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Contents

1. Introduction

There are so many terms such as outsourcing, offshoring, international outsourcing, business process outsourcing (BPO), contracting out that are interchangeably used in the business press and in the media. That makes a concept very blurred and confusing. The term is so widespread that the internet search engine Google gives 126,000,000 results on outsourcing in less than 30 seconds (23rd of July 2012).

Yet what is really outsourcing? In the academic studies outsourcing has been defined in various ways from describing any relationship between a company and an external supplier to a general purchase of intermediate inputs from outside for internal production.

Following three terms are used to describe the different but related aspects:

- Outsourcing
- Offshoring/International Outsourcing/Offshore Outsourcing
- Business Process Outsourcing

Outsourcing is an abbreviation for "outside resource using" and means that activities which were previously carried out in-house are now performed or purchased from outside of a company according to Bengtsson (2008:234). For example, if a company that used to have its internal accounting department applies to an external organization for accounting services. In this case we can talk about outsourcing since now this operation is not conducted internally any more but procured from outside.

Another term which is very often confused with outsourcing is offshoring, international outsourcing or offshore outsourcing. In contrast to a general concept, offshoring is the relocation of internal production to another country, which can take place within the boundaries of a company through Foreign Direct Investment (FDI) or outside its boundaries. The most common example is the production of microchips for HP or DELL computers in Taiwan or China. The chips can be manufactured in a Chinese affiliate of HP and Dell or just by a foreign chip manufacturer.

Business Process Outsourcing (BPO) is defined following by scholars Pfannenstein and Tsai:

"Business process outsourcing (BPO), as this is called, is defined as outsourcing all (or most) of a reengineered process that has a large IT component, such as logistics or customer" (2004:73) or

"BPO, in which the service provider takes responsibility for a whole business process, such as financial management or human resources management" by Mahmoodzadeh *et al.* (2009:846)

The example of BPO can be internal business activities such as human resources, finances or call centers. A call center located in India for instance can serve Tesco customers in the UK.

The subject of outsourcing has been studied by scholars from various perspectives. The most common research was focused on labor market issues due to the rising fear of job losses because of the moving of production operation beyond domestic borders. The firm side of outsourcing, namely: its impact on companies' performance has not paid sufficient attention by researchers. What moves companies to outsource? Are there significant benefits of contracting out? Outsourcing strategy can be a source of comparative advantage, lower costs and achieve efficiency rents. But do these expectations match reality? These are the questions that need to be addressed while taking a closer look at the impact of outsourcing.

In this thesis I want to shed some light on why companies should contract out from a theoretical perspective and then to find the impact of outsourcing strategy on companies' performance in the empirical practice.

This thesis is organized the following: Section 2 discusses what vertical integration is, what are its benefits compared to outsourcing. Section 3 explains why companies should outsource from Transaction Cost Analysis and Resource-Based Views. Section 4 will highlight outsourcing in the manufacturing sector. Section 5 will explain the main methods and approaches for studying the effect of outsourcing in the manufacturing sector at the firm (plant) level. Section 6 will present 2 studies with different methods

and different measurement indicators and discuss their results. The overview of empirical studies and their findings will be discussed further. Section 7 will conclude.

1.2. Research objectives and questions

The objective of this thesis will be as follows:

The actual state of art regarding relationship between outsourcing and a firm's performance will be described. Literature review on the outsourcing will be presented; in particular Transaction Cost Economics and Resource-Based View.

Study of Types of Outsourcing (Material and Services) in manufacturing sector, measurement methods and impact on the productivity. The overall research questions that should be answered through this research will be as follows:

How does outsourcing affect a company's performance? How to estimate its impact on productivity empirically?

1.3. Methodology

The purpose of this paper is to give an overview of existing research on outsourcing and its impact on a company's performance. A systematic review does not apply to statistics or econometrics for synthesizing findings and analyzing data. According to Landry *et al.* (2006:645) the main goal of a systematic review is to identify key scientific contributions to a field or a question and its results are usually descriptively presented and discussed. This will help to limit bias, decrease chance effects, and provide more reliable results.

2. Vertical Integration

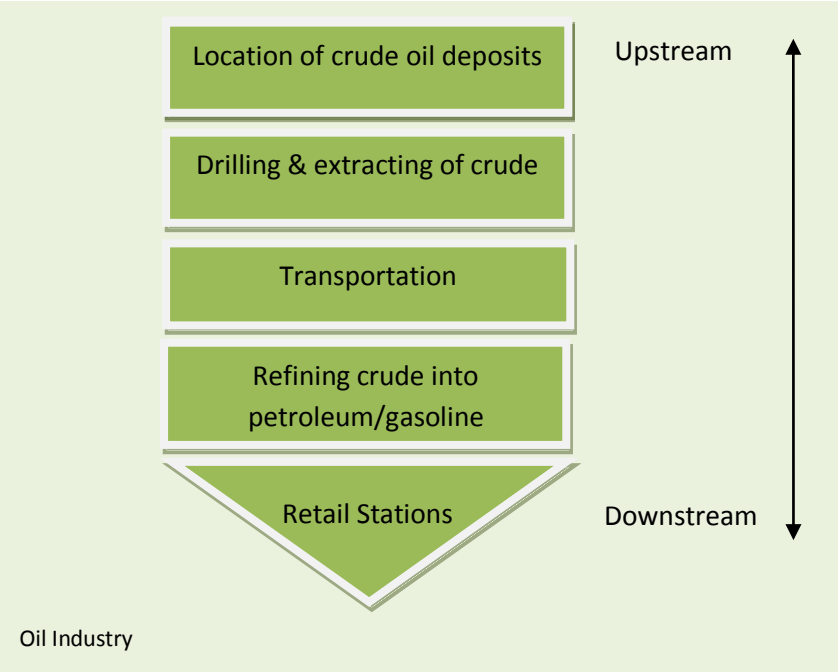
In the last several decades we have witnessed a boom of outsourcing activities, which was a hot subject in many debates. Should a company contract out or should it produce everything itself? Hundreds of activities take place before a final product comes to a consumer, from research to product design, production of components, assembling, packaging, marketing and transportation. A producer may decide whether a product should be made internally or bought from the outside.

The decision to "make or to buy" defines the boundary of a firm's organization. Coase (1937) was the pioneer in arguing that in the presence of transaction costs it is less costly to operate through a formal organization (in-house) than through markets (outsourcing). It means that cooperation and relationship with other companies for a production of any product infer specific costs such as search for suppliers, contract specifications and transactions monitoring. Therefore, it is easier and more profitable to establish a firm and produce within its boundaries. As a result firms do not outsource everything or keep some operations internally because it is too costly for them.

In-house production or within the boundaries of a firm is often defined as a vertical integration. Generally it implies that all stages from manufacturing intermediate inputs for a product to a final retail takes place within one single firm. Stages of the production process which take place earlier e.g. production of raw materials are called upstream. Stages that take place later are referred as downstream.

Vertical integration is typical for oil industry, where multinationals like Exxon Mobil, Shell and BP have a full control from the oil drilling operations to the transportation of crude oil all over the world, to the refining process and distribution through their own retail stores to customers in local communities as it is shown below on the graph.

Figure 2.1. An example of vertical integration in oil industry. Source: author's own adaptation.



2.1. Benefits and disadvantages of vertical integration

Companies have to solve a "make or buy" dilemma, carefully thinking about benefits and disadvantages of keeping some production facilities in-house. Vertical integration enables a company to own both upstream suppliers and downstream buyers and to have a complete control of every aspect of the value chain. This form of organization enables a firm to be fully flexible and independent in investment, production and employment decisions. Vertical integration protects the sustained product quality and builds barriers for competitors to entry the market.

This form helps to capture a greater margin at every stage of the value chain. Producing everything in-house prevents from becoming dependent and relying on third-party suppliers for various materials which may happen in the case of outsourcing. The outcome of vertical integration is a more efficient manufacturing process with shorter production cycles.

Nevertheless a vertically integrated firm may have higher production and extra governance costs since it has to manage and monitor many divisions according to Grossman and Helpman (2002: 85-87). Another disadvantage of vertical integration can be an issue of capacity balancing. For example, a firm has to make sure that the upstream has enough capacity to deliver all the necessary supply to the downstream under all demand conditions.

A vertically integrated company may compromise existing competencies in order to develop new core ones. Being tied to obsolescent technology, it is very reluctant to a rapid technological change in the market.

The benefits and disadvantages of a vertical integration are summarized in the table below.

Figure 2.2

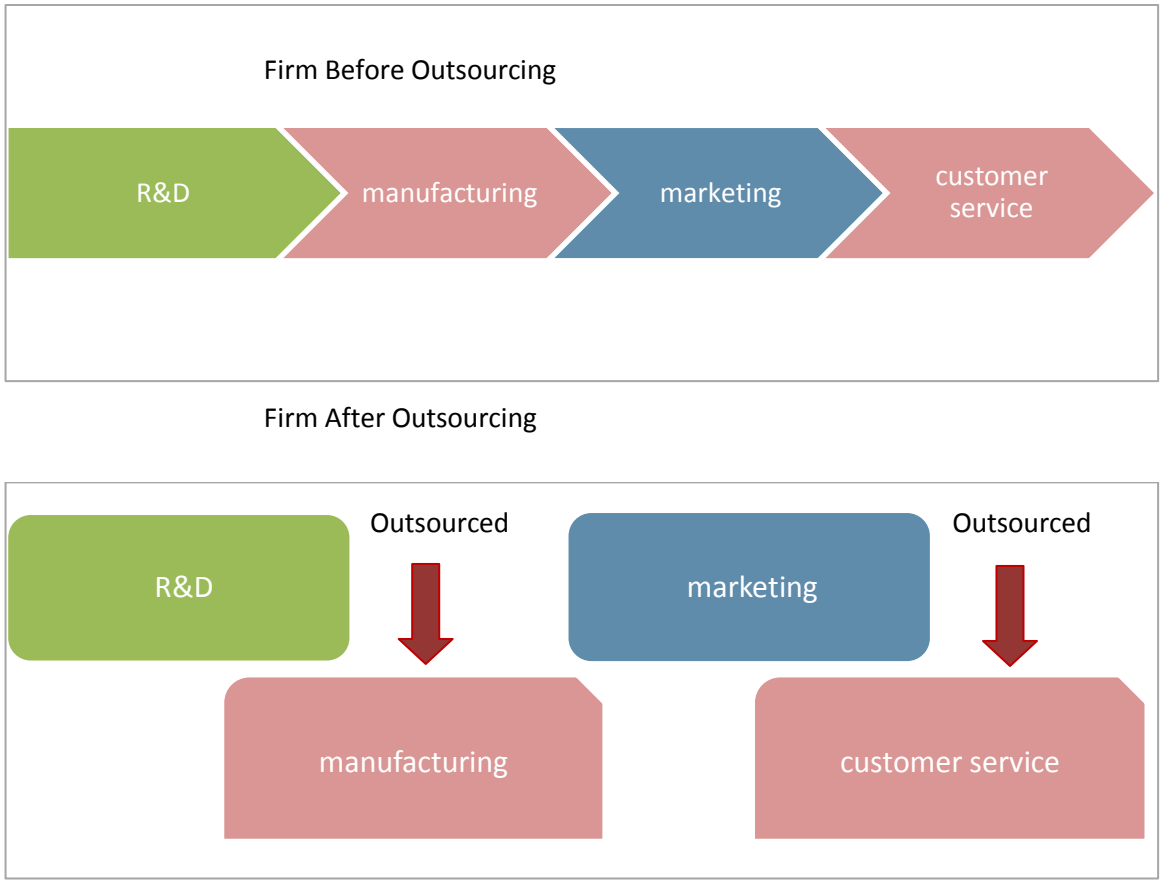
Benefits	**Disadvantages**
Lower transaction costs	Cost disadvantages (higher than in the market)
Ensured Supply of Inputs	Rapid Technological Change
Less Regulation from Government	Demand Unpredictability
Full Control at every stage of value chain	Bureaucratic Costs
Increased monopoly profits	

Source: author's own adaptation.

2.2. Benefits and disadvantages of outsourcing

If in the case of a vertical integration described above, the whole operation takes place within one single firm, a picture looks differently if a company decides to outsource. A graph below shows that all processes from Research and Development (R&D) to customer service were originally conducted within one value chain. On the lower graph one can see that outsourcing of manufacturing and customer services took place and not performed in-house any more.

Figure 2.3



Source: author's own adaptation.

Advantages and disadvantages of outsourcing:

Figure 2.4

Benefits	Disadvantages
Cost Saving	Hold-up Problem
Differentiation	Internal Talent Problem
Increased Flexibility	Risk of Relationship with External Suppliers
Focus on Core Business	Loss of Management Control
Reduced Risks	Hidden Costs

Source: author's own adaptation.

3. Theoretical Approaches

If benefits and disadvantages of both vertical integration and outsourcing are clear, why is it difficult to make a decision? No doubt many perceptible advantages and disadvantages of vertical integration and outsourcing are known, thorough analysis of outsourcing processes is required to decide between outsourcing and vertical integration**.** Two theoretical approaches Transaction Cost Economics (TCE) and Resource-Based View (RBV) explain why a firm should contract out or not. One considers the decision to outsource from a cost perspective, whereas the other from resources.

3.1. Transaction Cost Economics

Transaction Cost Economics is an influential theory which has dominated for more than 30 years over a variety of conceptual perspectives that explain the choices of organizational governance. Williamson assumes that firms are like individuals who act with "bounded rationality". Possible contingencies in transactions between two parties (firm and external supplier) cannot be foreseen. Any economic transaction, Williamson argues further, can be characterized by production costs and transaction costs. A decision which governance mechanism to choose (1985) ("in-house or outsourcing") will be based on factors which produce minimum costs.

The following criteria lead to increase in cost transactions and play a vital role in the decision making process:

- asset specificity
- uncertainty
- transaction frequency

Asset Specificity. According to Murray *et al.* (1995) asset specificity refers to "investments made in specific (non-marketable) resources". Goods and services with high asset specificity are associated with huge costs and cannot be applied in other transactions Arnold (2000:25). Once specific assets are used, a supplier and buyer are tied together into transaction, since the assets are designed only to this transaction and have less or no value outside of it. The lower the asset specificity, the easier it is then to write a complete contract and, the more it is for outsourcing to take place. Low asset specificity means that less information has to be exchanged with an external supplier.

For example, if a company like Apple makes an agreement with a Chinese manufacturer to produce special glass for iPhone. The Chinese company will manufacture the kind of glass which is suitable only for this specific Apple product. If one of them backs out of the relationship, both will suffer. The Chinese manufacturer may demand a higher price, assuming that there is no other supplier on the market. On other hand Apple may refuse to buy the glass at this price, knowing that there is no demand for the product from other companies. Because the relationship between Apple and the Chinese glass manufacturer is asset or investment specific, both would be locked into transaction.

Uncertainty. Uncertainty deals with a degree of volatility and unpredictability in the market with respect to prices, technological changes, and key players and so on. In highly market environmental uncertainty, it is difficult to enter into a contractual relationship and firms would prefer to keep operations in-house.

Transaction Frequency. The frequency of transactions is associated with high costs. If an operation occurs more frequently, companies prefer not to outsource, as it demands more expenditures.

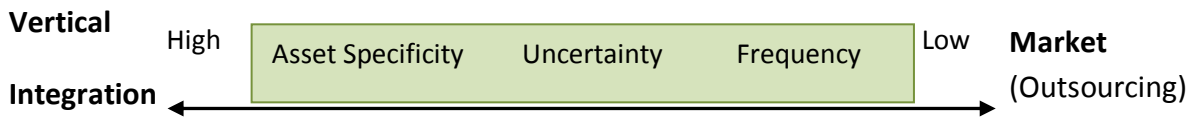


Figure 2.5. Source: author's own adaptation

As can be seen in this image, vertical integration and market are placed at the two ends of the axis marked by two arrows. The three criteria described above determine whether or not a company should maintain vertical integration or opt for outsourcing.

Based on this illustration, a further example may perhaps help understand how a decision is made in practice according to Transaction Cost Economics.

Following example will help to understand the idea of TCE in a better way. A manager has to look at the expected sales of internal operation versus the cost of purchasing the product or service (cost of outsourcing). A company located in Austria is considering about outsourcing of its accounting department to Slovakia. First of all, it should calculate the costs of accounting internally and then compare to the costs of the whole accounting process and its transaction in Slovakia. If the costs are higher in Slovakia, it will keep accounting in-house.

In short, the basic idea behind is that a company should find a governance structure with the lowest costs for each transaction Arnold (2000:29).

Total Cost of Outsourcing:		Total Cost of Internal Production:
TC (buy) = FC (buy) + (VC (buy)) x Q)	>	TC (make) = F (make) + (VC(make)) x Q)

TC…..Total Costs

FC…..Fixed Costs

VC…..Variable Costs

Q……Quantity

Transaction Cost Economics follows the following rule: *As long as the costs of outsourcing higher than costs of internal production, the company will not contract out and keep an operation within its boundaries.*

3.2. Resource-Based View

In contrast to TCE, Resource-Based View (RBV) focuses on a company's resources. A firm is considered as a bundle of capabilities and resources, some being very essential for a company and some less. Essential resources empower a company to gain a comparative advantage over its competitors on the market, enable firms to perform better or produce for lower costs. The decision to outsource or not will be based on the judgment of a set of resources. Barney (1991) argues that companies enjoy sustained abnormal returns, because they have access to strategic resources, which are characterized by the following criteria:

- Rare
- Valuable
- Imperfectly imitable
- Non- substitutable

Rare resources. If the resources are rare, it is hard for competitors to obtain them. The use of rare resources can deliver a unique comparative advantage for a company, which will sustain, as they are not available for everyone.

Valuable resources. High returns are associated with valuable resources. If the firm does not extract any value from them, there is no point in having resources.

Inimitable resources. It is hard also to imitate or replicate strategic resources.

Non-substitutable resources. There must be no strategically equivalent valuable resources that are themselves neither rare nor imitable. Comparative advantage cannot be sustained, if one can easily substitute the strategic resources.

A combination of these four main attributes helps firms to protect their competitive edge. As an example, SAP is one of the largest software companies in the world. A manager of SAP is thinking about outsourcing of some internal operations. Based on the logic of RBV, he will make an analysis on all in-house activities and will decide for that operation which is the least important for its comparative advantage, which does not answer to the criteria (rare, valuable, imitable and non-substitutable). What distinguishes SAP from all other similar companies in the same market? It is the core of

its business, which is the development of software solutions for business applications. Less important business operations such as human resources department, accounting, and customer service center could be outsourced to external supplier.

According to Espino-Rodriguez *et al.* (2006:54) the decision to outsource can be expressed through a linear function:

Outsourcing= *f* (gaps in capabilities)

Resources= *f* (comparative edge) ⇨ keep in-house / Otherwise outsource

The rule based on RBV: *If resources (activities, production operations) are the core of the business, then the company should keep them in-house, the rest can be outsourced.*

4. Outsourcing in manufacturing

We see very often at the back of a brand product for example like iPhone or iPad words engraved “Designed by Apple in California. Assembled in China”. It is not a new thing that big companies such as Apple focus primarily on the product design domestically but the whole assembling and production have in other countries.

The trend of outsourcing has started primarily in the end of 1970s in the manufacturing sector. This time period is also defined as the era of the Big Bang according to Hätonen and Eriksson (2009:145). Companies contracted out non–core business operations in order to cut their operational costs. Görg *et al.* claim that international outsourcing grew about 30 percent from 1970 to 1990 (2008:2). As a result of this outburst, most of the empirical studies on outsourcing and its impact on companies’ performance were primarily conducted at the plant level in the manufacturing sector.

4.1. Material and Services outsourcing in Manufacturing Sector

Scholars of empirical research, who have access to plant level data set, define and construct variables for the outsourcing of material and services. Variables for material imply that intermediate tangible inputs such as raw material and components are imported. Variables for services include the value of imported industrial and non-industrial services.

There are various definitions of industrial and non-industrial services. Criscuolo and Leaver define industrial services as repair of construction equipment and computers (2005:4). Others such as Girma and Görg explain industrial services as the processing of inputs which are then sent back to the plant for final assembly or sales, engineering or drafting services, maintenance of production machinery (2004:820).

Non-industrial services are consultancy services (R&D, marketing, accounting), telecommunication and computer services, service of employment agencies. It is assumed that these materials and services have been previously conducted or produced in-house but later were contracted out and procured from external suppliers.

5. Measure of outsourcing and productivity

The main objective of this work is to find out the impact of outsourcing on a company's performance. As it was mentioned earlier in this work, outsourcing was primarily and originally popular in the manufacturing sector.

Suppose a plant produces airplanes, an airplane consists of many components such as engine, center fuselage, wing tips, passenger doors, landing gears and so on. This plant produces all these components and assemblies in-house them itself. Because of a strong competition on the market, it considers reducing its operational costs. One opportunity to do this is to outsource the production of some of its components, which implies importing of already finished parts from external suppliers. For instance, the plant decides to outsource wing tips from Korea at a lower cost. The way the plant's manager can measure outsourcing is by calculating the value or the costs of the import of the wing tips.

One of the most common measures (proxy) for outsourcing is the value of imported intermediate inputs (materials or services). It can be calculated using one of the following methods:

•Either through calculation of the ratio of total value of imports to the total wage bill (the total amount of all wages paid by the plant). To measure the outsourcing the following question would need to be answered: How much would a plant have to pay to its employees for the production of this component, if it were produced internally and not outsourced (Görg *et al.* 2008: 677).

•Or through calculations of the share of imported intermediate inputs over total costs. Formally it can be expressed in the following way suggested by Feenstra and Hanson (1996) from Olson (2006: 11)

$$Outsourcing_i = \sum_j \left(\frac{X_i^j}{Y_i} \right) \left(\frac{M_j}{C_j} \right)$$

X….input purchases of good

Y….total non-energy input

M….import of good

C…consumption of good, where indexes *i* stand for industry, *j* for a product

Once the measure for outsourcing has been defined, we would need to know how it affects a company's performance. A good indicator in this case could be a productivity of a firm. There are three main measures of productivity:

1). (Total Productivity Measure) as the ratio of total sales to total inputs expressed as a value;

2). (Multifactor Productivity Measures) as the ratio of total sales to total costs;

3). (Total Factor Productivity) as the ratio of total value added to total factor inputs.

5.1. Outsourcing and Productivity

Once the values of imported intermediate inputs (materials or services) have been measured, the next step is to assess the productivity. For purpose of consistency and easier explanation, we can return to our example of aircraft manufacturing plant. After outsourcing, the manager would like to know whether or not this outsourced activity was beneficial for the plant. He would have to ask how productive the plant is now when it no longer manufactures the wing tips internally but procures from outside? Is it able to produce more at the same or lower cost?

One way is to measure this is to look at statistic data of the plant and calculate its productivity by the three above mentioned measures and compare these figures before and after outsourcing. Although the data can give some indications, it does not necessarily ensure that outsourcing increases the productivity of a plant, since there could be other factors that could affect it, such as a higher demand during the period in which outsourcing took place. How then could one properly estimate the effect of outsourcing on productivity?

It is important to understand the relationship between outsourcing and productivity in theory. Amiti *et al.* (2009: 206-207) argue that this relationship can be explained through at least three possible channels:

1. A static efficiency gain
2. Restructuring
3. Learning externalities

Before elaborating further on the theory of the relationship between outsourcing and productivity, it is important to outline the three channels:

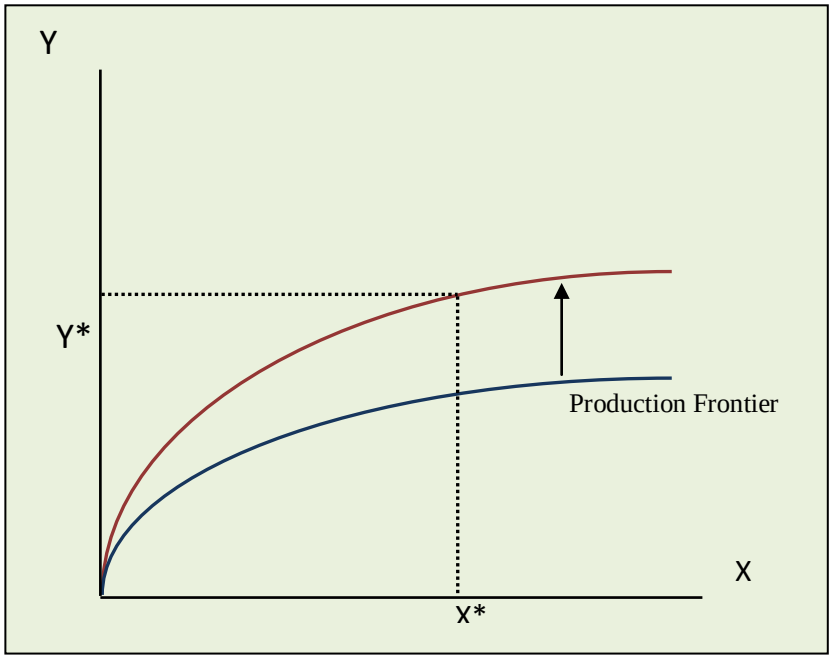
A static efficiency gain: If a company contracts out its less efficient internal production process overseas, where it can be produced at a lower cost, it can benefit from this by concentrating on its core competence production stages. This implies that the average productivity of the remaining workers rises because of the change in the composition of the workforce.

Restructuring: Amiti and Wei assume that "remaining workers may become more efficient if offshoring makes it possible for firms to restructure in a way that pushes out the technology frontier" (2009:206).

Learning externalities: Companies may improve their productivity due to the improvement of knowledge about imported materials or services. For example, a new imported software program can increase the average productivity of workers Amiti and Wei (2009:207).

Figure 5.1 provides a simple graphical illustration of a production function. The shift of production function curve outward is caused by the change in the technology factor A (outsourcing). A higher level of output Y* can be produced by the same amount of input X*.

Figure 5.1



The theory suggests that the impact of outsourcing on a company's productivity should be analyzed through the lenses of the technology factor. To estimate the effect of contracting out, one can apply to an econometric analysis which will be discussed further, since the general plant statistic data does not provide sufficient and reliable information.

5.2. Empirical Approach

As we have seen above, theory predicts that outsourcing activity will likely have the same effect on a company's productivity as if it applies new technology for its production. It is able to produce more and better but at the same or lower cost. Outsourcing will lead to a shift of the production function outward due to compositional changes or improvement of intermediate inputs.

The econometric procedure on the causality between outsourcing and productivity starts from a regression of a standard Cobb Douglas Production Function, which for simplicity is transformed in the log form. Outsourcing variable is captured then by total

factor productivity and integrated in the production function equation. The equation presented below is the starting point for estimation.

$$Y_{it} = A_{it}^{\phi}\left(K_{it}^{\alpha} L_{it}^{\beta} M_{it}^{\gamma} S_{it}^{\lambda}\right)$$

...Cobb-Douglas Production Function

$$a_{it} = a(outs_{it})$$

$$y_{it} = \pi + \delta outs_{it}^{m,s} + \alpha k_{it} + \beta l_{it} + \gamma m_{it} + \lambda s_{it} + \gamma X_{it} + d_t + d_j + \varepsilon_{it}$$

Source: Görg *et al.* (2008: 675)

y…. Firm's output. (*i* stands for plant, *t* stands for time).

k …. Capital

l……Labor

m and *s*… Material and Services

X…. vector of firm characteristics

There are also industry-specific dummy variables *d* in the equation and error term ε stands for unspecified heteroscedasticity and correlation of residuals within plants from Görg *et al.* (2008: 675).

The regression of this equation will show whether there is any positive or negative relationship between contracting out and productivity of a plant. The key variable is the outsourcing variable in the red circle, which is defined as the import value of intermediate inputs and can be considered as a substitute of internal production in-house.

A high level of heterogeneity may cause different outcomes of outsourcing on productivity. Grossman and Helpman (2005) give a reasonable explanation that international outsourcing may be associated with high sunk costs for companies. They argue that companies have to search for appropriate suppliers, write a contract, and assess their quality when engaging in outsourcing activity. Therefore, companies such

as multinationals and exporters, who are better embedded in a global market face lower costs and are more likely to engage into international outsourcing. They will likely gain better productivity outcomes than domestic companies.

The following firm characteristics (*X*) are usually taken into consideration by scholars:

- *Global engagement*
- *Age:* younger firms are more flexible than old ones in choice of a new strategy such as outsourcing. They will more likely to outsource and adopt a new technology Ohnemus (2007:23)
- *Export status*: Ohnemus claims companies with high shares of exports have more pressure of international market compared to domestic companies that are operating only at home. These companies commonly adjust faster to changes in the market environment and the costs of outsourcing are assumed to be less (2007:23).
- *Location/ Ownership status:* a similar argument holds here for multinational companies who are active in many countries. They have a better access to global market and will face most probably less costs.
- *Skill intensity of working force:* companies with more skill intensive labor force will likely outsource less skill intensive operations.
- *External wage work*: the less costs the work of an external provider (outsourcing) the more likely a firm will outsource, since it has to pay less to outsourcing companies for the same work.

5.3. Econometric Analysis

The main interest for us lies in the causality between outsourcing and productivity, which is not an easy task for researchers. A simple regression of the production equation illustrated above gives some idea about the link between the two variables. However, cautious scholars interpret the results and put a special emphasis on the following econometric problems:

- The problem of endogeneity. Endogeneity implies that there can be unobserved variables that are correlated with both outsourcing and the error term. According to Görg *et al.* this can be explained that companies with a high productivity growth rate may also be more skill-intensive and therefore more likely to outsource a low-skill intensive production operation in order to focus on core competencies (2008:680). This can bring to biased and inconsistent estimates of the regression analysis.

- Factor inputs should be considered endogenous in the estimation of the production function. It is argued that a contemporary level of Total Factor Productivity may have an impact on the current choice of variable input factors. Arnold (2005:2) argues that a company will observe at least a part of total factor productivity at a point in time well enough in advance to be able to change the factor input. Schmidt-Ehmcke considers that the inputs levels in the production function are chosen based on the characteristics of the firm (2010:14). Taking into consideration the profit-maximizing behavior of firms, they will increase their output in response to positive productivity shocks; all this will lead to increase in inputs factors. Negative productivity shocks will have the opposite effect. In this case there would be a correlation between inputs and the error term. This situation is called a simultaneity problem.

To make sure that it is exactly outsourcing that increases or decreases a plant's productivity or so to say to gauge the effect of outsourcing, one has to solve endogeneity issues. The most common methods applied are generalized methods of moments (GMM) estimator by Blundell and Bond (1998), Instrumental Variable (IV), Proxy Estimator by Levinsohn and Petrin (2003) and Fixed-effects estimator.

5.3.1. Fixed-Effects Approach

The fixed-effect estimator is used as a common alternative to OLS. If plant dummy variables are included into the regression that is a fixed-effect panel regression, the problem caused by *w* (the part of the error term that is observed by the firm in time to make a decision on input factors) will be cleared and consistent estimates of the parameters will be delivered.

However, Arnold (2005:3) claims that there are significant disadvantages in this technique.

1. A significant part of the information in the data is left unused. A fixed-effect estimator uses only variation across time, which is much lower than one across cross-section. As a result, the coefficients will be hard to identify or identified poorly.

2. The assumption that *w* is constant over time is a very restrictive assumption and may not be sensible, which doubts then the validity of the whole econometric procedure.

5.3.2. The Levinsohn and Petrin Approach (LP)

To solve issue of simultaneity, Levinsohn and Petrin suggested to use intermediate inputs as a proxy for the unobserved productivity shocks and derived conditions under which intermediate inputs could solve the simultaneity problem. In practice it works as follows:

1. One derives the intermediate input's demand function. It is assumed that this demand function is a monotonic function of productivity.

2. With a condition of monotonic function, one inverts the demand function of the intermediate input to reveal the unobservable productivity term as a non-parametric function of the intermediate input and capital. By doing this, according to DeSouza the only observable error term in the estimation equation will be not correlated with the regressors (2006:1).

DeSouza argues that the main idea behind Levihsohn and Petrin approach is to proxy unobserved productivity with an observable variable. One takes intermediate input for such proxy (2006:3).

We start first with our production function equation:

Source: Görg *et al*. (2008: 675)

$$y_{it} = \pi + \delta outs_{it}^{m,s} + \alpha k_{it} + \beta l_{it} + \gamma m_{it} + \lambda s_{it} + \gamma X_{it} + d_t + d_j + \varepsilon_{it}$$

e_{it} ϖ_{it}

The error term can be expressed through two components as:

ϖ_{it} a state variable , which affects the firm's decision rules for inputs it uses.

e_{it} a true error term that may contain both unobserved shocks and measurement errors (noise) according to Arnold (2005:3).

Levihsohn and Petrin assume that the intermediate input's *(m)* (material input) demand function depends on variables *k* (capital) *and w* (state variable):

(1) Source: Levinsohn and Petrin (2004: 115)

$$m_t = m_t(k_t, \omega_t)$$

If this function is strictly monotonic in *w* one can invert it, so *w* can be shown as a function of *k* and *m*:

(2) Source: Levinsohn and Petrin (2004: 115)

$$\omega_t = \omega_t(k_t, m_t)$$

This is the key result that supports the LP framework. As a result, the production function regression contains only observables and an error term e_{it} , which is not correlated with the inputs as it was concluded by DeSouza (2006:3).

5.3.3. Method of Instrumental Variables (IV)

Another way to deal with simultaneity issue is the method of instrumental variable. It is applied when a regressor is correlated with the error term e. The basic idea behind this approach is to find an instrumental variable which is correlated with the endogenous variable and uncorrelated with the error term. In practice it works in the following way:

1. Find exogenous variable (instrument) which is correlated with the endogenous regressor.
2. Make sure that this instrument affects only the dependent variable through endogenous independent variable.

This technique is only good in the presence of good instruments. If the instruments are weak, the estimation can produce worse results than simple OLS according to Shepherd (2008).

5.3.4. Generalized Method of Moments (GMM)

The GMM estimator proposed by Blundell and Bond (1998) is often applied in empirical analysis. The basic idea behind is to select parameter estimates, such that the theoretical model is satisfied as "closely" as possible. The estimates are selected to minimize the weighted distance between the theoretical values and actual values. This method has a strict requirement that the theoretical relations between the parameters meet so called 'orthogonality conditions', which implies that the sample correlations between the explanatory variables and instruments is as close to zero as possible.

All the described techniques are commonly applied by researchers to clarify and test the effect of outsourcing on productivity at the plant-data level, to make sure that the increase or decrease in productivity is accrued to outsourcing only.

Figure 5.2. The table3 summarizes the benefits and disadvantages of each applied techniques:

Steps	Approach	Advantages	Disadvantages
1.	**OLS**	Simple and Easy to Estimate	Biased estimates
2.	**Fixed Effects**	Controls for invariant factor that could affect input	Coefficients are weakly identified
3.	**Levinsohn & Petrin**	Very simple to implement	Variable in the regression is only a proxy for the variable we are interested in
4	**Instrumental Variable (IV)**	Deals with simultaneity issue	IV estimation is only useful if the instruments are good.
5	**GMM**	Better in the presence of heteroscedasticity	

Source: author's own adaptation.

In the next section, we will see the results of the econometric procedures of one study based on the discussed techniques and observe how they change accordingly. The most important in this study is to find out whether there is any causal relationship between outsourcing and a company's performance. The study will demonstrate outsourcing variables (both materials and services) in the relation to a plant's productivity, how they change and what economic information do they provide us with. Through the results laid out in the table below, an attempt will be made to answer the main research question of this thesis: Does outsourcing affect a company's productivity? And if yes, then how: positively or negatively.

6. Revised Article

Name	Productivity effects of international outsourcing: evidence from plant-level data
Authors	H. Görg, A. Hanley, E. Strobl (2008)
Outsourcing Measure	The value of imported intermediate inputs
Country	Ireland
Time Period	(1990-1998)
Data Source	Irish Economy Expenditure Survey
Total Number of Plants	1.099 plants in observation data (plant with at least 20 employees)
Outsourcing	Materials and Services
Result	10% increase in services outsourcing ➡ 0.8-0.9% increase in productivity

Figure 6.1 Source: Görg *et al.* (2008: 675)

TABLE 3
Regression results for various specifications

Dependent variable	(1) *Log output* OLS	(2) *Log output* FE	(3) *Log TFP (FE)* OLS	(4) *Log TFP (LP)* OLS-LP	(5) *Log TFP (LP)* IV-LP	(6) *Log TFP (LP)* GMM-LP
Log capital	0.069	0.024				
	(0.014)*	(0.004)*				
Log labour	0.190	0.265				
	(0.030)*	(0.011)*				
Log services	0.478	0.501				
	(0.020)*	(0.007)*				
Log materials	0.289	0.149				
	(0.020)*	(0.006)*				
Export dummy	0.021	0.039	0.438	0.010	0.008	0.007
	(0.026)	(0.015)*	(0.107)*	(0.015)	(0.015)	(0.015)
Foreign dummy	0.078		0.718	0.019	0.018	0.016
	(0.019)*		(0.072)*	(0.012)	(0.012)	(0.012)
Services outsourcing	−0.051	−0.037	0.253	0.040	0.090	0.076
	(0.016)*	(0.007)*	(0.069)*	(0.009)*	(0.026)*	(0.022)*
Materials outsourcing	0.013	0.008	0.090	0.004	0.002	0.003
	(0.004)*	(0.002)*	(0.013)*	(0.002)*	(0.003)	(0.003)
Observations	5,337	5,337	5,337	5,337	5,337	5,337
R-squared	0.96	0.84	0.34	0.64	0.63	0.64
F-test (s2) p-value					0.00	0.00
F-test (m2) p-value					0.00	0.00
Hansen J p-value					0.31	0.31

NOTES: Robust standard errors are in parentheses. *Significant at 5%. Constant term and full set of time and 2-digit industry dummies are included. TFP in (3) is calculated from fixed effects regressions for each 2-digit industry. TFP in (4) to (6) is calculated using the Levinsohn and Petrin (2003) technique for each 2-digit industry.

6.1. Paper's Results

Observations:

- OLS (1) Column: coefficients for labor, capital, services and materials are positive.
  Materials: 1% increase in the measure of material outsourcing will *increase* log output by 0.013%.
  Services: 1% increase in the measure of services outsourcing will *decrease* log output by 0.051%.

- Fixed- Effects Estimator (2) Column: all coefficients are similar to OLS in terms of sign but slightly smaller.
  Services outsourcing variable still has a negative impact, whereas material outsourcing has a positive effect on output.

- Column (3): Heterogeneity is taken into account and production functions for 2-digit industries are estimated separately Görg *et al.* (2008:681).

  Services: 1% increase in the measure of services outsourcing will *increase* log Total factor productivity by 0.253%.
  Materials: 1% increase in the measure of material outsourcing will *increase* log Total factor productivity by 0.09%.

  Taking heterogeneity aspect in the econometric analysis has changed the sign for services outsourcing, which now has a positive effect on productivity.

  Column (4): Levinsohn and Petrin technique is used to solve the problem of endogeneity of input choices. Energy consumption input is taken as the proxy for the unobserved productivity shock.

  Both material and services outsourcing have a positive effect on output, still significant but slightly lower than in the previous estimations.

Column (5): outsourcing variables are assumed to be here endogenous. Material and services outsourcing variables are used as instruments in period (t-2). F-statistics tests show the validity of these instruments.

1% increase in the measure of services outsourcing will *increase* log Total factor productivity by 0.09%, whereas material outsourcing is not any more significant and does not have any effect on productivity.

Column (6): the results presented by GMM estimator, which is considered to be more efficient in the presence of heteroscedasticity than the IV estimator Görg *et al*. (2008:682).
1% increase in the measure of services outsourcing will *increase* log Total factor productivity by 0.076%. Speaking in terms of point estimates, 10 percentage point increase in the outsourcing of services will raise the productivity of a plant by 0.8%.

A very strict assumption was made in the results of table 3 that the effect of outsourcing is the same across all types of plants. Scholars being aware of this, made a further analysis by adding outsourcing dummy variables by type of nationality of plants (exporters and foreign-owned). The result is:

1% increase in the measure of services outsourcing of an exporting plant will *increase* log Total factor productivity by 0.23%.

The question then as to whether the outsourcing affects a company's performance should be answered positively. Outsourcing does have a positive effect namely on the productivity of a plant.
Overall one has seen that the effect of services outsourcing is statistically significant in all approaches and with (0.090) is the highest for the Instrumental Variable Approach. Although the point estimates vary substantially across different estimators, they point out to a statistically significant and positive impact from the services outsourcing on a plant's productivity. This means that if all factors of production (services, materials,

labor and capital) are kept constant, increasing the share of services outsourcing will result in higher output.

Figure 6.2. The results of the paper discussed are summarized in the table below.

Techniques	**Materials outsourcing**	**Services Outsourcing**	**Ownership Status of plant**
Total Factor Productivity			
OLS	+	-	
FE	+	-	
FE (heterogeneity)	+	+	
LP	+	+	
IV	0	+ **(0.9%)**	
GMM	0	+ **(0.8%)**	Exporting+ **(0.23%)**

Source: author's own adaptation.

6.2. Discussion

Based on the above common econometric approach, one may conclude that outsourcing strategy i.e. the import of intermediate materials and services does really have an impact on a plant's performance. Depending on the estimation techniques used, one can get different results for materials and services outsourcing.

A simple OLS regression shows that only material outsourcing affects productivity positively while services outsourcing has a negative effect. Dealing later with endogeneity and simultaneity issues, scholars find surprising positive significant results for services outsourcing, whereas the material outsources loses its significance.

Being aware of a high heterogeneity among plants, researchers add dummy variables according to status of ownership and find only positive results of services outsourcing on productivity for exporting firms. Therefore, one may conclude that for a manufacturing plant being more open to a global market and having a higher share of exports will lead to higher outputs, if it engages in services outsourcing.

It should be noted that the results of this study relate only to manufacturing companies observed in the survey databank. As a rule the survey captures the data of only big firms. From this one may conclude that the effect of outsourcing spreads for big manufacturing plants. There is no evidence for small and middle size plants.

Based on the results of study by Görg *et al.* (2008) 10% increase in the measure of services outsourcing can range from 0.8-0.9% increase in a plant's productivity.

6.3. Matching Approach (Difference-in-Difference)

The approach described above is the most common in the empirical studies but not the only one. To establish if there is a relationship between outsourcing strategy and productivity, Schmidt-Ehmcke (2010) suggested an alternative solution. The basic idea is to compare the productivity of outsourcing and non-outsourcing firms, to find out if companies that contract out have better productivity outcomes.

This approach consists of two stages:

1. The productivity difference between outsourcing and non-outsourcing firms is estimated at two points of time.
2. The difference in their difference is then obtained.

The main argument is that "this procedure removes those possible biases in the second period comparisons between the outsourcing and non-outsourcing group that could result from permanent differences between those groups and common shocks" Schmidt-Ehmcke (2010:19). This technique provides more accurate evidence on the impact of outsourcing on a company's productivity.

The first stage: is to divide companies in two groups: outsourcing and non-outsourcing; then each outsourcing firm is matched to a firm with similar characteristics but never contracted out. It is matched by propensity score matching, that implies the estimation of a binary choice model (probit or logit) on the probability to outsource.

The following condition is then used to match outsourcing firm with non-outsourcing which is called "nearest neighbor matching".

$$\left|p_i - p_j\right| = \min_{k \in [OUT=0]} \left(p_i - p_j\right)$$

Source: Schmidt-Ehmcke (2010:12)

After the matching procedure, one estimates the production functions for each group separately.

The second stage: one constructs the difference-in-difference estimator, which is then integrated in the regression equation:

$$\hat{\phi} = (\overline{\omega}_1^{out} - \overline{\omega}_0^{out}) - (\overline{\omega}_1^{nout} - \overline{\omega}_0^{nout})$$

Source: Schmidt-Ehmcke (2010:19)

Where $\overline{\omega}_0^{out}$ and $\overline{\omega}_0^{nout}$ implies the average outcome for outsourcing and non-outsourcing companies and figures (0 and 1) means years befor and after outsourcing. (t=0) the time when firm starts contracting out.

$$\omega_i = \beta_0 + \beta_1 out_i + \beta_2 dtime_i + \phi dtime_i * out_i + u_i$$

Source: Schmidt-Ehmcke (2010:,19)

ω_i …productivity level of firm *i*

out… dummy variable

dtime… time variable being one for the period after the outsourcing decision

The regression of this equation will show whether there is a difference between outsourcing and non-outsourcing firms in terms of productivity. The variable in a red circle $dtime_i * out_i$ is the most interesting for us, which is the same as the dummy variable equal to one for those observations in the group of outsourcing companies in the second period.

Below are the general information and the results of the study based on the difference-in-difference approach.

6.4. Revised Article

Name	The Impact of Outsourcing on Total Factor Productivity- Evidence from Matched Firm Level Data
Author	Jens Schmidt-Ehmcke (2010)
Outsourcing Measure	Costs of External Contract Work
Country	Germany
Time Period	(1999-2006)
Data Source	The German Cost Structure Census, the German monthly Report of Manufacturing Plants and General Production Census
Total Number of Plants	80.569 plants in observation data (plant with at least 20 employees)
Outsourcing	External Services
Results	services outsourcing ➡ 27% increase in average productivity

Figure 6.3 Source: Schmidt-Ehmcke (2010:20)

Table 3: Difference-in-Difference

	TFP (level)	TFP (growth)
dtime	-0.002	0.390
	(0.004)	(0.004)*
out	-0.013	0.301
	(0.005)*	(0.005)*
dtime*out	0.274	0.076
	(0.007)*	(0.006)*
constant	2.443	-0.395
	(0.002)*	(0.004)*
R-squared	0.224	0.663

Notes: robust standard errors in parentheses
* significant at the 1% level

6.5. Discussion

Outsourcing of services is the focus in this study and is measured as the costs of external contract work at the plant level in the manufacturing sector. Schmidt-Ehmcke first divided the entire set of data into two groups: outsourcing and non-outsourcing and matched those by "nearest neighbor matching" then estimated the production functions for each separately. Similar to other scholars he dealt with endogeneity and simultaneity issues, applying the fixed-effect approach and, Levinsohn and Petrin techniques.

In the second stage he rescaled the dataset for the time period (before and after outsourcing) to find out the impact of outsourcing strategy on total factor productivity and productivity growth.

This alternative approach (difference-in-difference method) demonstrates clearly that outsourcing has a positive impact on a firm's performance.

The figures in the table above in the red rectangle point out that companies that started to contract out show higher average productivity by 27% than companies which do not engage in outsourcing.

The figure 0.076 in the right second column implies that companies, who started to outsource have a higher percentage productivity growth (by 7%) than those who did not outsource.

Although, the presented above two papers indicate that there exists a causal relationship between outsourcing strategy and a company's productivity. Nevertheless, the results of two empirical studies are not sufficient. It seems not reasonable to claim that outsourcing has only a positive effect on a company's performance. In order to get a better understanding of the significance of outsourcing and its impact, we need to look further at the findings of other researchers.

The table of empirical articles and its results on outsourcing and a company's productivity will be presented and discussed next.

I collected articles on outsourcing and a company's productivity and try to summarize their results and findings in one table, the presented figures are of a complete calculation of various scholars.

The table consists of the following columns: author, country and time period of research, type of outsourcing (M and S stand for material and services outsourcing), measure of outsourcing, approach, effect on productivity and remarks.

The most interesting column is "effect on productivity", where the sign implies the following:

"0"- no effect of outsourcing on productivity

"+"- positive effect of outsourcing on productivity

"-"- negative effect of outsourcing on productivity

If there is a number expressed in %, it means that scholars calculated the specific percentage of increase or decrease from outsourcing on productivity. For example, 5% implies that a company's productivity will rise by 5%, if it increases outsourcing by 1%.

The last column "Remarks" point out to special notes mentioned by researchers.

6.6. Empirical Evidence of Outsourcing and Productivity

Authors	Country	Type of Outsourcing	Measure of Outsourcing	Approach	Effect on Productivity	Remarks
Görg and Hanley (2003)	Ireland (1982-1998)	M+S	Ratio of total imported inputs over total inputs	Instrument Variable	+	Only for International service outsourcing
Girma and Görg (2004)	UK (1980-1992)	S	Value of industrial services to total wage costs	Instrument Variable	+	Depends on branch Positive for foreign ownership only
Görg et Hanley (2005)	Ireland (1983-1998)	M+S	Ratio of total imported inputs over total wage bill	GMM	**1.5 %**	For affiliates of foreign-owned multinational companies
Kasahara (2005)	Chile (1976-1996)	M+S	Ratio of total imported inputs over total inputs	LP	**2.3-22 %**	
Criscuolo (2005)	UK (1987-1992)	S	Import of services	FE	**0.7 %**	For domestically owned non MNEs, non-exporters manufacturing firms
Kurz (2006)	US (1987-1992)	M	Purchase of raw materials	OLS	**0.5-1.5 %**	Higher annual rate of growth
Broedner (2009)	Germany (2002-2003)	M	Total inputs to total turnover	Multivariate regression model	-	The total number of observed plants is less than 500
Bengtsson and Dabhilkar (2008)	Sweden 2004	M	Purchase of Materials to total costs	ANOVA Analysis	**0**	No direct correlation between outsourcing and plant performance

Hijzen (2008)	Japan (1994-2000)	M+S	Purchase of intermediate inputs	GMM	**6%**	+ for multinational firms
Daveri et Lasinio (2008)	Italy (1995-2003)	M	Purchase of intermediate inputs	OLS	+	Material outsourcing has a positive effect
Andersson (2008)	Sweden (1997-2002)	M+S	Import of intermediate inputs to total inputs	FE	**3%**	Both material and service outsourcing increase productivity
McCann (2008)	Ireland (2002-2005)	M+S	Import of intermediate inputs to total inputs	GMM	+	International Material outsourcing + for domestic firms
Görg (2008)	Ireland (1980-1992)	M+S	Ratio of total imported inputs over total wage bill	GMM	**2.5 %**	Services outsourcing positive for exporting firms
Wagner (2009)	Germany (2000-2003)	NA	Import of intermediate inputs to total inputs	Matching approach	+	Self- selection of „ better "firms into offshoring
Jabbour (2010)	France 1999	M+S	Value of total inputs devided by total sales	OLS	+	Location of offshored production shows different results
Schmidt-Ehmcke (2010)	Germany (1995-2006)	S	The cost of services	Matching approach	**27 %**	Service outsourcing leads to a better performance
Farinaz (2011)	Spain (1985-1997)	M+S	Import of intermediate inputs to total inputs	GMM	+	Domestic outsourcing positive effect on productivity

6.7. Observations and Discussion

The first striking feature from the table is the presence of almost overall positive signs of outsourcing on a company's productivity. 1 percent increase in the outsourcing may lead to increase in productivity of a company from 0.5 up to 27 percent depending which measurement technique is applied.

Only two papers did not find any evidence of outsourcing: Broedner (2009) in Germany and Bengtsson and Dabhilkar (2008) in Sweden. Broedner used multivariate regression model for his analysis and his finding is that "the more a company has reduced its vertical scope by means of outsourcing; the lower is its labor productivity" (2009:140). Whereas Bengtsson and Dabhilkar conducted an empirical ANOVA analysis at the plant level in Sweden and found no evidence of outsourcing activity on a plant's performance.

The presented empirical studies covered the time period from 1976 to 2006; most of them were conducted in the developed economies such as UK, Ireland, Germany, Sweden, and Japan.

Various scholars studied material and services outsourcing and its impact on a company's productivity. However, it is clear from the table that there are different results for both types of outsourcing. It seems there is no clear convergence among researchers which type of outsourcing material or services has a more outstanding impact on a company's performance.

The measure of outsourcing is in general calculated as the total purchase of intermediate inputs to total input costs. One may conclude that researchers share the common idea of considering outsourcing as the import of intermediate material and services.

To assess the impact of outsourcing activity on a company's productivity, the following approaches have been used: OLS, Fixed Effects estimator, GMM estimator, ANOVA analysis, Levinsohn and Petrin estimator, Instrumental Variable, matching approach and multivariate regressions models. The results of these techniques are quiet similar except the matching approach of Schmidt-Ehmcke, who showed that services outsourcing can increase a plant's productivity by 27 percent.

The last column with the remarks of researchers can be very useful to draw some conclusion on the relationship between outsourcing and a company's productivity. These remarks point out to various factors such as size of a company, being part of a multinational firm, ownership status (being exporting company or not), type of branch which can play a significant role while assessing the impact of outsourcing on a company's productivity. International orientation of a company can make a difference in the productivity outcomes of outsourcing strategy.

The studies in the table were done on large scale firms, therefore, their findings point out to the effect of outsourcing on productivity only for big companies. There is no evidence for small and medium-sized companies. Most of the research was based on the micro data.

There is a high degree of heterogeneity across companies in the manufacturing sector that can also affect the outcome of outsourcing and therefore should be taken into consideration in the empirical analysis by researchers.

7. Conclusions and Future Outlook

Outsourcing -"outside resource using" has become quite a common strategy for companies nowadays. It started primarily in the end of 1970s in the manufacturing sector and has grown since then. There are different terms of this concept, the mostly commonly spread are outsourcing, offshoring, international outsourcing, business process outsourcing. Prior to outsourcing a company was traditionally vertically integrated, i.e. all stages of the production processes took place within its boundaries. However, globalization and a rapid information technology changes have opened new opportunities for companies. They gain access to a market of skilled labor in emerging economies and the fall of transaction and communication costs facilitate transactions between companies beyond domestic borders.

All these new changes enable companies to choose between outsourcing strategy and vertical integration. Transaction Cost Economics and Resource-Based View give clear guidance rules on how to make a choice between the two of them, the former from the perspective of transaction costs, whereas the latter from that of resources.

Outsourcing is measured as the value of imported intermediate inputs (material or services) or as the costs of external contractual work. To estimate the effect of outsourcing on a company's productivity, the theory points out to the technology factor, that is outsourcing has the same impact as if a company introduces a new technology, it is able to produce more but at the same or lower cost due to compositional changes or improvement of intermediate inputs.

Scholars conduct a number of econometric procedures to establish the causality between outsourcing and productivity. The most common problems they face are that of endogeneity and simultaneity, which imply that there are other factors that could affect both productivity and outsourcing variables.

Different estimators are used to purge the effect of outsourcing on a company's performance; the most common are OLS, Variable Instrument, GMM, fixed-effect estimator and Levisohn–Petrin estimators. In econometric estimation heterogeneity does play a vital role for the impact of outsourcing on a firm's productivity and produce different results for materials and services outsourcing.

The presented overview table with the results of different scholars demonstrates that outsourcing activity really affects a company's performance. Most of the studies were conducted at the plant level in the manufacturing sector in the developed economies.

The findings of their research show that outsourcing positively affects and increases a company's productivity based on different approaches used. The productivity of a company with the outsourcing activity can rise and ranges from 0.5 percent up to 27 percent depending on the technique applied.

Working on the impact of outsourcing on a company's performance, this study concludes that there is much less empirical research carried out on this particular subject compared to outsourcing and labor market issues. The scholars seem to neglect the firm's side. One of the possible reasons could be lack of data availability or lack of publication.

Further empirical research would be beneficial for both business and academic fields.

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9. Appendix

9.1. List of Figures:

9.2. List of Abbreviations:

BPO- Business Process Outsourcing

FE- Fixed Effects

FDI- Foreign Direct Investment

GMM- Generalized Methods of Moments

IV- Instrumental Variable

LP- Levinsohn Petrin

OLS- Ordinary Least Squares

RBV- Resource-Based View

R&D- Research and Development

TCE- Transaction Cost Economics

TFP- Total Factor Productivity

9.3. Abstract (English)

Outsourcing strategy is not a new phenomenon. Quite the contrary, it is one of the most common business strategies applied by companies. Outsourcing generally means the procurement of a company's operations which were previously conducted within its boundaries from external suppliers. This thesis sheds some light on how companies make a decision to outsource based on the theoretical frameworks such as *transaction cost economics* and *resource-based view*. Further, this work elaborates on whether outsourcing has an effect on a company's performance, namely on its productivity. The empirical studies presented and discussed in this work attempt to provide evidence on the positive impact of outsourcing on a company's performance at the plant level. This work concludes that although these studies applied various techniques to establish the causal relationship between outsourcing and productivity, their results indicate that outsourcing may have a positive effect on a company's productivity.

Key Words: Outsourcing, company's performance, productivity

9.4. Abstract (German)

Outsourcing ist in der Betriebswirtschaft kein neues Phänomen mehr. Vielmehr hat sie sich in eine der von Firmen am häufigst verwendeten Strategien entwickelt. Generell bedeutet Outsourcing die Beschaffung der bisher internen Produktionsoperationen eines Unternehmens aus externen Anbietern. Die vorliegende Arbeit versucht zu erklären, was die Unternehmen zum Outsourcen bewegt. Hierbei werden die Theorie der Transaktionskosten und der resourcenorienterter Ansatz erklärt. Darüberhinaus versucht diese Arbeit herauszufinden, welche Auswirkung Outsourcing auf die Leistung beziehungsweise Produktivität eines Unternehmens haben kann. Durch die empirischen Studien, die in dieser Arbeit vorgestellt und analysiert werden, versucht diese Arbeit eine positive Auswirkung des Outsourcings auf die Produktivität eines Unternehmens zu erläutern. Trotzt unterschiedlich verwendeter empirischen Methoden weisen die Ergebnisse der Studien auf einen kausalen Zusammenhang zwischen Outsourcing und Produktivität hin. Es zeigt sich, dass Outsourcing eine bedeutende und positive Auswirkung auf die Produktivität eines Unternehmens haben kann.

9.5. Curriculum Vitae

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