and Peppard, 2006), and expectation (Hirschheim and Lacity, 1998). This paper adds to published research insight on the value of back-sourcing by providing financial metrics indicating a stock change due to a decision to back-source.

Other research have examined the value of outsourcing (Power, Sharafali, Bhakoo, 2007; Downing, 2003, Hayes, Hunton, Reck, 2000). To our knowledge, there has been no research on the value of back-sourcing. Our research objective is to measure the stock market's response to a firm's decision to back-source.

In this study, we define back-sourcing as the process of returning business operations back to the home business after it has been outsourced to one or more companies (Ejodame and Oshri, 2017; Kern and Willcocks, 2001; Bhagwatwar et al., 2011; Falaleeva, 2003; Veltri, Saunders, and Kavan, 2008). Prior literature indicates that back-sourcing will generate an increase in market value as well as improve the economy for the surrounding businesses.

The remainder of the paper is as follows. The next section discusses the existing literature and introduces the theories. We based the hypothesis provided, in section 3 on the objective of the research. Section 4 and 5 describes the data and research methods. Next are the results of the event study and a discussion of the economic value to businesses that back-sourcing provides. The final section concludes with the study's limitations, synopsis of the findings and suggestions for future research.

2. Literature Review

In information systems (IS) literature, back-sourcing refers to the bringing back of an IT outsourced activity in-house from a third party (Hirschheim & Lacity, 1998). Prior literature shows little attention paid to back-sourcing. A topic Whitten and Leidner (2006) posed was becoming a popular practice (Kotlarsky and Bogner, 2012). Farr (2016), labeled back-sourcing as a new phenomenon that is gaining momentum among firms (Nujen, Halse, and Solli-Sæther 2015)

To create value, firms often announce tactical changes (Hunton, Reck, and Hayes, 1999). One such change is back-sourcing. Early research on back-sourcing focused on a business' reason for back-sourcing (Hirschheim and Lacity, 1998; Akoka and Comyn-Wattiau 2006; Benrochi, Dai and Kauffman, 2010, Lacity and Willcocks, 1999). Hirschheim and Lacity (1998) found that back-sourcing often evolved when an outsourcing agreement did not meet the business expectation. One study suggested that outsourcing often failed due to poor transitioning planning (Overby, 2005). The failed outsourcing attempt creates an expectation gap that leads to the business rethinking their outsourcing arrangement and ending in many instances with the tasks brought back in-house.

Whitten and Leidner (2006) investigated switching costs in a sourcing arrangement. The authors further investigate how the switching costs leads to the decision to continue outsourcing or to back-source. The base of the investigation was on the contrasts of the perceptions of the firms that outsourced and changed vendors for 160 IT managers involved in application development. Along the same line, Whitten, Chakrabarty and Wakefield (2010) examined the factors that led a business to make the strategic choice to continue outsourcing, switch vendors or back-source. They extended the findings of Whitten and Leidner (2006) study and concluded once again that high switching costs made a difference in whether the firm continued their outsourcing agreement or decided to back-source. Related, Whitten et al., (2010) examine the needs that derive from a financial strategy to minimize costs in an outsourcing or back-sourcing decision.

Windmark and Andersson (2016) investigated cost methodologies that assisted with production location issues. When the authors compared the motives between offshoring and back-sourcing, they determined that production costs were an essential factor when deciding to back-source. Similarly, prior research have identified factors that lead to the decision to back-source success. Akoka and Comyn-Wattiau (2006) developed a framework and provided five reasons a firm might back-source; No efficient growth, no benefit to IT workers, no competitive advantage, lack of attention from the vendor, business change, and last risk or loss of control over key business transaction were issues brought forward.

The back-sourcing decision also carries heavy penalties reabsorbing and rebuilding fees (Buxbaum, 2002) that may result in decreased revenue. Still many businesses choose to endure the cost and bring the once outsourced IT function in-house. Overby (2005) and Overby (2005) provided examples of companies that incurred high expenses when they decided to back-source. In specific, Overby (2005) discussed matters related to the costly fees incurred by Farmer Group, based on the decision to terminate their contract with Integrated Systems Solutions. Similarly, Overby (2005) discussed the issues of JP Morgan faced with back-sourcing issues, and discovered that back-sourcing can be just as costly as outsourcing.

Most studies discuss large companies and the issues related to sourcing. Moe, Šmite, Hanssen, & Barney, (2014) observed small and medium sized Scandinavian companies that experienced a failed outsourcing attempt. The authors found that poor software quality was the reason for the failed outsourcing attempt. Prior to ending the outsourcing decision, tactics such as discussions, training, and renegotiations were attempted. Despite the attempts, one of the companies terminated their outsourcing agreement bringing the software development back in-house, back-sourcing.

Individual firms may experience different results with back-sourcing of concern is how to measure these impacts. It is our belief that a financial analysis will lead to a more informed decision. In the next section, we will discuss the theory used to conduct the financial analysis.

3. Theoretical Development

The decision to back-source has a significant influence on a firm's ability to balance competing needs, utilize its best talent and prevent leakage of a firm's business practices. For these reasons, the decision to back-source should have a favorable impact on market returns. The literature review explains that the most popular back-sourcing rationale given involves costs to the firm. For this reason, we are using Efficient Market Hypotheses to explain back-sourcing. In the next section, we discuss efficient market hypotheses.

4. Efficient Market Hypotheses

The underlying theory of the event study analysis is efficient market hypotheses. Introduced by Fama, Fisher, Jensen, and Roll (1969), efficient market hypotheses (EMH) used mostly in the finance discipline, but has recently become popular in information systems literature. EMH suggests that new information pertaining to a corporation's success or failure will have an immediate and predictable effect on the market.

In accordance with the two theories, transaction theory and efficient market hypothesis, we suggest that new announcements indicating intention to back-source will yield a positive market reaction.

5. Hypotheses

Efficient market hypotheses suggests that a stock's current price reflects public information. Therefore, we suggest that a positive event will generate an increase in market value. Prior studies, show stock markets reacted favorably to e-business outsourcing (Agrawal, Kishore, and Rao, 2006) and business outsourcing (Farag and Krishnan, 2003; Oh and Gallivan, 2004). Back-sourcing is understood to be caused by outsourcing decisions that led to excessive costs, contract issues, loss of control, information systems role changes, administrative changes or lack of know how. For these reasons, many companies changed business strategies from outsourcing to back-sourcing (Veltri et al., 2008; Solli-Sæther, and Gottschalk, 2015). Other event studies that examined the financial effects of positive announcements observed celebrity endorsements (Agrawal, and Kamakura, 1995; Agnihotri, and Bhattacharya, 2016), IT investments (Im, Dow and Grover, 2001) and the impact of e-commerce (Subramani, and Walden, 2001).

A decision to back-source reflects on a firm's strategic choice to bring an outsourced task in-house. The decision to back-source brings a business function back, allowing the firm to take advantage of business opportunities. Prior literature defended outsourcing announcements ability to produce a negative market value. Here, we argue, that we will see a back-sourcing decision as a more efficient resolution, hence yielding a positive market value.

This leads to the following hypothesis:

H_1 : Firms that announce back-sourcing events experience a positive increase in abnormal changes in their market value.

6. Data

Despite the attention in the press on back-sourcing there were a limited number of back-sourcing event announcements. We performed a comprehensive search of newspapers, newswires, and periodicals in

Lexis-Nexis, an online database that stores news articles. In order to maintain consistency when identifying the announcements we searched for the terms, “back-sourcing,” and “sourcing,” “return the business practices” and “reverse outsourcing”, all of which can be construed as back-sourcing. We were careful to read each announcement to assure its relation to back-sourcing. We also only used announcements that were in publications, such as national newspapers. Other studies have used this type of search method in prior event studies (e.g. Andoh-Baidoo, Amoako-Gyampah & Osei-Bryson, 2010).

In order to be included the announcements had to be for publicly traded companies located on a United States stock exchange and the article must have stated a date when the back-sourcing event was scheduled to occur. We were able to locate 35 back-sourcing announcements; however, two failed to provide an event date.

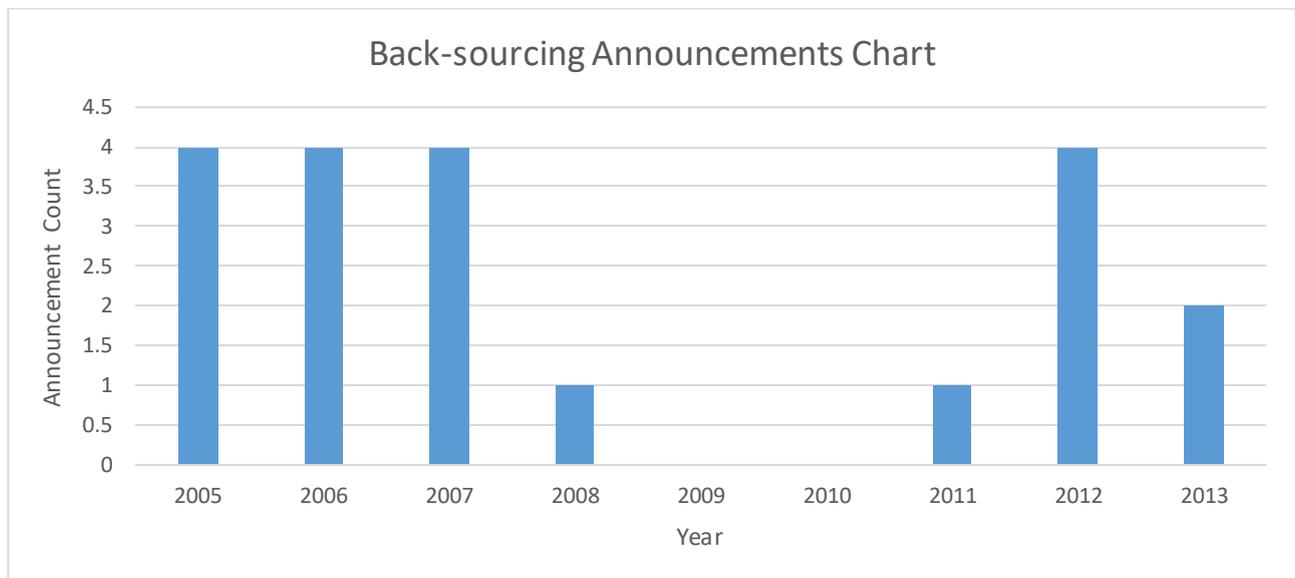


Figure 1 Announcement Counts Annually

7. Event Study Methodology

The event study methodology has been widely used in accounting, economics and finance. Recently, there has been a growing number of event studies in information systems with topics such as outsourcing (Smith, Mitra and Narasimhan, 1998), security breaches (Campbell, Gordon, Loeb and Zhou, 2003; Andoh-Baidoo, Amoako-Gyampah and Osei-Bryson, 2010); Cardenas, Coronado, Donald, Parra, and Mahmood, 2012) and ERP adoption (Ranganathan, & Brown, 2006) to name a few.

Prior literature shows the use of event studies to measure the economic effect that an unanticipated event has on the expected profitability of a firm. The event study methodology is measuring the amount of change in the price of a security once the media announces the event against its price prior to the announcement. Borrowed from finance, the event study is widely accepted and has been widely used in a variety of disciplines, including accounting, law, and business and information systems. The assumption is that the financial markets will react to the news that affects the value of the firm making the change in stock price evidence of the significance of an event.

In the past, the event study methodology has been used to measure impact in information systems literature, in particular, outsourcing. Agrawal et al., (2006) observed e-business outsourcing, Smith, Mitra, and Narasimhan, (1998) measured the impact of information systems outsourcing

announcements and Farag and Krishnan (2003) measured the impact of IT outsourcing investment. In the same fashion, we will observe back-sourcing announcements to measure the economic impact.

8.1 Model Estimation

Prior literature shows the market model used to calculate the abnormal return. Liargovas and Repousis (2011) states that the market model is the most widely used methodology for event studies.

The results presented is of an event study that examined the stock market’s reaction to publicly announced back-sourcing decisions. The following equations is to calculate the normal returns.

$$R_{it} = \alpha_i + \beta_i R_{mt} + \epsilon_{it}$$

Where

R_{it} : The actual return from the i th firm for the t time period.

α_i : The intercept term for the i th firm.

β_i : The systematic risk of the i th firm.

R_{mt} : The actual market return from the t time period.

ϵ_{it} : The error term.

The normal returns assists with calculating the abnormal returns. Abnormal returns reflects the price reaction to the event during the event period. We used the following equation to calculate the abnormal return:

$$AR_{it} = R_{it} - R_{nit}$$

AR_{it} : Abnormal return of the i th firm for the t time period.

R_{it} : The actual return from the i th firm for the t time period..

R_{nit} : The normal return from the i th firm for the t time period..

For each event, we summed the abnormal returns generating the cumulative abnormal return.

$$CAR_i = \sum_{t=-1}^{t=1} AR_{it}$$

Where

CAR_i : Cummulative Abnormal Return of i th firm for the t time period.

AR_{it} : Abnormal return of the i th firm for the t time period.

Event window

The event window was



Figure 3: Event Window

8. Discussion

The mean abnormal return was -0.007 on day 0, which is not statistically significant. Also neither the median nor the percent of positive abnormal returns were statistically significant, indicating that the

back-sourcing announcement had little or no positive effect on day 0. On day one (1), despite the mean being -0.03 (which was not statistically significant), the percentage positive was 61% demonstrating that a firm making a Back-sourcing announcement has a 40% or less chance of yielding positive results. Information arriving late on day 0, explains the effect on day one. The table below shows the abnormal return results.

	Abnormal Returns		
Day	Mean	Median	% Positive
-1	0.025921414	-0.002061413	46%
0	-0.007286735	-0.001923102	32%
+1	-0.030064247	0.003252262	61%

Table 1: Mean and Median of Abnormal Returns

Table 2 summarizes the abnormal return over the event window CAR (-1, 0, +1). The highest negative value occurs on the day before (-1) with the values increasing from Day 0 to Day +1. These results suggest that back-sourcing has a small positive impact on a firm's stock value.

	Event Window		
	Day -1	Day 0	Day +1
CAR	-0.030064247	-0.007286735	0.025921414

Table 2: CAR Values

9. Limitations

The impact should be positive, if back-sourcing is a positive strategy. This warrants more attention. A future study should examine how announcements affect the firm's abnormal returns over a period.

Many companies have back-sourced; however, there is a lack of announcements with dates in the media. This makes identifying the events difficult. There were also multiple articles discussing firm's intention to back-source, but lacked a date to accurately assess the financial effects of the event. With the aid of additional firm information, a look at how back-sourcing affects particular industry types would be instrumental as well. Other factors such as size could also provide further insight.

A future study will reflect over the longitudinal effects of the back-sourcing announcements, in order to determine if time trends will show a different market reaction. In addition, we plan to examine the internal financial effects of back-sourcing. This will allow further investigations on back-sourcing's financial impact on the intending firm.

10. Conclusions

To our knowledge, this is the first analysis of the impact of back-sourcing on a firm's market value. This study contributes empirical results to back-sourcing's ability to affect market reactions. Our analysis consists of data collected from 2005 to 2016. Our results demonstrate that the market reacted positively to the back-sourcing announcements. The results reflect an increase in abnormal returns on the event day and positive abnormal returns on the day after. Our most important finding is that the stock market reacts positively to the decision to back-source.

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