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ISSN 2959-6130

# Analysis of Factors Influencing the Effectiveness of Outsourcing

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**Abstract:**

Outsourcing has become an effective way to reduce costs and improve innovation capability. However, failed attempts still exist and have led to unfavorable results. The root of failure lies in wrongful decision-making. To maximize the value of outsourcing and mitigate its negative impacts, companies should scrutinize their specific condition and adopt a suitable strategy tailored to their needs. This article collects and summarizes previous research on outsourcing, presenting several prominent factors that affect the adoption and effectiveness of outsourcing. Both external and internal determinants are taken into consideration. This article reveals that: Changes in the macroeconomic environment affect outsourcing adoption. Financial constraints and decentralization stimulate outsourcing under certain conditions. Firm size has interrelationships with economies of scale, financial constraints, and corporate structure. Outsourcing has opposite effects on profitability in companies of different sizes. Furthermore, the article discusses appropriate outsourcing strategies under different circumstances based on previous studies. The comparative strength between manufacturers and suppliers determines the types of services to outsource.

**Keywords:** Outsourcing; financial constraint; decentralization; firm size.

## 1. Introduction

As the competition between enterprises becomes more severe, better financial performance and stronger innovation capability have become core competitiveness. To seek lower costs and better financial outcomes, an increasing number of companies began to use outsourcing as a successful recipe. Outsourcing is the process of delegating non-core activities to external suppliers, who have the competency to handle them effectively. Since it can switch fixed cost into variable cost to raise financial flexibility, companies secure sufficient investment in Research and Development (R&D) and ultimately boost innovation capability [1]. Moreover, outsourcing enhances companies' ability to adapt to economic fluctuations and uncertainty. Outsourcing plays a key role in diverse industries. For instance, in the environmental sector, outsourcing provokes the green innovation capability of companies, thus improving the quality of green products [2]. In the electronics industry, software development is a continuous mission for software businesses to cater to the diverse needs of other enterprises. However, the cost of internal development will be extremely expensive, so many businesses choose to outsource this function to professional and specialized suppliers [3].

However, outsourcing is not a one-size-fits-all approach under all circumstances. Some companies encountered failure in an outsourcing attempt, leading to dilution of control, low product quality, and even legal actions. So whether to introduce outsourcing into the company, the extent and intensity of outsourcing, and activities that should be outsourced to external suppliers, become extremely important when making outsourcing decisions.

A majority of previous research has focused on the positive and negative impacts of outsourcing in different scenarios. Some also created mathematical models to analyse optimal outsourcing strategy, including how to maintain a good relationship with external suppliers or how to reduce information asymmetry. There are also case studies that evaluate the significance of outsourcing and provide useful approaches to conducting outsourcing. However, few studies have given a systematic review of the factors that affect outsourcing. To pursue an optimal outcome, companies should first understand what may change the result of outsourcing. Once they have grabbed the key elements of outsourcing, companies will gain a deeper insight into their outsourcing activities and evaluate whether their arrangement is effective and efficient. Furthermore, they can generate unique and tailored outsourcing plans that align with the goal of the entire company.

Based on previous research, this article collects several qualitative indicators to assist companies in the decision-making process. Firstly, companies are shaped by external surroundings, especially macroeconomic conditions. This proves to be true for the outsourcing decision as well [4]. Secondly, financial constraint affects the likelihood of outsourcing and is thus related to the market valuation of the company [5]. Thirdly, the level of decentralization has an impact on the cost of outsourcing, indirectly influencing outsourcing decision-making [6]. Fourthly, this article casts light on the relation between outsourcing and firm size. Firm size not only has an interrelationship with factors mentioned above, but also has its unique impact on the outsourcing intensity. Lastly, appropriate strategies are given to help companies adapt to different circumstances.

The last portion of this passage provides a thorough appraisal and offers suggestions for future research. This article brings new insight into outsourcing decision-making. Instead of simply revealing the positive or negative impacts of outsourcing, it offers scientific measures to help companies accurately make outsourcing decisions and maximize its advantages to help them improve their financial performance.

## 2. Factors Related to the Adoption of Outsourcing

### 2.1 External Factor

The macroeconomic environment can encourage companies to adopt outsourcing. The macroeconomic environment refers to the broader conditions of an economy as opposed to specific markets. It is related to GDP, fiscal policy, monetary policy, inflation, and the unemployment rate. According to the Political-Economic-Social-Technological (PEST) analysis, macroeconomic condition is a crucial economic factor that influences business decisions towards investing, financing, and dividend paying. Lambrecht, Pawlina, and Teixeira calculated the value of both mature firms and young firms under uncertain demand to determine an optimal investment in irreversible capital [4]. Irreversible capital is the investment that cannot be recovered when the project is abandoned or fails. A higher portion of irreversible capital indicates a higher risk of loss, so it may lead to outsourcing as it reduces fixed costs that are connected with a specific project. Uncertain demand reflects the fluctuation of the economy, with higher demand representing good economic conditions and lower demand representing bad conditions. With these premises, researchers have found that outsourcing activity displays a U-shaped pattern as a dependent variable of the economy [4]. When faced with economic recession, companies suffer from a decline in sales, but the fixed cost of equipment, factories, and other non-current assets still exists [4]. So the optimal way for survival is to reduce costs. By outsourcing non-core activities to external suppliers, companies will save a huge amount of funds as they change fixed costs into variable ones. While in economic booms, the demand for products significantly increases, so companies have to expand their scale [4]. Since it's hard to purchase more equipment, land, and factories immediately, companies tend to use outsourcing as a flexible and available solution. To sum up, faced with a constantly changing environment, companies can switch their outsourcing decisions flexibly to adapt to changes, grabbing opportunities in economic booms and maintaining normal operation in recession times.

### 2.2 Internal Factors

#### 2.2.1 Financial constraints

Financial constraint is a limitation of a company's ability to access desired funds [7]. A representative indicator of it is the availability of finance capital, including internal finance and external finance. Choi, Ju, Trigeorgis, and

ISSN 2959-6130

Zhang have gained information from Wall Street Journal (WSJ) articles in the Factiva database, with a time expansion from January 1, 1995, to December 31, 2016. After filtering out 74 incomplete observations, they used the remaining 328 samples to test the relationship between outsourcing likelihood and financial constraints. Financial constraints are measured by the Kaplan-Zingales (KZ) index and the Hedonic Price (HP) index, both related to five financial indicators (cash flow, market value, debt, dividends, and cash holdings, all scaled by total assets). A higher value of the KZ and HP index indicates higher financial constraints [5].

Their results demonstrate that companies with financial constraints are more likely to use outsourcing as a cost-saving strategy. Specifically, when the company has lower operational flexibility, the impact of financial constraints on outsourcing will be stronger. Moreover, as outsourcing is a key contributor to financial flexibility, which may raise confidence of investors, there is a positive impact on market valuation as well [5].

Outsourcing can be seen as a way to relieve financing difficulties, especially in economic recessions. More importantly, it contributes to better financial flexibility, which may enhance innovation capability to a huge extent [1].

#### 2.2.2 Decentralization and centralization—corporate structure

Decentralization and centralization are opposite corporate structures, which mainly differ in the distribution of decision-making power. A centralized organization can be defined as one where the authority of decision making is transmitted through the hierarchical structure, meaning that higher levels often have a preemptive right to make decisions while lower levels may only be able to obey the orders. In contrast, a decentralized organization empowers the lower levels to make their own decisions within a reasonable scope [8]. Their detailed differences can be classified into several categories. Firstly, layers of management. Centralized organizations have more layers, so managers of each layer have a wider span of control, consequently showing a tall-narrow shape. In contrast, decentralized organizations have fewer layers, so managers have a narrow span of control, demonstrating a wide-flat shape. Secondly, the scalar chain. In a centralized structure, orders from higher levels are compulsory, and lower levels must give feedback that they have met the demand. But in a decentralized structure, higher managers empower employees to make their own decisions in some cases and do not need to give feedback to upper levels. This led to different communication efficiency and participation of employees, closely related to job satisfaction.

In the context of manufacturing, centralization refers to concentrated control for both manufacturing and remanufacturing, whereas decentralization means independent decision-making and the autonomy to conduct internal dealings. Li Wei, Tian Ruimiao, and Chen Jing investigated an Original Equipment Manufacturer (OEM) with a manufacturing division producing new products and a remanufacturing division producing remanufactured products [6]. The OEM has the autonomy to choose its corporate structure. Their main goal was to detect the impact of organizational structure on the company's outsourcing strategy. They found that when a remanufacturing division can get sufficiently high or low cost savings, a decentralized OEM is more likely to adopt outsourcing than a centralized one. One possible explanation could be: when the remanufacturing division has a very low production cost, they will be more willing to remanufacture used products from the manufacturing division, which motivates the supplier to set a lower wholesale price to encourage production and benefit gain. Consequently, the cost of the manufacturing division will then be lower, encouraging them to develop new products as well. In contrast, when the remanufacturing cost is relatively high, the external supplier will also set a low price to attract the remanufacturing division to buy from it rather than from the manufacturing division. Internal dealing and transfer price setting in a decentralized company can be major regulatory factors in outsourcing decision-making.

This study reveals another critical factor affecting outsourcing through the lens of corporate structure. When given a specific structure, a manufacturing company can measure whether outsourcing will be a helpful way to stimulate production.

### 2.3 Firm Size

The effect of firm size can be sophisticated as it has an interrelationship with other factors mentioned before, and it can influence multiple aspects of outsourcing, including the intensity and types of outsourcing activities.

This part will first discuss the relations between firm size and other factors mentioned above and then analyze the impact it will have on outsourcing activities.

#### 2.3.1 Interrelationship with other factors

The first aspect to be discussed is the economies of scale. It means that when the enterprise has reached a relatively large scale, the fixed cost apportioned to each unit of product will be lower, thus providing the enterprise with a price advantage over its competitors. This often occurs in large companies with a high market share in one specific industry. While for Small and Medium-sized Enterprises (SMEs), their cost cannot be that low since their scale is limited, so outsourcing may become a useful way to switch from fixed cost to variable cost, so that they can set a relatively lower price. This stands true in all circumstances, regardless of macro-economic conditions [4]. So basically, it is reasonable to conclude that SMEs may value outsourcing more than large companies do, especially when the production cost is high.

The second aspect lies in the financial constraints. To begin with, SMEs are not required to disclose their financial reports, reducing the information transparency. What's more, they lack sufficient tangible assets to serve as collateral, which further compounds the difficulty of bond financing. Last but not least, for equity investors, they tend to establish a stricter screening process to reduce agency problems such as hold-up issues [9]. Due to these reasons, SMEs may face difficulties with hard capital rationing. To reduce expenses, they may use outsourcing to avoid too much working capital investment [10].

The last aspect is the corporate structure, decentralization, and centralization. Firm size can also have a significant impact on decentralization. Previous studies have found that decentralization has a positive relationship with firm size, which is especially evident in companies with novice entrepreneur founders [11]. This may be due to the governance requirements of large company directors. With the expansion of the business empire, directors can not oversee all operations; therefore, they must comprehensively delegate authority.

#### 2.3.2 Impact on outsourcing intensity

Outsourcing intensity refers to the relative proportion of outsourcing in all operating activities, which can be measured by the sales-to-assets ratio (ratio of sales revenues to total assets) [12]. Firms that outsource their activities to external suppliers typically have fewer assets, resulting in a higher ratio. Researchers have examined the impact of outsourcing intensity on financial performance for companies of different sizes. The findings revealed that higher outsourcing intensity enhances the financial performance of SMEs, while impairing that of large firms. Therefore, SMEs will rely more on outsourcing than large firms when necessary. However, it is worth noting that large firms can also utilize outsourcing to support their operations, particularly for strategic reasons. Although it may increase governance and transaction costs, require resource sharing, and demand intensive coordination, outsourcing can be a vital route to enhance corporate flexibility and innovation capability [1,12].

## 3. Outsourcing Strategy Decision

Previous sections mainly center on the influencing factors related to outsourcing. This section shifts the focus to practical implications. According to Herzberg's two-factor theory, services can be divided into two types: hygienic and motivational. Hygienic services are those fundamental functions that need to be fulfilled to maintain daily operation, including purchase, sales, maintenance, and marketing. Motivational services are those value-added functions, such as beauty decoration, R&D, and customized design [13]. Based on the different combinations of these two types of services, the outsourcing decision can be classified into four categories: providing two services internally, outsourcing hygienic services, outsourcing motivational services, and outsourcing both of them [13]. Luo Jianqiang et al. investigated appropriate approaches under different circumstances. When a manufacturer has a relative advantage in service provision, motivational services will have a higher value for customers. In this scenario, outsourcing basic hygienic services while retaining motivational services is the optimal choice [13]. When the supplier has a relative advantage over the manufacturer, the latter can adjust the contract coefficient to ensure profits gained by outsourcing hygienic services [13]. Similarly, Jain has demonstrated that the outsourcing decision is based on relative capability joint effects (CJE), which consist of value, rarity, and inimitability [14]. A relatively high CJE for the manufacturer increases the value of its internal activities, thereby reducing the likelihood of outsourcing these core competencies, which are equivalent to motivational services in Luo's research [14]. These two studies both concluded that companies have rational outsourcing strategies in diverse situations, which can be applied by analysing the relative strength between manufacturers and suppliers.

## 4. Conclusion

By integrating previous studies about outsourcing, this passage summarizes several factors that lead to the adoption and effectiveness of outsourcing. The factors can be classified into two major categories: external and internal. In particular, firm size is listed independently from other factors since it is not only a crucial factor affecting outsourcing, but also has underlying relationships with other factors. External factor mainly refers to the macroeconomic conditions. Under economic recessions or booms, companies will be more likely to outsource noncore activities, although the reason for outsourcing may be difficult in different situations. Internal factors focus on financial availability and corporate structure. Companies with financial constraints, especially SMEs, tend to use outsourcing as a cost-saving strategy. This relationship is stronger when the company has low operational flexibility. Regarding the corporate structure, a decentralized company is more likely to adopt outsourcing when the price set by suppliers is extremely favorable or unacceptable. As for firm size, it has a downward relationship with the outsourcing intensity. Extensive outsourcing is beneficial to SMEs' performance but harms the performance of large companies. Furthermore, firm size can affect outsourcing decisions indirectly by influencing other factors. Most importantly, companies can adopt a suitable outsourcing

ISSN 2959-6130

strategy by analysing the relative competitiveness between themselves and the supplier who can provide outsourcing services.

Previous studies examined different factors separately or merely presented the significance of outsourcing on innovation and financial performance. Companies may make decisions arbitrarily without a complete analysis of the preconditions. This may partially explain why there are many failure cases in outsourcing attempts. To eliminate wrongful judgments, this passage summarizes diverse factors and discusses the interrelationships between them, offering a more detailed and thorough review.

However, this article is subject to several restrictions. Firstly, it is limited to the empirically validated determinants, ignoring the underlying fields that may be further explored. Secondly, it does not use empirical research to give quantitative analyses on the combined effects of these variables.

Therefore, future research could explore the following promising angles. A more systematic review can be fulfilled by logically analysing different dimensions, such as the strategic drivers, operating imperatives, resource constraints, and external contingencies. Moreover, empirical research could examine diverse variables at the same time. Each variable should be given a unique weight to represent its comparative influence on outsourcing. Researchers will know the optimal combination of different variables, thus maximizing the significance of outsourcing.

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