

Transaction Cost Economics in Supply Chain Management

Author: Tom Schwabe
University of Twente
P.O. Box 217, 7500AE Enschede
The Netherlands
t.schwabe@student.utwente.nl

ABSTRACT, this paper gives insights on the development and contributions of Transaction cost economics to organizational science. It furthermore evaluates the applicability of its premises as well as its contributions to the purchasing function which is demonstrated within four key decision processes. An explanation of its key attributes and assumptions on how the Theory serves as a guideline for the purchasing function is provided.

Supervisors:
Prof. Dr. habil. Holger Schiele
Msc. Niels Pulles

Keywords

Transaction cost economics, Supply chain management, Make or Buy decision, Purchasing

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee.

1st IBA Bachelor Thesis Conference, June 27th, 2013, Enschede, The Netherlands.

Copyright 2013, University of Twente, Faculty of Management and Governance.

1. NEW TASKS AND ACQUAINTANCE OF PURCHASING

The way of the worldwide business environment seems to be evolving by having a multitude of international Business partnerships and alliances. Because of the developing reliance between purchasers and suppliers the requirement for connection and trade has increased (Andersen, of et al. 2003, p.6). That increase might have triggered the change of perception from a merely passive role to a critical success factor of the supply function (Carr 1999, Cousins 2008, Lamming, Lawson et al. 2008) and established recognition which is holding on for more than 30 years (Nollet, Ponce et al. 2005, p.133). By having the opportunity to work with suppliers abroad, a portion of the most noticeable progressions has been done in the purchasing range, which also acts as an intermediating part of conveyance between the purchaser and the supplier and hence is the best section for picking a supplier (Benedetto 2003, p. 48). Various manufacturers have embraced new methodologies for managing suppliers, due to the acknowledgement of the way that Purchasing is a critical success factor for arriving at a focused point of interest (Cousins 2008, Lamming, Lawson et al. 2008, p.11). Purchasing is the procedure of arranging, implementing, assessing, and regulating strategic and operative purchasing choices for administering all exercises of the purchasing function in line with the company's competencies to accomplish its long term objectives (Carr and Smeltzer 1997, p.201). Monzka adds that materials that have been bought have to be reviewed, and that the purchasing function serves as a contact to suppliers which helps to make a purchase (Monczka 2010, p.28-29). With the intention of understanding the full range of purchasing and how it contributes to businesses, one should be clear about the types of processes of the purchasing function, such as the antecedent process, the supporting process and the primary process. Though antecedent processes are interlinks between corporate targets, giving direction, and the purchasing function, they are beyond the reach of control of the purchasing department (Lamming, Lawson et al. 2008, p.13-15). The purchasing target of antecedent processes is an alignment of the purchasing function and the corporate strategy (Cousins 2008, Lamming, Lawson et al. 2008). Top management is supposed to affirm the importance of decision making in purchasing and align the goals of the purchasing department with the overall firm level goals (Carter and Narasimhan 1996, p.25). The primary processes are the main tasks of the purchasing function (Lamming, Lawson et al. 2008, p.13). In general one might argue that a focal point of purchasing is maintaining and selecting suppliers which suit the organization's needs (Schiele 2010, p. 139-141). This might be done by primary activities. Those types of processes are integrated within certain decision points of purchasing, being primary processes, which came to be clear as time passed. There are certain decision points within the primary process. The decision of in sourcing or utilizing outer suppliers is the first decision point. The outsourcing choice is additionally demarcated as the 'make-or-buy' decision, a standout amongst the most paramount choices in the purchasing field. It outlines whether a product is either purchased or made; hence this issue has appropriated a massive amount of consideration in research (Pfeffer 2003, p.39). Manufacturers hunt down a path to abate their costs and in this manner outsource some of their business courses of action. This gives two focal points: first it empowers an effectiveness addition for associations and the second point of interest is that it drives the centre of the association to their centre, in-house production (Fill and Visser 2000, p.43).

Decision point two concerns the management of determination of particular sourcing decisions for every class of denomination. In reality, it is basic for organizations to persistently make and procure competencies or products that might help produce a reasonably strong competitive advantage over their adversaries (Kotabe and Murray 2004, p.8). Motivators which drive companies to use the right sourcing decisions include offset requirements, currency restrictions, local content and counter-trade, lower prices, Quality, Technology access to new markets, Shorter product development and life cycles and Comparative advantage (Bozarth, Handfield et al. 1998, p.242-243). The third point for the purchasing function is the management of a portfolio of suppliers from the supply pool. Discoveries of exploration demonstrate that efficacious supply chain management needs adequate and proficient management of a portfolio of relationships (Bensaou 1999, p.35-43). The fourth decision point of purchasing is concerned with handling the market specific supplier contracts regarding of negotiations and awards (Monczka 2010, p.336). Supporting processes support those previously described primary processes and are assumed to be outside the control of the purchasing function (Lamming, Lawson et al. 2008, p.13-15). An example of those supporting processes could be the controlling process. The supply controlling process measures the expected outcomes of an executional plan against the actual results and thereby also contributes to demand planning, but also applies to the adherence and monitoring of contracts. Because of the before named decisions, a theory might allow one to make patterned decisions and follow an approach which takes certain attributes into account to establish a network of relationships within that theory that gives decision making support for evaluating and selecting suppliers. Theories that are based on purchasing decisions are namely the Institutional Theory, Resource dependence Theory, Network Theory, Systems Theory, Resource knowledge based views of the firm, transaction cost economics, Agency Theory, Strategic choice theory, socio-cognitive theory and critical theory (Christopher L. Shook 2009, p.4). The primary objective of this paper is to answer the inquiry; in what way Transaction Cost Economics; a multidisciplinary activity that links economics with features of organization theory and intersects with contract law (Williamson 1979, p.261), can help the field of supply chain management. The paper is structured as follows: First the History and development of Transaction Cost Economics is illuminated to get to know its reason of existence, followed by the core model of TCE. The core model of TCE consists the assumptions of the prediction of the human agent, and then continues with the key constructs, explaining the three succinct governance forms. Afterwards, the attributes that affect governance are further explained. After that the attributes are connected in order to explain transaction costs. The paper continues with empirical evidence of Transaction cost economics, providing an insight of the range of the theory. Its implications on purchasing and how it can contribute to purchasing are explained in section 10 by looking at which suppositions of transaction costs fit best to which decision point. The thesis ends with the final conclusion.

2. TRANSACTION COST ECONOMICS

2.1 Summary

Transaction Cost theory might be one of the most important organisation theories because of the studies that have been encouraged through it (Williamson 2007, p.18), and is one of the main perspectives in organisational studies (David and Han 2004, p.39). The vital commitment of Transaction cost

economics to organisation theory, resulted in a wide range of empirical contributions (Macher and Richman 2008, p.28), using transaction cost economics, for instance as a make or buy decision help, or verification of the right contract mode.

Transaction Cost Economics (TCE) inspects how business partners who collaborate with each other shield one another from harmful subsidiary with differing relationships (Klein 1995, p.336). It has been the most important new institutional theory which puts the accentuation on the decision on the sourcing predicament, if to outsource or not. The sourcing situation of a firm is likewise described as the make-or-buy decision of a firm (Christopher L. Shook, p.6). The two primary drivers of Transaction Cost Economics are uncertainty caused by the external environment and costs, which consist of Coordination costs and Transaction costs (Fink 2006 p.504). uncertainty and costs, are influenced by the human agent, an individual distinguished through bounded rationality and opportunism, (Williamson 1981, p.553) in order to dissect transaction costs. People are subject of limited objectivity and may act in favour of themselves rather than the company (Williamson 1981, p.553) Either natural or mechanical doubt might be an adverse factor for buyer-supplier relationships.

Asset specificity, an attribute influencing transaction costs, alludes to the correlation of relationship-specific machinery (Klein 1995, p.141). According to Transaction Cost Economics a firm might as well first choose outsourcing if the aggregate costs, which incorporate everything used on the venture, are lower than the costs to make the same feature in the own firm (Lyons 1995, p.432). All things considered there are confinements to the probability to outsource in this new institutional theory which basically keeps tabs on the costs (Lyons 1995, p.432). There is a sure limited sanity which forestalls an ideal sourcing system and makes items with a higher level of asset specificity more magnetic to be made in-house (Lyons 1995, p. 432), however according to Williamson's make or buy model (Williamson 2010 p.24-25), producing in-house is the last option, since it is the most complex procedure..

Either natural or mechanical doubt might be an adverse factor for buyer-supplier relationships. An association's viewpoint is an extremely important factor in the buyer-supplier relationship and will therefore impact the decision if to outsource or not. In either way if a feature is outsourced both the buyer and the supplier need to make particular speculations in order to advance the fancied product. (Fink 2006, p.504). With the explanation of when to make and when to buy (fig.1) Governance forms within the Transaction cost framework might provide a way to minimize transaction costs. Hierarchy, meaning producing in-house, might be applied in case of high asset specificity, shielding the buyer from high transaction costs, hybrid governance if there is a way to minimize transaction costs, which is also described in section.2. and Market governance can be applied in case of low asset specificity, which might result in a competitive market with low switching costs.

This paper will examine the strategic relevance of Transaction cost economics for a decision making support of Purchasing.

In order to explain how Transaction cost applies to the critical decision points of purchasing, a further explanation of the activities of the purchasing function is given. The main activities of Transaction cost economics are centred within 5 processes, namely category strategy, supplier strategy, quotation supplier selection and negotiation, operative procurement and supplier evaluation. Within the first process, the category strategy, the buyer puts equal products into one pool (Schiele 2006, p.2) and can then determine a strategy for this pooled group. A strategy could vary from single vs.

multiple sourcing, or international vs. national sourcing (Schiele 2006, p.2 cited according to Van Weele 2005 p.n/a), For a supplier strategy, one might identify the purchasing volume, and level of dependency on the supplier to create a supplier strategy. For supplier selection and negotiation, one can choose between competitive bidding and negotiation (Monzka et. al 2010, p. 36-40). Coming to the operative procurement step, this step assists the supplier to act according to what has been negotiated beforehand. When the supplier is providing the buyer with the component, one can measure performance of the supplier, which can be indicated through quality, costs and service (Monczka et al. 2010, p. 220), Comparing the actual performance to the required performance agreed on in the contract might also be of help. Looking at the Primary decisions of the purchasing network, it is focused on the make or buy decision, sourcing strategies, creating a supplier portfolio and supplier negotiation and contract awarding. All of those decisions can indirectly or directly be influenced by Transaction cost economics. As one analyses the decision points and possible contributions of TCE, this study arrives at the point, that the make or buy decision, or in this case make, hybrid, or buy is even examined through a guideline given by Williamson, the author of Transaction cost economics, which is explained in fig. 1 and therefore directly supports strategic decision making in the make or buy decision. It indicates that the company should make a component if transaction costs cannot be kept low, use a hybrid governance approach if asset specificity is high but transaction costs can be kept low through the safeguards provided in the contract, and use the market if the component which has to be supplied has low asset specificity. Coming to the sourcing strategy, whether to use multiple suppliers or a single supplier, one might use the same approach of the human agent as being opportunistic and limitedly rational, as in the make or buy decision. single sourcing is used when the supplier offers special technology, which can lead to a competitive advantage of the company, however the relationship has to be safeguarded to ensure a cooperative relationship. Multiple sourcing can be applied when the component is placed within an unassisted, highly competitive market, mostly not providing any special technology that leads to a competitive advantage. When creating a supplier portfolio the company pools suppliers with the same activities into one pool, however since there is a difference between special technology suppliers, and suppliers providing low asset specificity, one might differentiate between parts that provide a competitive advantage and parts that do not and therefore pool only suppliers with high asset specificity for components delivering a competitive advantage and pool only suppliers with low asset specificity for suppliers providing components that do not lead to a competitive advantage. Coming to supplier negotiation and contracting, the underlying assumption that the supplier tries to get the best deal because of opportunistic behavior, and differentiation between non-specific technology assets and assets with special purpose technology can contribute to the inclusion of safeguarding mechanisms within contracts.

2.2 History and development of Transaction cost economics: a continuous unobtrusive way of progression

To introduce the history and development of Transaction cost economics, one should understand that the theory emerged out of natural progression. Whereas it was vaguely formalized in the beginning is started to develop over time instead of premature formalization which ends in a withdrawal from the phenomena. (Williamson 2010, p.223), Transaction cost

economics started its development from the times of neoclassical economics. The point of view was dominant and strongly acknowledged in its time before Williamson developed the full TCE model (Williamson 2010, p.675).

Neoclassical economics sets profit and utility maximization, which is carried out by rational executors with perfect properties characterizing their objectives, level of knowledge, computational abilities, transaction cost (Murrell 1991 p.60), (Moe 1984 p.740), the Pareto analysis (80/20 Rule), and the universal equilibrium of competitive markets as an illustration of a well-working economy into its core (Murrell 1991, p.60).

However the theory does not incorporate the organization which is moreover classified as a black-box that yields immediate ideal decisions, and ignores the formal structure of an organization, the social context and bounded rationality (Moe 1984, p.740). Common took notice of that in a critical paper, written in 1931 and contributed to the primary start of Transaction cost economics and thereby the informal stage of Transaction cost economics started in the 1930, criticizing neoclassical economics (Williamson 2010, p.224). Transaction cost economics might have its core at a paper written by Commons (1931). Commons argued, that the common perception of the Neoclassical school of that time, was to have fair competition, equal bargaining power, equal opportunities, and regulated capitalism., however he contends that there might be an uncertain future, the role of collective action and different kinds of transactions which are contradictory towards the common point of view at that time (Commons 1931, p.657). In the article "the Nature of the firm" (Coase 1937), Coase picked up Commons thoughts and thereby questioned the rationality of decision makers within the neoclassical school, introducing transaction costs into economic theory (Coase 1998, p.72). In the following article, Coase argued in his conclusion which was intended to empower a change of approaches on the mechanical view the organization; A dissection regarding divergences between private and social products focuses devotion on specific lacks in the framework and has a tendency to feed the belief that any measure which will delete the lack is essentially attractive (Coase 1960, p. 42-43). However, after Coase's first contribution, "the nature of a firm", the zero transaction cost approach was the indirect superordinate view for the next 20 years, whereas its criticism has been ignored. Meanwhile, Williamson was inspired by the articles of Coase who argued that issues of coordination infringed a static impediment to a firm's size, in his article "the nature of a firm". , and by inadequacies of the neoclassical economics paradigm, which were also questioned in Coase's article from 1960, Oliver E. Williamson wanted to connect behavioral surmises from the organization theory and improve the suggestions for the conduct watched inside the structure of the economic analysis . (Williamson 1967, p.135). The pre-formal stage of Transaction cost economics covered 1970. New ideas behind *Vertical integration, vertical market restrictions, labor market organization, franchise bidding for natural monopoly, as well as efficient alignment* were created (Williamson 2010, p.224). 1972 Armen A. Alchian evaluated further on the organization and introduced new assumptions about organizational mechanisms by indicating, as the disclosure and trade of information or data about knowledge, potential uses of distinctive inputs in diverse potential requisitions demonstrate that the firm is a mechanism for extending rivalry around employees and in addition is an apparatus for proficiently remunerating the employees (Armen A. Alchian 1972, p.795). 1973, Oliver Williamson wrote the article: "Markets and hierarchies: some elementary considerations. " (Williamson 1973), followed by an article from 1975, named : Markets and hierarchies: analysis and antitrust implications (Williamson

1975), where he manifested himself to the merge of the economics theory with transaction cost reasoning and whether it is reasonable to put this new theory under the category of economics. Within that motion Williamson was enlightened to create an economic perspective with additional influential comprehensions on the organization (Nabli and Nugent 1989 p.1333, Cited according to Williamson 1975, p. n/a). explicitly New Institutional Economics which unifies law, political science, economics, organization theory, Anthropology and sociology (Kozenkov 2013, p.456), and thereby acquired knowledge from diverse social science disciplines but keeping the essential core of Economics. Its objective is to demonstrate what organizations are, what propositions they serve, the way they come up, how they change and how they supposedly transform, to grasp a more complete picture of institutions (Klein 2000, p.456.). The transaction cost economics theory is frequently viewed as a subset of new institutional economics. The key conceptual move to TCE is to describe firms not in neoclassical terms, as production functions, but in organizational terms, as governance structures (Macher and Richman 2008, p.3). After the creation of New Institutional economics, Williamson established some attributes of transaction costs which were measurable. He published his first study of empirical nature, examining Transactional difficulties and contracting modes in the television industry (Williamson 1976, p.101). Goldberg also started to collect empirical evidence of TCE by investigating on the synthesis of governance of contracts and economic analysis. (Goldberg 1976, p.445), and thereby assured implicitly the partial validity of TCE in his case, however the actual Transaction cost economics theory has not officially been published. 1978, Benjamin Klein et al. Added their stake by investigating the plausibility of post contractual opportunistic behaviour. (Klein, Crawford et al. 1978) Emerging from the previous contributions on the synthesis of transaction cost reasoning and economics, Williamson developed his Transaction cost economics theory to manage governance modes in order to reduce transaction costs within his article: transaction cost economics: the governance of contractual relations (Williamson 1979 ,p.259-260), This paper was the key step for empirical TCE literature on vertical integration and contracting, which finally made it possible to test the complete TCE framework at that time in order to gain empirical evidence (Gibbons 2010, p.273). The semi-final stage which has been reached since the 1980 deals with *credible contracting, hybrid modes, the dimensionalisation of transactions and governance structures, a multiplicity of applications within business and economics and the contiguous social sciences), and extensive empirical testing* (Williamson 2010, p.224). In 1981, Williamson identified boundaries of the transaction cost approach. He concluded that the theory of transaction costs might certainly be irrelevant within non-commercial companies, because of different values and objectives of the human agents (Riordan and Williamson 1985, p.573-574). In 1985 Williamson et al. continued formalizing transaction cost economics (Riordan and Williamson 1985 p.367). According to Williamson (Williamson 2010, p.224), Grossman and Hart published an influential paper, dealing with the theory of costly contracts that has been further examined, providing a framework that stresses biases triggered by contractual incompleteness, caused by transaction costs which can create a loss of investment for the buying party (Grossman and Hart 1986, p.716). Within 1987, there were still theorists that doubted the validity of transaction costs, such as Gregory Dow, however Williamson defended Transaction cost in his paper, named "Transaction cost economics: the comparative contracting perspective" (Williamson 1987). 1990 Hart and Moore created an influential theory (Williamson 2010, p.224),

to provide the ideal use of assets which was further utilized to establish an understanding of the limitations of the firm, also handling transaction costs. (Hart and Moore 1990, p.1149). In 1991, Williamson advanced the research agenda of Transaction cost economics on five aspects, namely; coordinated or autonomous adaption of an economics problem within society are distinguished, each form of governance fits to a form of contract law, the hybrid form has a more explicit explanation than the notice that it is placed between market and hierarchy, the hybrid, hierarchy and nonmarket governance is evaluated within his article (1991), institutional economics, the institutional environment and the institutions of governance are connected by *interpreting the institutional environment as a locus of shift parameters, changes in which parameters induce shifts in the comparative costs of governance* (Williamson 1991 p.294). 1996 Williamson published his first book on the mechanisms of governance, including Transaction costs, where he proposed a way of setting the right governance mode in order to achieve discriminating alignment (Williamson 1996 p.3). Williamson continued with contributing to the topics in several papers, such as “ the new institutional Economics: taking stock, Looking Ahead (Williamson 2000), The theory of the Firm as Governance Structure: From Choice to Contract (Williamson 2002), Transaction cost economics: An Introduction Williamson 2007), The Elgar companion to transaction cost economics (Williamson 2010), and Transaction cost economics: The natural progression (Williamson 2010).

2.3 Assumptions of Transaction cost economics: Opportunism and bounded rationality are attributes within the characteristics of the Human agent

As Simons indicated, the object of study is the key to one’s research agenda (Simon 1985 p.303). There is a distinction in examination when taking the Homo Economicus, which is never pleased and never tentative (W. Jager (2000, p.371), and the Homo Psychologicus (Simon 1985, p.303). The object of study in Transaction cost economics is a mixture of the Homo Psychologicus, which bases decisions on psychological patterns instead of perfect rationality (Kiesling, Günther et al. 2012) and the Homo Economicus, and thereby appears to be equal to the human individual, that has intentions, goals and is willing to pursue them (Barnard 1968, p.60.). In a paper written in 1987, Williamson contends, transaction cost economics is dependent upon two key behavioural assumptions of human agents; bounded rationality, meaning that human agents work under limited time and knowledge, (Williamson 1987, p.30), and are limited information processors (Gigerenzer and Goldstein 1996, p.3), which results in unpredictable inadequate contracts. The second one is named opportunism on that mere promises are taken into account which is not reliably self-commissioning (Williamson 1987, p.617).. Williamson continued describing the human agents in a paper from 2010, where he interpreted the human being and outlines that individuals typically do what they say and if not it is an exceptional instance of friction. Human beings are regulated by routines, and once the management has established a base of routines that follow the purpose of the organization, it has to care about exceptions of human conduct. Inconveniences can be created by contractual deficiency that serves an interest group an opportunistic advantage (Williamson 2010), p.219. That is often the case when firms are engaged in non-routine business practices like make or buy decisions, regional limitations, et

cetera, naturally seeking for monopoly gains, referred to as the inhospitality tradition (Williamson 1985.), p.19. Therefore the study of intentionality is included, yet with the possibility of inclinations that typically happen in particular situational settings (Verbeke and Kano 2012, p.1148).

2.4 Key constructs: Concentrating on Governance structures, Asset specificity and uncertainty

Several constructs in TCE literature have been proposed, however this paper focuses on governance structures, Asset specificity and uncertainty. Coordination costs, which are referred to in market economies are created from transfers of property rights as a result of uncovering one another, communication and exchange of information, with the outcome of Financial expenses (Stavins 1994, p.134) are added, however it adds a reasonably small stake to the theory, compared to the other implications which are further described below. The governing body of the firm can be seen as a contractual expansion that is connected to other associations (Williamson 2002, p.178). The focal address of Transaction cost economics is that a transaction is more proficiently performed via autonomous contractors with market governance or by non-market governance, in this case hierarchy, where the business sector is disposed of non-business sector influence (Steenkamp and Geyskens 2012, p.253). Transaction cost economics therefore differentiates between those two modes of governance, markets and hierarchies which play a core role in the economy (Williamson 2010, p.219), and further suggests a third form of Governance, namely Hybrid governance (Williamson 1991, p.281). Those three modes of governance are administered in diverse ways in the matter of contract law respects, instead of applying a uniform method for governance (Williamson 1991, p.277).

Hierarchy: The key topic of transaction costs is whether to make a product within a firm, using hierarchy or outside the company. Transactions within integrated companies may be insulated from competitive pressure and subject of bureaucratic phenomena. However certain dimensions, which are explained later on, create increased transaction costs, resulting in a higher attractiveness to use its own hierarchy, meaning to produce in-house to minimize transaction costs (Geyskens, Steenkamp et al. 2006, p.519-520). Looking at the hierarchy structure, the section delivers the component to administrators. Those administrators decide on how the task to produce the component will be performed, and what other actions can be taken. The key productive assets are not owned, and the performance is neither punished in case of failure or rewarded in case of solid performance (Makadok and Coff 2009, p.298)

Market Governance: In the event that a transaction is made outside the company via self-ruling contractors, it is called market governance (Geyskens, Steenkamp et al. 2006, p.520). It is the fundamental governance structure for broad based transactions which can be repetitive or periodic, in a standardized manner that is simple to agree on contracts concerning supply plans. (Williamson 1979, p.248). Within the market governance structure, the authority is placed outside the company and can decide itself how to carry out work and on additional actions. The key assets used to produce the component are placed outside the own company, and the external supplier is rewarded dependent on his/her performance. Not being able to monitor the production process within an external organization forces the buyer to rely on the monitoring of the final outcome. Thereby if the output is as high or higher as negotiated over the contract, the supplier can get

compensation. The buyer has to take into account the possibility of supplier failure, existent if the contract volume is not reached. (Makadok and Coff 2009, p.298)

Hybrid Governance: The Hybrid governance is spotted between the hierarchy, and Market governance. Those two modes might be contradictive however it acclimates both sorts through a semi legalistic contract law administration(Williamson 1991 p.281).

It is an intermediate governance form being between all of the dimensions that distinguish markets from hierarchies (Makadok and Coff 2009, p.298).

The study continues with an evaluation on the three dimensions that affect governance.

It is progressively recognized that transaction cost economics must be governed and planned as well as processed and that certain institutional plans have an impact on the governance(Shelanski and Klein 1995 p.336). Hence, the governance mode (hierarchy, hybrid, or market) that reduces transaction costs most is the favoured choice (David and Han 2004, p.41). Williamson states that Transaction cost economics holds that Governance is influenced by three types of dimensions, namely Asset specificity, uncertainty and the frequency of those transactions (Williamson 1979, p.239). *Asset specificity:* Williamson characterizes Asset specificity as the degree to which an asset can be reassigned to marginal procedures and by elective operators without the disadvantage of productive cost(Williamson 1996, p. 59). It is the most critical implication of Transaction cost economics (Williamson 1996, p. 59). Asset specificity is accountable for the variation in transaction costs within transactions. If the asset specificity is high, trading relations tackle a strong two sided exchange nature. That means the relationship between the trading partners is centred. Changing circumstances cause problems in contracting and therefore require complex forms of governance for increased Asset specificity (Riordan and Williamson 1985, p.367). Those complex governance structures form a decision making support for transactions which may be uprooted from the outside sector and better be formed inside (Riordan and Williamson 1985, p.367).

Uncertainty: Another factor being imperative is uncertainty, which is closely related to environmental complexity (Williamson 1975, p.21-23). One might divide it into short term uncertainty; uncertainty of day to day processing, deleted orders, equipment miscarriage, and long term uncertainty, which is expressed by volatile commodity prices, changes in demand or productivity changes(Gupta and Maranas 2003, p.1220). Changes in demand can cause Volume Uncertainty, which is largely dependent on vacillations in demand for a component in the confidence positioned in approximations of demand(Walker and Weber 1984, p.376). As a result of high Volume Uncertainty, suppliers might face higher production costs, an overabundance of capacity and stock outs or redundant inventory(Walker and Weber 1984, p.376). Another long term uncertainty is Technological change, which can be expressed in a different component design. Having a change in design needs a recalibration of tools which produce the component, resulting in change in contract(Walker and Weber 1984, p.376). Coming to the core problem of Transaction cost economics, having a high amount of uncertainty increases the conceivability for organizations to produce in-house instead of getting supplied by the market (Williamson 1981, p.559).

After describing the solitary attributes of Transaction cost economics, one can connect those in order to structure an intelligible model. Buying from the market implies that the

purchaser is confronted with bounded rationality and opportunism, and thereby runs risk of increased transaction costs. Subsequently, a further analysis of the transaction must be taken to settle on the option with the lowest transaction cost (Arnold 2000, p.25). Therefore one can arrive at the following assumptions:

Bounded rationality and Opportunism increase Transaction costs.

Trying to utilize a supplier with high asset specificity results in a mutual dependency between buyer and supplier, having a centred relationship (Riordan and Williamson 1985, p.367), which directs the parties to use safeguards to protect themselves (Williamson 2010, p.24-25).The buyer is committed to opportunism and uncertainty, especially in case of high asset specificity, causing contracting problems (Riordan and Williamson 1985, p.367). One might derive at the following assumption:

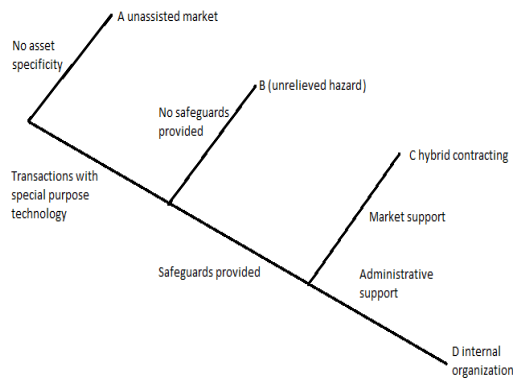
In case of high asset specificity, and therefore a committed buyer, transaction costs are high.

When using the Transaction cost economics approach, one wants to minimize transaction costs through a form of governance. Hence, the governance mode (hierarchy, hybrid, or market) that reduces transaction costs most is the favoured choice (David and Han 2004, p.41)

The right mode of governance decreases transaction costs.

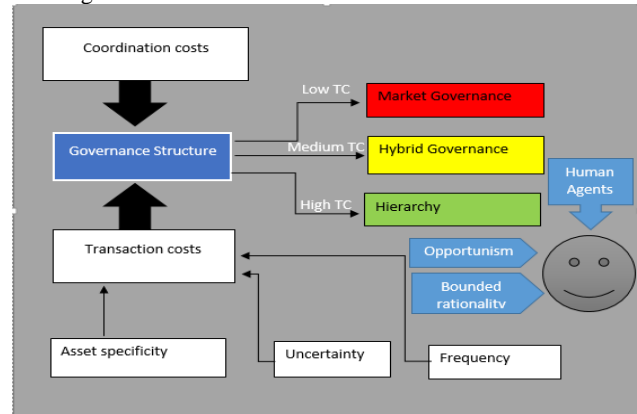
Raynaud, Sauvee et al proposed contracts to each form of governance because the governance mode that TCE focuses predominantly on is the governance of ongoing contractual relations (Williamson 2007, p.3.). They propose, when having a hierarchical governance structure, vertical integration can be used to bring several production and distribution facilities under common management and ownership (Raynaud, Sauvee et al. 2005, p.63).In terms of agreements, Hybrid governance often requires written contracts which are legally enforceable guarantees with a chosen duration (Raynaud, Sauvee et al. 2005, p.63). When using market governance, an agreement for fast trade of goods or services named spot market contracting is often required. Thereby the identity of the trading partners is trivial on the grounds that switching costs for an alternate partner are low(Raynaud, Sauvee et al. 2005, p.63). Another approach which includes the previously named assumptions 1,2 and 3 is the make or buy decision. The core problem of transaction cost economics is the make-or-buy decision, a dilemma which was further analysed in Coases Paper in 1937 (Klein 2008, p.45). It adapts to the issue if to produce an item or giving it a chance to be fabricated. Subsequently moderate item market transactions are dissected to gather data about what amount of cash is required, legal boundaries and the level of risk to make or buy (Klein 2008, p.45). Buying from the market implies that the purchaser is confronted with information asymmetry, bounded rationality and opportunism, however when producing on their own, companies have to screen their workers as well. Subsequently, a further analysis of the transaction must be taken to settle on the option with the lowest transaction cost (Arnold 2000, p.25).

Fig. 1: the make or buy decision (Williamson 2010 p.24-25).



Williamson focuses on the forms of governance. In Williamson's book 'The Elgar companion of transaction cost economics', a more general contractual schema is provided, which could be seen as a guiding tool on the make or buy decision by categorizing the supplied product with the help of the schema provided in Fig.1. The schema starts with the decision point whether to let a component be supplied by a general purpose technology which does not have any asset specificity within an unassisted market or whether the component is supplied by a supplier which offers special purpose technology and thereby utilize high asset specificity. If there is no asset specificity, the buyer or the supplier would not stand out of the market since the item which is supplied might not differ from the existing market. Having a supplier with a special purpose technology, might let the buyer stand out of the market. However there will be a reciprocal dependency between buyer and supplier, which steers the parties to promote incentives to make sure that there is a continuous stream of transactions. These can be regarded as safeguards. Different protections could be punishments, data divulgence and check techniques, particular dispute resolutions. If those safeguards are not provided the supplier will increase the price since the risks for harm are higher, which leaves an unrelieved hazard, however the price will decrease when providing safeguards. Looking at Hybrid contracting and the internal organization, safeguards are provided. If there is market support the parties can agree on a form of hybrid contracting. However if the bilateral relationship between the buyer and supplier is interrupted by having costly failures, under the circumstance of giving the best safeguards to each other, the product might be produced inside the organization under one ownership. There will be bureaucratic costs due to the reorganization if producing inside the company and added uncertainty. Having the product internally organized is therefore the last option if hybrid contracting did not work out. (Williamson 2010 p. 24- 25).

Fig.2: An illustration of TCE: Self-made



2.5 Empirical evidence of transaction cost economics

Transaction cost economics makes a paramount commitment in organization theory and delivered extensive experimental contributions (Macher and Richman 2008, p.28). Williamson contends TCE is compelling due to the empirical work which has been incited through it (Williamson 2007, p.18), however others debate about the empirical support of TCE, although it is one of the major viewpoints in organizational studies and management. (David and Han 2004, p.39). 37 years ago, the data accumulation to test TCE was almost impossible, however since relevant data of the micro analytic kind can be collected or is made public, there is ground to test Transaction cost economics (Geyskens, Steenkamp et al. 2006, p.531). Since TCE is testable, approximately 800 studies have based their research on Transaction cost economics in 2006, however the outcomes are dispersed (Macher and Richman 2008, p.82). The data collection is usually carried out with the help of mail surveys, interviews and company appointments. (Macher and Richman 2008, p.9). Several studies have been developed to test the validity of TCE in their field of interest. In the first paper, to examine empirical evidence of Transaction costs, named "Franchise Bidding for Natural Monopolies- In General and with Respect to cable television, in short CATV", Williamson contends that CATV faces numerous transactional difficulties and therefore examines the different perspectives of contracting modes within the field. (Williamson 1976, p.101). The second empirical paper supporting the TCE view, written by Victor also analysed contracting modes (Goldberg 1976, p.445), whereas Williamson finally developed an economizing framework for governance modes that decrease transaction costs (Williamson 1979, p.259-260), and thereby presented a fully testable model. As a result, the connection of transaction costs with governance of contracts formed a basis for empirical testing on transaction cost economics (Macher and Richman 2008, p.11), the papers that followed after the establishment of the TCE basis for empirical testing have a common operationalization. They typically utilize the organizational mode, which is divided into market, hierarchy, hybrid forms and diverse transitional forms as the dependent variable and the transactional characteristics as the independent variable (Macher and Richman 2008, p.5). Exploring the field of economics, a study from Artz deals with the Make or buy decision when deciding on strategic alliances. Artz discovered that, for instance in the traditional TCE research, asset specificity and environmental uncertainty directly expand the cost of leading inter-firm exchange (Artz and Brush 2000, p.356). The research of Kirk Monteverde, also dealing with an economical topic examines the supplier switching costs and vertical integration in the automobile industry, and thereby also

analyses the vertical integration. Monteverde concludes that Transaction costs encompass the development of human skills for vertical integration, consequently supporting Williamson's transaction cost paradigm (Monteverde and Teece 1982, p.212.). He further concludes that the vertical structure of GM and Ford, which serve as an example for the automobile industry, subsequently intends to profit from hierarchy and excluding costs of opportunism from suppliers by internalizing processes (Monteverde and Teece 1982, p.212). An alternate study of economics examining Vertical integration by Scott E. Masten, also supporting Williamson's TCE model, however taken in the aerospace industry provides an implication of the proficiency of contractual and hierarchical organizational forms. Placed in the field of aerospace suggests that design specificity and degree of complexity are essential circumstances for the failure of collaboration in trades within market modes leading to an internally organized production and thereby support Williamson's paradigm. The author also contends that the human agents involved in the purchasing process deal with the difficulties addressed in the transaction cost framework (Masten 1984, p.417). Coming to an alternate field within economics, Hubbard investigates, whether the assumption of transaction cost literature, that firms will substitute complex contractual arrangements for modest spot contracts when transactions include relationship specific investments, holds for the trucking industry as well (Hubbard 2001, p.369). He thereby appraises the likelihood of variance for firms to proceed with a contract instead of common carriage, being dependent on the measures of local market thickness, assuming equal properties of the trucks (Hubbard 2001, p. 373). He reaches the conclusion that contracts tend to be utilized to simple spot -plans for long hauls when local markets are thin (Hubbard 2001, p.385). He thereby supports Williamson's framework, saying that the contract governance is dependent on the market. However there is not only economical relevance for Transaction cost economics but also in the field of marketing. A study created in the field of marketing was designed to analyse how to manage opportunism in the field of hotel marketing. The outcome indicates that managers should use governance mechanisms to limit opportunism in the hotel branch and therefore should create a relational bond with their channel partners, (Brown, Dev et al. 2000, p.62). A relatively new study, published in 2011 examines transaction costs in milk marketing and compares Canada and Great Britain. The author thereby uses the Transaction costs to analyze the dairy producers transactional process, and came to the conclusion that marketing milk through a marketing board and individual contracts are heterogeneous, using the framework of Transaction cost economics (Royer 2011, p.181). Therefore one might conclude that Transaction cost economics is not only verified via case studies but used as an actual tool, as in this example. This paper investigates how companies apply inter-organisational cost management throughout designing a product and the relational context which is used within the process (Cooper and Slagmulder 2004, p.1), resulting in the outcome that hybrid structures within the organization support collaboration within cost management (Cooper and Slagmulder 2004, p.23-24). However there are also studies that criticise Transaction Cost economics, such as the study of Gerrit Rooks et al. focusing on effects of transaction characteristics, dyadic effects as well as network integration of exchange and on effects on contractual governance (Rooks, Raub et al. 2006, p.266), implicitly stating that Transaction Cost Economics ignores the institutional and social context of the transaction (Rooks, Raub et al. 2006, p.267). Another paper, criticising Transaction Cost economics, named; "An Empirical Examination of Transaction and Firm level; influences on the

vertical Boundaries of the Firm Governance structure", comes to the conclusion that governance choices are not taken into account of Transaction Cost Economics (Leiblein and Miller 2003 p.855). Transaction cost economics is also applied in fields outside of economics, such as public policy, and health economics and policy, agricultural economics and policy (Macher and Richman 2008, p.38).

2.6 Transaction cost economics applied to the critical decision points of purchasing

2.6.1 Decision Point 1: Make or Buy

Transaction costs often take place in non-routine business practices, like the make or buy decision, empowering human agents to take an opportunistic advantage which brings them nearer to the goal of monopoly gains (Williamson 1985, p.19.) Geyskens et al argue that the decision to make the component within the company can be carried out to avoid risks (Geyskens, Steenkamp et al. 2006, p.520) possibly leading to minimized transaction costs. With the model (fig. 1) Williamson gives a guiding tool for when to buy a component from the market and when to make a component inside the company. If safeguards are provided to ensure a strong buyer supplier relationship, the buyer can buy components with special technology and high asset specificity from the external market. If the component does not have any asset specificity, the buyer does not have to provide safeguards, because of the alternative suppliers which offer to sell the same component to the company. If it is not possible to ensure smooth collaboration through safeguards resulting in supplier failure, the buyer has to produce the component inside the own company and reorganize the processes to manufacture himself taking into account costs of reorganization and added uncertainty (Williamson 2010, p.24-25) Since The make or buy decision is the key problem which is often examined through the theory, one might arrive at the conclusion that it contributes to the first decision point.

2.6.2 Decision point 2: Sourcing strategies: single or multiple sourcing

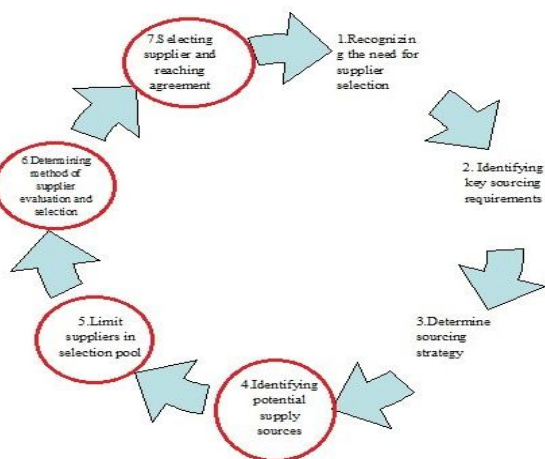
Organizations may need to choose whether to purchase a segment from a solitary supplier or from various suppliers. Transaction Cost Economics serves as assistance for that choice. Cousins et al. argue, new product development needs early supplier involvement and fluent exchange of information and thereby support single sourcing for those circumstances (Cousins, Lamming et al. 2008, p. 53), already indicating advantages of single sourcing. (Cousins, Lamming et al. 2008, p. 53), some people might see an advantage in single sourcing, which could take place in the decision to outsource a component. However, according to Transaction Cost economics, close collaboration can drive the supplier into the direction of opportunistic behaviour caused by bounded rationality and environmental uncertainty, possibly leading to performance failure (Geyskens, Steenkamp et al. 2006, p.533). Using a single supplier outside the company to procure key activities, means simultaneously a loss of degree of control for the buyer and increased control over those key activities for the supplier. Since it is possible for the supplier to have an impact on the buyer performance, the supplier could claim increased market prices (Geyskens, Steenkamp et al. 2006, p.533). The buyer might be trapped in that situation, knowing that switching costs occur when utilizing another supplier. Therefore the buyer might contract the single supplier with enough safeguarding proficiencies, such as punishments, data

divulgence, check techniques such as monitoring or incentives (Williamson 2010, p.24-25) to coordinate the supplier and ensure a sufficient collaboration. (Schiele, Horn et al. 2011, p.354), equal to the sourcing levers, arguing that The main focus would be to establish a cooperative relationship, as the suppliers account for a huge deal of the total costs. See (Cousins, Lamming et al. 2008 p. 52.). Looking at multiple sourcing, the company might take the decision to use multiple suppliers in order to save costs. Since outsourcing by using multiple suppliers also means coordinating more vendor activities, managing more relationships and monitoring more suppliers (Schiele, Horn et al. 2011, P.354), one can conclude that the regulation of transaction costs gets widely ramified. However, since the power which is given to multiple suppliers is a fracture of the power as when utilizing only one supplier, the dependency on the particular suppliers is lower. A component which is supplied by many suppliers and therefore low switching costs, such as office material, might distinguish itself through no asset specificity, within an unassisted market (fig.1). Therefore less safeguards have to be provided (Williamson 2010, p. 24-25). Equal to Kraljick, who argues that low valued components are non- critical, when the supply market is competitive (Cousins, Lamming et al. 2008 p. 56.), and according to the tactic levers, indicating that low valued components can be outsourced internationally. (Schiele, Horn et al. 2011, p. 330). Transaction cost economics might support this way of thinking.

2.6.3 Decision point 3 and 4

Companies who examine their supply strategy often focus on distributing the planned purchasing volume of suppliers and define the relationship approach through 7 successive phases (Monczka et al. 2010 p. 163). According to Monczka et al, those steps consist of *recognizing the need for supplier selection, identifying key sourcing requirements, with determining sourcing strategy, which is already indicated in decision point 2, identifying potential supply sources, limit suppliers in selection pool, determining method of supplier evaluation and selection, selecting supplier and reaching agreement* (Williamson 2010, p. 24-25). The first two steps have to be organized beforehand. When identifying the key sourcing requirements by paying attention to the Transaction cost approach, one can include the need to have the least amount of transaction costs. The third step was evaluated beforehand, as seen in decision point 3. Therefore one might have a closer look towards step 4 until 7. The seven steps are shown in the following model.

Fig.2 Supplier selection process: (Monczka et al. 2010 p. 163),



The identification of potential sources might be aggravated through coordination costs, created from transfers of property rights as a result of uncovering one another, communication and exchange of information (Stavins 1994, p.134). The less tools for communication are set up by the supplier, in order to exchange information, the less possible it might be to identify a potential supply source. To set up an example; If an organization is not represented via a Website, it might increase coordination costs because it will take longer to search for the organization. Since transaction cost economics differentiates between suppliers offering special technology components with high asset specificity, and suppliers that provide components without asset specificity, the supplier pool can already be decreased, by using the Transaction cost approach to evaluate and select suppliers dependent on the importance of the supplied component, and whether it is a key component or not (Williamson 2010, p.24-25). Since key components contribute to a competitive advantage of the buying organisation, one might take a supplier offering special technology, to make sure that the buyer is ahead of the market (Williamson 2010, p.24-25). However if the supplied component is not contributing to a competitive advantage, such as office supply, one might limit the supplier pool by selecting suppliers with low asset specificity. Whether a supplier is procuring special technology or non-special technology might be seen in the request for proposal, where implications such as suppliers innovative capabilities and R&D potential are demanded (Cousins, Lamming et al. 2008, p. 61). Since Transaction cost economics is the theory of ongoing contractual relations (Williamson 2007, p.3), it assumes that according to the level of transaction costs, there might be an assigned contract which minimizes transaction costs. When reaching an agreement to purchase a component outside the company, Market governance and therefore spot market contracting can be applied for components with low asset specificity since switching costs for alternatives are low (Raynaud, Sauvee et al. 2005, p.63), keeping transaction costs low as well. Since the supplier with no asset specificity is placed within an unassisted market (Williamson 2010, p.24-25), the buyer does not have to provide as many safeguards in order to retain a good relationship, because of low switching costs. Therefore he can discriminate the supplier by offering long term fixed prices, resulting in higher risks for the supply side. Key components might be produced in a field of environmental complexity. Letting a key component be procured from the external market, one might take hybrid governance and provide written contracts which are legally enforceable guarantees with a chosen duration (Raynaud, Sauvee et al. 2005, p.63). More safeguards for those suppliers should be provided in order to create a bilateral relationship with fluent transactions and sort out uncertainty. Incentive based contracts are favorable, since the supplier gets a rewards when attaining a goal which was set up by the buyer in the contract beforehand. However if minimal transaction costs cannot be attained because of the risk of supply failure emerging from no agreement within the contracting negotiation, one might use the hierarchy mode and produce the component within the own organization. The contract conditions have to be discussed in the negotiation process. (Perdue and Summers 1991 p. 175 cited according to Dobler, Burt et al. 1990 p.212) Nevertheless it is more common to discuss the purchasing conditions of a complex component than negotiating on non-complex components.

Table2. Insights of Transaction cost economics on the Primary Decision Points of Purchasing: own table

Primary decisions In Supply chain management			
The make or buy decision	Sourcing strategy	Creating supplier portfolio	Supplier negotiation and contract awarding
<p>Buy if transaction costs are low, or can be kept low through safeguards.</p> <p>make when transaction costs are high.</p>	<p><i>Single sourcing:</i> provide safeguards to form cooperative relationship and sort out uncertainty.</p> <p><i>Multiple sourcing:</i> provide less safeguards and use competitive pressure of non -assisted market.</p>	<p><i>Pool special technology suppliers</i> with high asset specificity if a key component has to be supplied that leads to competitive advantage.</p> <p><i>Pool non-special technology suppliers</i> that do not provide a key component leading to competitive advantage.</p>	<p>The higher the asset specificity, the higher the possibility of Transaction costs because of bilaterate relationship. Set up awarding conditions and other safeguards in contracts.</p> <p>Provide less to no safeguards to suppliers with low asset specificity. Switching costs are low.</p>

3. TRANSACTION COST ECONOMICS SUPPORTS THE PURCHASING FUNCTION IN ALL PRIMARY DECISIONS

Transaction cost economics was of great influence in the past and is still of great impact. Being part of the revolutionary New-Institutional economics, it contributed to reforming the common perception of organizations within economics. Since then the necessity of Transaction Cost economics is underlined by a high number of articles that use the theory, ranging from theoretical to empirical papers, not only in the economical field but finding applicability in other fields such as public policy, health economics and policy, or agricultural economics and policy. Still developing full formalism, Transaction cost economics will stay a topic in great demand. The theory might be criticized because of its dispersed empirical outcomes, however since the theory is in a pre-formal stage, added pieces of knowledge will help continuing to develop Transaction cost economics. Furthermore the theory can be made operational and measurable, which might be a reason why it is broadly evaluated through empirical studies. To answer the question whether Transaction cost economics contributes to the purchasing function, the paper provided an analysis of the primary process steps within purchasing and aligned the transaction cost Economics approach with it, to give implications on its relevance. The primary processes consist of the make or buy decision, sourcing strategy, creating a supplier

portfolio and supplier negotiation and contract rewarding. Transaction cost economics contributes to all of the primary decisions. The primary decisions are supported by the Transaction cost Approach, giving a roadmap on how to decide or at least provide underlying assumptions. Especially the make or buy decision has fits with Transaction cost economics, further examined by Williamson in 2010 (Williamson 2010, p.24-25), also shown in fig.1 of this paper.

Continuing with decision point 2, Transaction cost economics does not provide direct guidance, on when to single source or when to use multiple sources, however through the underlying assumption of uncertainty and bounded rationality of human agents, one could conclude that a minimum of transaction cost is ensured through a contract with safeguards, such as rewards, in case of a single source approach or that a minimum of transaction costs is ensured through competitive pressure from suppliers with low asset specificity, using a multiple sourcing approach. An equal assumption is underlying decision point 3, creating a Supplier portfolio. When creating a supplier portfolio, one might diversify between suppliers that offer special purpose technology that leads to a competitive advantage, or a component with low asset specificity, not contributing to the company's performance. Therefore one might use *special technology suppliers* with high asset specificity if a key component has to be supplied that leads to competitive advantage and pool components with low asset specificity for a component that is not contributing to a competitive advantage of the organization. The last decision point, contracting is part of transaction costs. Transaction cost economics is the theory of ongoing contractual relations (Williamson 2007, p.3), it pays particular attention to the choice of contracts. Legally enforceable contracts with rewards should be provided when applying hybrid governance (Raynaud, Sauvee et al. 2005, p.63), spot market contracting for market governance (Raynaud, Sauvee et al. 2005, p.63), or produce in-house via Hierarchical governance.

In conclusion one can say, that transaction cost economics supports purchasing in every succinct step of primary decisions on supply management, most explicitly the make or buy decision. It might be criticized because of numerous reasons such as ignoring the institutional and social situation of the transaction (Rooks, Raub et al. 2006, p.267.), or does not take into account governance choices (Leiblein and Miller 2003, p.855), however continuous research will resume its contributions in the directions of the criticisers, trying to cover up the theory's weaknesses.

4. REFERENCES

- Andersen, P. H., & Rask, M. (2003). Supply chain management: new, et al. (2003). "Supply chain management: new organisational practices for changing procurement realities." Journal of Purchasing and Supply management **9**(2): 83-95.
- Armen A. Alchian, H. D. (1972). "Production, Information Costs, and Economic Organization." The American Economic Review **62**(5): 777-795.
- Arnold, U. (2000). "New dimensions of outsourcing: a combination of transaction cost economics and the core competencies concept." European Journal of Purchasing & Supply Management **6**(1): 23-29.
- Artz, K. W. and T. H. Brush (2000). "Asset specificity, uncertainty and relational norms: an examination of

- coordination costs in collaborative strategic alliances." Journal of Economic Behavior & Organization **41**(4): 337-362.
5. Barnard, C. I. (1968). "The functions of the executive." Harvard University Press **11**: 1-200.
6. Bensaou, M. (1999). "Portfolios of buyer-supplier relationships." Sloan management review **40**(4): 35-44.
7. Bozarth, C., et al. (1998). "Stages of global sourcing strategy evolution: an exploratory study." Journal of Operations Management **16**(2-3): 241-255.
8. Brown, J. R., et al. (2000). "Managing marketing channel opportunism: the efficacy of alternative governance mechanisms." The Journal of Marketing: 51-65.
9. Carr, A. S. and L. R. Smeltzer (1997). "An empirically based operational definition of strategic purchasing." European Journal of Purchasing & Supply Management **3**(4): 199-207.
10. Carr, A. S., Smeltzer, L. R., (1999). "The relationship of strategic purchasing to supply chain management." European Journal of Purchasing & Supply Management **5**(1): 43-51.
11. Carter, J. R. and R. Narasimhan (1996). "Is purchasing really strategic?" Journal of Supply Chain Management **3**(1): 20-28.
12. Christopher L. Shook, G. L. A., David J. Ketchen Jr, Christopher W. Craighead (2009). "Towards a "theoretical toolbox for strategic sourcing." Supply Chain Management: An International Journal, **Vol. 14**(1): pp.3 - 10.
13. Christopher L. Shook, G. L. A. a. D. J. K. J., Christopher W. Craighead (2009). "Towards a "theoretical toolbox" for strategic sourcing." Supply Chain Management: An International Journal, **14**(1): 3-10.
14. Coase, R. (1998). "The New Institutional Economics." The American Economic Review **88**(2): 72-74.
15. Coase, R. H. (1937). "The nature of the firm." economica **4**(16): 386-405.
16. Coase, R. H. (1960). "The Problem of Social Cost." Journal of Law and Economics **3**: 1-44.
17. Commons, J. R. (1931). "Institutional economics." The American Economic Review: 648-657.
18. Cooper, R. and R. Slagmulder (2004). "Interorganizational cost management and relational context." Accounting, Organizations and Society **29**(1): 1-26.
19. Cousins, P., et al. (2008). "Strategic Supply Management: Principles." Theories and Practice, Harlow, UK: Pearson Education.
20. David, R. J. and S.-K. Han (2004). "A systematic assessment of the empirical support for transaction cost economics." Strategic Management Journal **25**(1): 39-58.
21. Di Benedetto, C. A., Calantone, R. J., Van Allen, E., & Montoya-Weiss, M. M. (2003). "Purchasing joins the NPD team." Research-Technology Management, **46**(4): 45-51.
22. Dobler, D. W., et al. (1990). Purchasing and materials management: Text and cases, McGraw-Hill New York.
23. Eon-Kyung, L., et al. (2001). "Supplier selection and management system considering relationships in supply chain management." Engineering Management, IEEE Transactions on **48**(3): 307-318.
24. Fill, C. and E. Visser (2000). "The outsourcing dilemma: a composite approach to the make or buy decision." Management Decision **38**(1): 43-50.
25. Fink, R. C., Edelman, L. F., Hatten, K. J., & James, W. L. (2006). "Transaction cost economics, resource dependence theory, and customer-supplier relationships." Industrial and Corporate Change **15**(3): 497-529.
26. Fudenberg, D., et al. (1990). "Short-term contracts and long-term agency relationships." Journal of economic theory **51**(1): 1-31.
27. Geyskens, I., et al. (2006). "Make, Buy, or Ally: A Transaction Cost Theory Meta-Analysis." Academy of management journal **49**(3): 519-543.
28. Gibbons, R. (2010). "Transaction-Cost Economics: Past, Present, and Future?" Scandinavian Journal of Economics **112**(2): 263-288.
29. Gigerenzer, G. and D. G. Goldstein (1996). "Reasoning the fast and frugal way: models of bounded rationality." Psychological review **103**(4): 650.
30. Goldberg, V. P. (1976). "Regulation and administered contracts." The Bell Journal of Economics: 426-448.
31. Grossman, S. J. and O. D. Hart (1986). "The costs and benefits of ownership: A theory of vertical and lateral integration." The Journal of Political Economy: 691-719.
32. Gupta, A. and C. D. Maranas (2003). "Managing demand uncertainty in supply chain planning." Computers & Chemical Engineering **27**(8-9): 1219-1227.
33. Hart, O. and J. Moore (1990). "Property Rights and the Nature of the Firm." Journal of political economy: 1119-1158.
34. Hubbard, T. N. (2001). "Contractual form and market thickness in trucking." RAND Journal of Economics: 369-386.
35. Kiesling, E., et al. (2012). "Agent-based simulation of innovation diffusion: a review." Central European Journal of Operations Research **20**(2): 183-230.
46. Klein, B., et al. (1978). "Vertical Integration, Appropriable Rents, and the Competitive Contracting Process." Journal of Law and Economics **21**(2): 297-326.
47. Klein, P. (2008). The Make-or-Buy Decisions: Lessons from Empirical Studies. Handbook of New Institutional Economics. C. Ménard and M. Shirley, Springer Berlin Heidelberg: 435-464.
48. Klein, P., & Shelanski, H. A. (1995). "Empirical research in transaction cost economics: A review and assessment." Journal of Law Economics and Organization, **11**: 335-361.

49. Klein, P. G. (2000). "NEW INSTITUTIONAL ECONOMICS" Encyclopedia of Economics (1): 456-479.
40. Kotabe, M. and J. Y. Murray (2004). "Global sourcing strategy and sustainable competitive advantage." Industrial Marketing Management **33**(1): 7-14.
41. Kozenkow, J. (2013). "New institutional economics: Foundations and latest trends." Society and Economy **35**(1): 87-101.
42. Lamming, R., et al. (2008). Strategic supply management: principles, theories and practice, Pearson Education.
43. Lyons, B. R. (1995). "Specific investment, economies of scale, and the make-or-buy decision: A test of transaction cost theory." Journal of Economic Behavior & Organization **26**(3): 431-443.
44. Makadok, R. and R. Coff (2009). "Both market and hierarchy: An incentive-system theory of hybrid governance forms." Academy of management review **34**(2): 297-319.
45. Macher, J. T. and B. D. Richman (2008). "Transaction cost economics: An assessment of empirical research in the social sciences." Business and Politics **10**(1).
46. Masten, S. E. (1984). "The organization of production: Evidence from the aerospace industry." Journal of Law and Economics **27**(2): 403-417.
47. Moe, T. M. (1984). "The New Economics of Organization." American Journal of Political Science, **28**(4): pp. 739-777.
48. Monczka, R. M., et al. (2010). Purchasing & Supply Chain Management, South-Western Cengage Learning.
49. Monczka, R. M. H., R. B./Giunipero, L. C./Patterson, J. L./Waters, D. : t. (2010). Purchasing & Supply Chain Management.
50. Monteverde, K. and D. J. Teece (1982). "Supplier switching costs and vertical integration in the automobile industry." The Bell Journal of Economics: 206-213.
51. Murrell, P. (1991). "Can Neoclassical Economics Underpin the Reform of Centrally Planned Economies?" The Journal of Economic Perspectives **5**(4): 59-76.
52. Nabli, M. K. and J. B. Nugent (1989). "The New Institutional Economics and its applicability to development." World Development **17**(9): 1333-1347.
53. Nolle, J., et al. (2005). "About "strategy" and "strategies" in supply management." Journal of Purchasing and Supply Management **11**(2): 129-140.
54. Perdue, B. C. and J. O. Summers (1991). "Purchasing agents' use of negotiation strategies." Journal of Marketing Research: 175-189.
55. Peter G. Klein (2010). The Elgar Companion to Transaction Cost Economic, Edwards Elgar Publishing Limited.
56. Pfeffer, J., & Salancik, G. R. (2003). The external control of organizations: A resource dependence perspective. New York, Stanford University Press.
57. Raynaud, E., et al. (2005). "Alignment between quality enforcement devices and governance structures in the agro-food vertical chains." Journal of Management & Governance **9**(1): 47-77.
58. Reck, R. F. and B. G. Long (1988). "Purchasing: A Competitive Weapon " Journal of Purchasing and Materials Management **24**(3): 2-8
59. Riordan, M. H. and O. E. Williamson (1985). "Asset specificity and economic organization." International Journal of Industrial Organization **3**(4): 365-378.
60. Royer, A. (2011). "Transaction costs in milk marketing: A comparison between Canada and Great Britain." Agricultural Economics **42**(2): 171-182.
61. Rooks, G., et al. (2006). "Ex post problems in buyer-supplier transactions: effects of transaction characteristics, social embeddedness, and contractual governance." Journal of Management & Governance **10**(3): 239-276.
62. Schiele, H. (2010). "Early supplier integration: the dual role of purchasing in new product development." R&D Management **40**(2): 138-153.
63. Schiele, H., et al. (2011). "Estimating cost-saving potential from international sourcing and other sourcing levers: Relative importance and trade-offs." International Journal of Physical Distribution & Logistics Management **41**(3): 315-336.
64. Shelanski, H. A. and P. G. Klein (1995). "Empirical research in transaction cost economics: a review and assessment." Journal of Law, Economics, & Organization: 335-361.
65. Simon, H. A. (1985). "Human Nature in Politics: The Dialogue of Psychology with Political Science." The American Political Science Review **Vol. 79**(2): 293-304.
66. Stavins, R. N. (1994). "Transaction costs and tradable permits." Journal of environmental economics and management **29**: 133-148.
67. Steenkamp, J.-B. M. and I. Geyskens (2012). "Transaction cost economics and the roles of national culture: a test of hypotheses based on Inglehart and Hofstede." Journal of the Academy of Marketing Science **40**(2): 252-270.
68. Tseng, M.-L., et al. (2009). "Selection of optimal supplier in supply chain management strategy with analytic network process and choquet integral." Computers & Industrial Engineering **57**(1): 330-340.
69. Verbeke, A. and L. Kano (2012). "The Transaction Cost Economics Theory of the Family Firm: Family-Based Human Asset Specificity and the Bifurcation Bias." Entrepreneurship: Theory & Practice **36**(6): 1183-1205.
70. Verma, R. and M. E. Pullman (1998). "An analysis of the supplier selection process." Omega **26**(6): 739-750.
71. W. Jager, M. A. J., H.J.M. De Vries, J. De Greef, C.A.J. Vlek ((2000). "Behaviour in commons dilemmas: <i> Homo economicus</i> and <i> Homo psychologicus</i> in an ecological-economic model." Ecological economics **35**(3): 357-379.

72. Walker, G. and D. Weber (1984). "A transaction cost approach to make-or-buy decisions." Administrative science quarterly: 373-391.
73. Williamson, O. (1975). "Markets and hierarchies: analysis and antitrust implications." New York: The Free Press
74. Williamson, O. E. (1967). "Hierarchical Control and Optimum Firm Size." Journal of political economy **75**(2): 123-138.
75. Williamson, O. E. (1973). "Markets and Hierarchies: Some Elementary Considerations." The American Economic Review **63**(2): 316-325.
76. Williamson, O. E. (1976). "Franchise bidding for natural monopolies-in general and with respect to CATV." The Bell Journal of Economics: 73-104.
77. Williamson, O. E. (1979). "Transaction-Cost Economics: The Governance of Contractual Relations." Journal of Law and Economics **Vol. 22**, (No. 2): pp. 233-261.
78. Williamson, O. E. (1981). "The Economics of Organization: The Transaction Cost Approach." American Journal of Sociology **87**(3): 548-577.
79. Williamson, O. E. (1985). "The Economic Institutions of Capitalism." New York: Free Press.
80. Williamson, O. E. (1987). "Transaction cost economics: The comparative contracting perspective." Journal of Economic Behavior & Organization **8**(4): 617-625.
81. Williamson, O. E. (1991). "Comparative Economic Organization: The Analysis of Discrete Structural Alternatives." Administrative Science Quarterly **36**(2): 269-296.
82. Williamson, O. E. (1996). "The Mechanisms of Governance." Oxford university press: 1-411.
83. Williamson, O. E. (2000). "The New Institutional Economics: Taking Stock, Looking Ahead." Journal of Economic Literature **38**(3): 595-613.
84. Williamson, O. E. (2002). "The Theory of the Firm as Governance Structure: From Choice to Contract." The Journal of Economic Perspectives **16**(3): 171-195.
85. Williamson, O. E. (2007). "Transaction Cost Economics: An Introduction." Discussion paper: 1-32.
86. Williamson, O. E. (2010). The Elgar companion to transaction cost economics, Edward Elgar Publishing Limited.
87. Williamson, O. E. (2010). "Transaction Cost Economics: The Natural Progression." Journal of Retailing **86**(3): 215-226.

