

# **Traditional Industrial Economics and Purchasing: a Theoretical Application of the SCP-paradigm on Decision Points in Purchasing**

Hugo L.C. Hazersloot  
University of Twente  
P.O. Box 217, 7500AE Enschede  
The Netherlands  
h.l.c.hazersloot@student.utwente.nl

**ABSTRACT, This paper addresses Industrial Economics and its core model the SCP-paradigm. Furthermore the question was raised how Industrial Economics contributes to decision making in the purchasing year cycle. The link between the decision points in purchasing and Industrial Economics is made with help of the SCP-Paradigm. The findings in this paper provide insights for research and practice as to the relation between the market structure, firm's conduct and firm's performance. As well as how structure will affect behaviour and performance of firms and industries.**

## **Keywords.**

Industrial Economics, SCP-paradigm, Purchasing, Decision-Making, Market structure, Market Concentration, Entry Barriers, Firm behaviour, Performance.

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.  
*2<sup>nd</sup> IBA Bachelor Thesis Conference*, November 7<sup>th</sup>, 2013, Enschede, The Netherlands.  
Copyright 2013, University of Twente, Faculty of Management and Governance.

# 1. INTRODUCTION – THE IMPORTANCE OF MARKET CHARACTERISTICS IN PURCHASING DECISION MAKING

In the last decade the importance of the Purchasing Department for global organizations has increased significantly, due to a competitive global business environment (Krause et al., 2001, p. 49). The efforts of the purchasing departments have gained interest in many industries to opportunities they bring as cost reductions, performance improvements, etc. (Nollet et al. 2005, p. 130). The theory of Industrial Economics, also known as Industrial Organisation, is concerned with the study of firms, industries and markets (London/Kenley, 2001, p. 778). Specifically, it deals with economic problems of firms and industries, and their relationship to society (Barthwal, 2004, p. 2). The theory of Industrial Economics helps firms to understand e.g. levels of capacity, output and prices, differentiation in the market, investments, and advertisement (Aguirregabiria, 2004, p. 4-5). Furthermore, Industrial economics is an important contribution to the supply chain management as methodology for understanding conduct and industry structure and performance (London/Kenley, 2001, p. 777). Since purchasing strategies are aligned with the corporate strategy, and mainly focused on factors such as cost reductions and increasing performance, an extensive analysis of the market/industry with Industrial Economics could give insights towards the right strategy. In order to examine the importance of Industrial Economics, this theory is operationalized by the core model of this theory: the structure-conduct-performance paradigm (SCP-paradigm)(Scherer/Ross, 1990, p. 59). This paradigm emphasizes links between market structure and business conduct in determining market performance (Clarke, 1985, p. 2). Basically, the SCP method implies a relationship between its three components: market structure, conduct and performance in a way that the performance of an industry is influenced by the behaviour of the players within it (conduct), which on the other hand is determined by the companies' market power (structure) (Grigorova et al., 2008, p. 2). Therefore, this model implies that the market structure and performance are influenced by strategic decisions, such as decisions towards purchasing. Therefore, this paper links the SCP-paradigm of Industrial Economics towards the core decision points in purchasing. These decision points are identified in the Purchasing Year Cycle (See appendix). Next to these decision points the purchasing year cycle underlines the core responsibilities of purchasing, which are evaluating and selecting suppliers, reviewing materials, acting as the primary contact with suppliers and deciding how to make purchases (Monczka et al, 2010, p. 28-29). In the purchasing year cycle, purchasing processes were categorized into antecedent, primary, and supporting processes. Antecedent processes are preliminary processes which are outside the span of control of purchasing and link purchasing to corporate targets (Cousins et al., 2008, p. 13-15). Decision point 1 is part of the antecedent processes in which purchasing clarifies the need for a product. Eventually, purchasing will consider whether to produce inhouse or outsource (Walker & Weber, 1984, p. 374). This sourcing decision is important since it affects costs, and therefore performance (Monczka et al., 2010, p. 159). This paper will operationalize decision point 1 with help of 'strategic sourcing model' which shows when to buy and when to make it in-house (Monczka et al., 2010, p. 159). The 'strategic sourcing model' focuses on maturity of technology in the market, the firm's own technical

competencies and the significance of process technology for competitive advantage. Next, the primary processes, in which the actual purchasing occurs and includes assembling products to a product group (Cousins et al., 2008, p. 47) and forming a basis for a purchasing strategy (Schiele, 2006, p. 2). Decision point 2 concerns the establishment of a sourcing strategy, which is determined by the corporate strategy (Rendon, 2005, p. 8). This paper will identify the right sourcing strategy with help of the Kraljic matrix (Kraljic, 1983, p. 111-112). Decision point 3 is related with determining an appropriate supplier strategy to act upon the previous two decisions and will be operationalized in this paper with help of seven factors that might influence the decision according to Monczka et al. (2010, p. 167). Decision point 4, contract awarding, leads purchasing to actually select, negotiate and contract a supplier based on before stated corporate and functional goals and strategies. For this decision a model presented by Monczka et al (2010, p. 336), called 'Desirability of using types of contract', serves as the best way to come to the right decision on this point. Supplier evaluation is the last process of the primary processes. This step is a crucial task of the purchasing function as it measures the actual performance of the supplier in terms of for instance delivery, quality, costs and service (Monczka et al, 2010, p. 220). Moreover, supplier evaluation enhances continuous improvements of the capabilities of the supplier, which helps to ensure that current and future needs of an organization are met (Prahinski/Benton, 2004, p. 39). The supporting processes are the last processes established in the 3-phase model of the Purchasing year cycle and are meant to improve performance of the primary functions and include controlling, contract management, organization and personnel, and analyses. The controlling process aims at monitoring the execution phase and delivers input to the demand planning process. Since these decision points are of great importance in purchasing, the right decisions should foster, purchasing and thus firm performance. Purchasing performance can be measured in two categories: effectiveness and efficiency (Monczka et al. 2010, p. 470). The clear link between purchasing performance and firm performance underlines the importance of a well-functioning purchasing control system to make it both effective and efficient (Carr/Smeltzer, 1999, p. 49). Because the SCP-paradigm of Industrial Economics gives an extensive insight in the market/industry structure, and what behaviour in that specific structure foster performance, one could state that Industrial Economics (SCP-paradigm) is of great importance for successful corporate decision-making. Since industrial economics fosters decision making and contributes to supply chain management, the aim of this paper is to link the SCP-paradigm theoretically towards these decision points in purchasing in order to be able to answer the main question in this paper; whether the SCP-paradigm fosters decision making in purchasing or not.

## 2. INDUSTRIAL ECONOMICS

### 2.1 Introduction – Industrial Economics

In the following paragraphs and sections this paper presents the SCP-paradigm of Industrial Economics and its contributions to purchasing. A literature review on Industrial Economics and more extensively on the SCP-paradigm in this paper aims at understanding and explaining the relationship between variables and what factors are of influence (Smith, 1999, p. 1256). Industrial economics has been a major influence on strategy theory and research and has showed the contribution towards business (Grimm, 2008, p. 18). The outcome of the SCP-paradigm could help managers to make the right decisions. The rationale behind research on business practices is to narrow down the gap between theory and

practice (Forza, 2002, p. 152). Theories are important for research and practice as they can help to relativize complex and dynamic environments (Chicksand et al., 2012, p.456). This because theory and empirical research can offer simplified models and theories about uncertain environments (Song et al., 2002, p. 969). Theories can be defined as a set of proportions about e.g. behaviour or structure (Sutherland, 1975, p. 9). The general goal of theories is to accomplish an understanding of reality (Bernath/Vidal, 2007, p. 430). Therefore, theories could enhance practical business functions in real-life by presenting new ideas and/or perspectives for instance. Thus, theory in supports managers in understanding real-life phenomena and relations. Therefore, theory is strongly related to practice. As stated before, an industrial organization economic framework accepts that there are relationships between the 'structure' of markets, the conduct of firms and the performance of firms (London/Kenley, 2001, p. 778). Moreover, the Industrial Economics theory involves the logical application of neoclassical models to draw deductions about the performance of markets (Ferguson/Ferguson, 1994, p. 37) The theory of Industrial Economics is operationalized by the SCP-Paradigm to emphasize links between market structure and business conduct in determining market performance (Edwards et al., 2006, p. 1). Therefore, the SCP-paradigm is recognized as one of the most efficient and reliable means to analyze an industry or more specifically the market power-profitability relationship within it (Grigorova et al., 2008, p. 2). The SCP-paradigm is concerned with measuring the degree of competition in markets and understanding its underlying determinants (Corts, 1993, p. 227). Furthermore, the focus of the SCP-paradigm is on identifying structure variables that are observable and measurable and that are linked with market power or collusion (Church/Ware, 2000, p. 425). In order to measure, the SCP-paradigm consists out of three basic elements, all indicated by different variables, which are: structure, conduct (behaviour), and performance (Carlton/Perloff, 2000, p. 4). Yet, this paradigm suggests that a series of basic economic conditions determine market structure (Norman/La Manna, 1992, p. 1). According to Carlton and Perloff, the basic economic conditions can be divided in two 'sides', namely the supply and the demand side.<sup>71</sup> According to Clarke, standard economic theory tells that these factors are important in any market or industry (Clarke, 1985, p. 3). Therefore, these conditions should always be kept in mind with any economic theory (Clarke, 1985, p. 3). This analyses gives insight on the market structure the firms operates in, the firm's behaviour and strategy (conduct), and the decisions related to that, that suit this structure and in the end it shows what the influence of this conduct is on the firm's performance in terms of e.g. profits. This in return could then strengthen firms market position. Purchasing strategies can be identified as conduct, since this is leading for the firm's purchasing behaviour. This conduct (e.g. purchasing strategy) is dependent on the structure of a market and the product portfolio. Moreover, this conduct is has an effect on the firm's performance and the purchasing performance. This purchasing performance, has in turn an effect on the firm performance (Carr/Smeltzer, 1999, p. 49). Purchasing performance can be measured in two categories: effectiveness and efficiency (Monczka et al., 2010, p. 470). This implies that, since purchasing strategy is part of conduct, has an effect on both firm and purchasing performance. This is in line with the view of the SCP-paradigm, where effectiveness and efficiency are variables of the performance element. Next to that, the purchasing strategy is defined by the corporate strategy, which in turn should be developed according to the

basic economic conditions and again the structure of the market (Monczka et al., 2010, p. 25-26). Next to that, the corporate strategy can be categorized by Porter's three generic strategies (Nayyar, 1993, p. 1652). These generic strategies are differentiation, overall low cost, and focus in order to achieve competitive advantage (Dess/Davis, 1984, p. 467). Regarding the four decision points of the purchasing year cycle (see Appendix), the SCP-paradigm stresses the following with regards to the four elements of this model. For the first decision point; make-or-buy, which is mainly dependent on the basic conditions and the market structure within the paradigm. The basic conditions give insight in the volume (un)certainly, and technology just as conduct, whereas structure defines the market not only the technology, but also the market concentration in which the firm operates, which is of great importance on this decision point. Next to that the SCP-paradigm could be used for analyzing what implications vertical integration has on the firm's performance. The second decision point; 'category strategy' mainly depends on the market structure of the supply market, mainly the market complexity. Next to that, since product value is an important aspect in making this decision, the basic conditions and performance element provide a firm with other important information. The third decision point; 'supplier relationship strategy', could be of help since it provides the firm with the needed information about the market structure of the supply market in the sense of concentration, conduct and performance give insight in the capabilities and behaviour of the suppliers. Also, basic conditions help to identify the competencies. Lastly, decision point four; 'contract awarding' which mainly depends on the basic conditions and performance element, since these identify volume (un)certainly and technological capabilities.

## **2.2 History - Industrial Economics and the Traditional SCP-paradigm Came to Existence in the 1940s and 1950s and Have, to Some Extent, Been Preserved Ever Since.**

The evolution of modern industrial economics started more than two hundred years ago. In the book 'Wealth of Nations', Adam Smith laid down a strong foundation for the economic theory, which is now known by the name classical economics (Barthwal, 2004, p. 3-4) This is regarded as the grounding of contemporary industrial economics, where it was an integral part of classical economics. After Adam Smith, the development of the economic analysis of industrial activities was subjected to the methodological division. S. Jevon and Edgeworth established the conditions for equating price and average cost of a production and hence, elimination of the excess profit, almost one hundred years ago (Barthwal, 2004, p. 4). Clark carried their work further and Knight was able to refine the perfect competitive model which we see at present (Barthwal, 2004, p. 4). From this stage, the theory started taking a significant turn. The assumption of perfect competition, assumed by Smith, was found inappropriate to describe the true behaviour of a firm (Barthwal, 2004, p. 4). Most likely, Straffa's description of the laws of returns under competitive conditions was the turning point. Next, came the stumbling blocks of John Robinson's theory of imperfect competition and the Chamberlin's analysis of monopolistic competition, both in 1933 (Barthwal, 2004, p. 4). These two theories, in particular Chamberlin's, opened new venues for industrial economics. Because of these theories, duopoly, oligopoly, product diversification, advertisement behaviour, R&D, pricing policy etc. became burning topics for analysis

(Barthwal, 2004, p. 4). The modern theory of industrial economics came to existence out of a number of academic projects in the United States in the early 1950s (Corley, 1990, p. 88). The name industrial economics was adopted in the early fifties by P.W.S. Andrews (Devine et al., 1974, p. 13). Important research findings on this subject were published in the *Journal of Industrial Economics*, founded by Andrews in 1952. In this journal important contributions appeared by Bain, Marris, Stigler on one side and Simon, Cyert and March, and Galbraith on the other. These contributions cultivated industrial economics towards the grand theory as we know it now-a-days (Barthwal, 2004, p. 6). Bain provided the "Structure-conduct-performance" paradigm for industrial analysis, which is a quite significant contribution to industrial economics (Barthwal, 2004, p. 6). Moreover, The SCP-paradigm has been developed by Mason in the early 1940s and 1950s, Bain was his successor (Grigorova et al., 2008, p. 2). Marris analysed the role of managerial behaviour in the context of modern corporations. This work has been extended in the framework of 'techno-structure' by Galbraith (Barthwal, 2004, p. 6). Next, Cyert and March developed a behavioural theory of the firm, which opened a new frontier in the study of industrial economics (Barthwal, 2004, p. 6). Moreover, Simon studied the decision-making process in industrial organization as administrative unit. Lastly, Stigler focused on analysing the oligopoly structures (Barthwal, 2004, p. 6). Concluding on the history of industrial economics one could say that the last 40 to 50 years of the development of the theory were crucial on this matter. Apart from the traditional structure-performance-conduct framework, industrial economics is exploring new fields of study like strategic behaviour, industrial dynamics, laboratory experiments, transaction convergence, price discrimination, efficiency of contracts, internal organization, non-price competition, financial structure, non-cooperative games, etc. (Barthwal, 2004, p. 7). As stated before, the SCP-paradigm of is the traditional industrial economics approach. The SCP-paradigm has also faced several adjustments over time, yet the core of the model has been preserved since the publication of the traditional theory by Bain. The SCP paradigm was the creation of the Harvard school of thought, with the development by Mason in the 1940s and Bain continuing to stress the importance of market structure in the 1950s (Grigorova et al., 2008, p. 5 ; Clarke, 1985, p. 2). This view popularized during 1940-60 with its empirical work involving the identification of correlations between industry structure and performance (Edwards et al., 2006, p. 1). This view was followed by the Chicago school of thought, that emerged in 1973 by Demsetz (Ferguson/Ferguson, 1994, p. 18). This view emphasized on the rational for firms becoming big, price theory and econometric estimation (Edwards et al., 2006, p. 1). Moreover, this theory suggest that high profits may be a sign of efficiency instead of market power (Ferguson/Ferguson, 1994, p. 19). As already mentioned, this is in line with the second hypothesis where performance affects structure. Lastly, the New Austrian school. This school of thought has been pushed on by von Mises and von Hayek. They believe that competition is essentially a process which cannot be analyzed by conventional, static economic models (Clarke, 1985, p. 6). These Austrian economist look skeptically on the SCP-paradigm and the underlying neoclassical assumptions (Clarke, 1985, p. 6). The same underlying neoclassical view has been the reason for development of new economic theory and econometrics, named new industrial organization. Proponents of this theory seek to integrate industrial economics more closely with neoclassical theory (Ferguson/Ferguson, 1994, p. 19) In doing

so, this model has moved away from the emphasis upon structure, arguing that conduct is the key element, interacting with both structure and performance (Ferguson/Ferguson, 1994, p. 19). The Game theory is a development of new industrial organization. During 1980-90 the game theory took centre stage with emphasis on strategic decision making and Nash equilibrium concept (Edwards et al., 2006, p. 1) A Nash equilibrium, also called strategic equilibrium, is a list of strategies, one for each player, which has the property that no player can unilaterally change his strategy and get a better payoff (Turocy/von Stengel, 2001, p. 3). After 1990, empirical industrial organization with the use of economic theory and econometrics lead to complex empirical modelling of technological changes, merger analysis, entry-exit and identification of market power (Edwards et al., 2006, p. 1).

### **2.3 Assumptions - Two different hypotheses assume different relationships in the SCP-paradigm: a one-way and a two-way relationship.**

SCP studies assume a stable relationship and a line of causality that runs from structure through conduct to performance (Church/Ware, 2000, p. 425). Hence, the original SCP-paradigm assumes an one-way relationship. This is the assumption that market structure determines market conduct and thereby affecting market performance (Roth, 2005, p. 4). Moreover, the SCP approach involves the logical application of neoclassical models to draw deductions about the performance of markets (Ferguson/Ferguson, 1994, p. 37). Moreover, since the reliance on neoclassical theory, the paradigm assumes that equilibrium states and perfect information are found in practice (Ferguson/Ferguson, 1994, p. 37). The original SCP-paradigm is based on the assumptions that demand is known and constant and that competition is a state (McWilliams/Smart, 1995, p. 309). Next to that, perfect competition is one of the cornerstones of neoclassical theory (Beaulier/Mounts, 2008, p. 2). The underlying assumptions of the SCP approach (e.g. that firms attempt to maximize profits, that firms have perfect information, and that tastes are constant) lead to the conclusion that perfect competition is the ideal market structure (Roth, 2004, p. 11 cited according to Wirth/Bloch, 1995, p. 18). The market structure of perfect competition requires five necessary assumptions: firms sell a homogeneous product, there are a large number of small firms, firms are price takers, there are no barriers to entry and exit in the long-run, and firms and consumers have perfect information (Beaulier/Mounts, 2008, p. 2). Obviously, these characteristics are unrealistic for most industries. The degree of concentration in a market has been considered as one of major structural characteristics in the traditional SCP-paradigm (Meschi, 1997, p. 11). The traditional structure performance hypothesis (H1) states that the degree of market concentration is inversely related to the degree of competition (Edwards et al., 2006, p. 1). This is because market concentration encourages firms to collude (Edwards et al., 2006, p. 1) Collusion in turn, affects again the degree of competition. This traditional hypothesis is true if a positive relationship exists between market concentration (measured by industry concentration) and performance (measured by profits), regardless of firm efficiency (measured by market share) (Allen et al., 2005, p. 2). Thus firms in more concentrated industries will earn higher profits than firms operating in less concentrated industries, irrespective of their efficiency (Edwards et al., 2006, p. 1). This is explicable since higher concentration leads to higher

prices, greater than normal (Ahamed, 2012, p. 6 cited according to Bain, 1951, p. 293-324). Therefore, concentration is inversely related to consumer welfare and the number of firms in the market. In addition, the price of the firm gets closer to marginal cost if concentration falls which leads to fall in market power as well (Ahamed, 2012, p. 6). The second hypothesis of the SCP-paradigm is the efficiency-structure hypothesis (H2) (Edwards et al., 2006, p. 1). According to this hypothesis, performance causes structure. More specifically, firms that increase efficiency gain market share at the expense of less efficient firms, which increases concentration (Catena, 2000, p. 1). This is because market concentration emerges from competition where firms with low cost structure increase profits by reducing prices and expanding market share (Edwards et al., 2006, p. 2). Demsetz suggested this hypothesis in 1973 (Dassiou, 1990, p. 126). This is the main development over years towards the original SCP-paradigm, which, as repeatedly mentioned, assumes just a relationship running from structure to performance. Moreover, unlike the traditional hypothesis that links collusion with increased profits (performance), in the second hypothesis, increased profits are assumed to emerge at more efficient firms, since these firms are more efficient and not because of collusion (Edwards et al., 2006, p. 2 cited according to Molyneux/Forbes, 1995, p. 155-159).

## **2.4 Key constructs - The SCP-paradigm Emphasizes Links Between Market Structure and Business Conduct in Determining Market Performance.**

### **2.4.1 Structure describes the characteristics and composition of markets and industries in an economy.**

In the SCP-paradigm, structure is the first element that comes after the basic economic conditions. Structure describes the characteristics and composition of markets and industries in an economy (Ferguson/Ferguson, 1994, p. 14). Structure is given a broad meaning covering a miscellany of different characteristics relation both to individual firms and relationships between firms (Needham, 1970, p. 1). According to Devine et al. this distinguished approach of definition depends on whether structure is viewed internal or external to the individual industry (Devine et al., 1976, p. 55) Devine et al. (1976, p. 55) claim that structure can be viewed external or internal to the industry; ‘*Used in the first sense, structure refers to the relative importance of individual industries (or groups of related industries) within the economy and to patterns of transactions between these industries. Used in the second sense, structure is a concept derived from the received theory of the firm which analyses business behaviour according to the structure of the market in which it operates. In this latter sense, ‘structure’ refers to the level of seller and buyer concentration, the height of entry barriers and the degree of product differentiation within individual industry markets.*’ In this paper, the definition of the latter sense, referred to as ‘market structure’ is preferred. Yet, it is important to have stretched out the difference in approach.

Basically, structure in the SCP-paradigm is determined by all factors that characterize market structure (Norman/La Manna, 1992, p. 1). It relates to the relative importance of broadly defined sectors in the economy, at the most aggregated level (Ferguson/Ferguson, 1994, p. 14). Jacquemin (2000, p. 9) published a working paper of the European commission in which market structure is being described; ‘*At the level of market structure, industrial organisation examines the number*

*of competitors who operate in the relevant market and the distribution of market shares, the conditions of entry and exit, product standardization and its proximity to substitutable goods, the interdependence between upstream and downstream activities, the quality of information controlled by partners and the degree of risk involved.*’ The main principal structural characteristics are; market concentration, differentiation of products, easiness of market entry, and the extent to which firms are integrated or diversified (Ferguson/Ferguson, 1994, p. 14). Vertical integration is an important factor in the structure, since it could act as an entry barrier by means of large scale production. This in return leads to higher entrance investments, since new firms should correspond with those high production volumes (Caves/Porter, 1977, p. 246-247). Joskow (1988, p. 300) describes vertical integration as follows: ‘*Vertical integration is the combination of technologically distinct production, distribution, selling and/or other economic processes within the confines of a single firm.*’ Next, structure refers to the number (concentration) and size distribution of firms in the economy as a whole (Ferguson/Ferguson, 1994, p. 14). This market concentration, the amount of firms in a market, is important since this concentration is of influence on the strategy (Bain, 1968, p. 113). The higher this concentration is, the closer the market would be towards a monopoly structure (Bain, 1968, p. 113). Buyer concentration is concerned with the number and size distribution of the buyers (Bain, 1968, p. 150) This factor of structure will be discussed more extensively further on in the paper. Mohamed et al. (2013, p. 1457-1458). describe market concentration and the effects of it; ‘*A market is said to be concentrated if there are few number of firms in the production or there is an unequal distribution of the market shares. The more the concentration level of the industry, the higher would be the degree of monopoly and competition loss. Low concentration of an industry indicates less market power held by the leading firms. Market power is a condition where the providers of service can consistently charge price above those that would be established by competitive market. The industrial organization studies prove that market power in the hand of single producer or fewer numbers of producers, enables a firm to set price above the marginal cost.*’ The degree of product differentiation is another important factor, since it can refer to an imperfection in the substitutability (to buyers) of the output of competing sellers in an industry (Bain, 1968, p. 224). No differentiation would impact conduct and performance so that there is one price for all sellers and the market shares are determined randomly (Bain, 1968, p. 229). Therefore, differentiation is important in structure since it could strengthen the firm’s market position and profit. Moreover, product differentiation can act as an entry barrier (Church/Ware, 2000, p. 430 cited according to Bain, 1956). This because, in case of strong brand loyalty, the new entrant should convince consumers to buy his product instead, by offering better terms e.g. quality or price, or by greater advertising (Church/Ware, 2000, p. 430). Lastly entry barriers, which are elements that hinder new firms to enter a market. These barriers have an effect on conduct as well as on performance because entry barriers influences the setting of prices by established firms (Bain, 1968, p. 270). The higher the entry barriers, the higher the limit to set prices (Carlton/Perloff, 2000, p. 21). If there are no entry barriers, it will be difficult for existing firms in the industry to maintain prices above marginal costs and earn profits. Any profits associated with non-competitive pricing would then invite entry, which would continue until all profits are competed away (Church/Ware, 2000, p. 429). Moreover, entry barriers

are required in order to exercise market power (Church/Ware, 2000, p. 429). Next to that, entry barriers are one of the determining factors for market concentration (Tung et al., 2010, p. 1124). In the end, the structure is characterized by several factors that determine the structure of the market. Therefore, the firm's conduct should fit the characteristics of the market, which will be discussed later on in the paper. Concluding, however, it could be stated that after decided the focus of the structure, the view of the economist is quite concordant.

#### ***2.4.1.1 Porter adapted the structure and basic conditions into the five forces for analysing industries and their structures, which affects competition policy.***

The strategic position can be evaluated using the five forces model of Porter (1980): threat of entry, suppliers, buyers, substitutes and internal rivalry. Porter based his theory on the SCP-paradigm to study industrial organizations and industries (Bridoux, 2004, p. 5). When comparing the five forces model of Porter and the SCP-paradigm, Porter adapted the structure and basic conditions into the five forces. However: the SCP-paradigm is more extensive and gives a full overview of the aspects (Bridoux, 2004, p. 5). Yet, entry barriers and the number of buyers and sellers are of great importance for the strategic decisions based on the SCP-paradigm (Carlton/Perloff, 2000, p. 266). As said before, the model is useful for setting up a competition policy. This policy and corporate strategy are affected by the different market structures. In return, the performance of the firm is affected by structure. Therefore, the market structure is very important to identify. As mentioned, the type of market structure depends strongly on the number of buyers and sellers and the entry barriers. Bain (1968) opposed four different market structures, fully atomistic market (perfect competition), simple oligopoly, simple oligopsony, and bilateral oligopoly. For the economist, the ideal structure is one with many small firms, giving rise to intense competition, which will in turn maximize consumer welfare (Grimm, 2008, p. 19). In the case of a fully atomistic market, or competition, Bain suggest that it consists of many small buyers and many small sellers, which leads to independence of actions between each actor on the market and no influence on prices, since prices and output are generated by the impersonal market forces (Bain, 1968, p. 151). Oligopoly is referred to as simple oligopoly by Bain (1968), with many small buyers but a high degree of seller concentration. This allows the few suppliers to have control over prices. The higher the seller concentration, the higher the control over prices (Bain, 1968, 151). Market power is the ability to have some control over the price of the good offered for sale (Reynolds, 2005, p. 1). Within simple oligopsony, there are many small sellers and a high degree of buyer concentration. This is the opposite of the simple oligopoly structure. In simple oligopsony, buyers have more control over prices, because in this case the buyers have more power, due to the higher concentration. Also in this case, the higher the buyer concentration, the higher the control over prices (Bain, 1968, p. 151-152). Bilateral Oligopoly is a another market structure that is mentioned by Bain (1968). This market structure has a high degree of buyer concentration, as well as a high degree of seller concentration (Bain, 1968, p. 151-152). In this structure both sides possess market power and prices are stable (Funaki et al., 2012, p. 30). As can be concluded from these different market structures, market power and prices depend on the kind of market structure. These different market structures can tell one about the market power of the

firms operating in any of these structures (Grigorova et al., 2008, p. 1). To conclude, the basic conditions determine the structure of the market which in return affect market power and therefore the competition policy of a firm operating in a particular market.

#### ***2.4.2 Conduct refers to firm's behaviour, and is affected by structure and affects performance in return.***

Conduct is the third aspect of the SCP paradigm that is by definition directly influenced by the market structure (Grigorova et al., 2008, p. 1). Conduct refers to the behaviour (actions) of the firms in a market: to decisions firms make and to the way in which decisions are taken (Ferguson/Ferguson, 1994, p. 15). The behaviour of the firm is therefore determined by the structural characteristics of the industry (Mohamed et al., 2013, p. 1457). Scherer and Ross suggest that conduct in the SCP-paradigm is related with the firms' product strategies, innovation and advertising (Scherer/Ross, 1990, p. 59). It focuses on how firms set prices, whether independently or in collusion with other firms in the market and on how firms decide on their advertising and research budgets, and how much expenditure is devoted to these activities (Ferguson/Ferguson, 1994, p. 15). Conduct also takes into consideration the pricing strategies and product strategies of the firms within an industry, research and development, mergers, legal strategies, etc. and a product strategy where each firm is constantly attempting to develop new brands (Grigorova et al., 2008, p. 4). These aspects of conduct are influenced by the structure of the market, since the firm's activities are based on the environment it is in to be successful (Mohamed et al., 2013, p. 1458). Lipczynski and Wilson, report that policy objectives, pricing objectives, research and development and marketing strategies such as advertising and product differentiations are some of the firm conducts in a market set-up that are influenced by the structure of the market (Mohamed et al., 2013, p. 1457-1458 cited according to Lipczynski/Wilson, 2001). To demonstrate the influence of market structure on firm's conduct advertising and product pricing are a good example. The amount of advertising depends on the market structure, since in an oligopoly structure for instance advertising is more important than price competition. This is because a change in selling price by one firm is perceived by the competition shortly after the change in price, which will match the set price, which in return will result in lower profits for all sellers (Ferguson/Ferguson, 1994, p. 67-68). It is the other way around in a perfect competition structure, where advertising is less important than price competition, because of the selling of homogeneous products by all firms (Ferguson/Ferguson, 1994, p. 67). On the other hand, firm's conduct is able to influence the market structure as well. Firms's conduct is able to change market structure by merging for instance. Different mergers, horizontal, vertical, or conglomerate, are of different influence on the structure of market. This because mergers between firms could increase market power, by increasing the market share or the entry barriers in an industry (Shepherd/Wilcox, 1979, p. 164-165). Moreover, when a horizontal merger takes place, market concentration increases, competition reduces and the merging firms increase their market power over prices (Shepherd/Wilcox, 1979, p. 167). Concluding from this, one could say that together with structure, conduct defines performance. Hence, firm's conduct is also capable of changing the market structure.

### 2.4.3 Performance indicates the degree of performance and is affected by structure and conduct.

Performance is the last element of the SCP-paradigm. According to Furguson and Furguson (1994, p. 15), the economist's concern is with this element. Performance indicates the degree of performance of firms. Do firm's operations enhance economic welfare or not. (Furguson/Furguson, 1994, p. 15). According to Fu (2003, p. 276), the term 'performance', as used by economists, generally refers to the degree to which the operation of a market can achieve economic efficiency. The usual consideration, however, in this element is how well firms satisfy consumer requirements in the current time period (Furguson/Furguson, 1994, p. 15). The performance component of the framework is influenced by the industry's conduct that may or may not make best possible contribution to achieve the goals (Mohamed et al., 2013, p. 1458). In SCP-paradigm, it has been recognized that the performance of a firm is associated with market structure and strategies (behaviour) of a firm (Scherer/Ross, 1990, p. 59). The considerations of different aspects of market performance are, such as, production efficiency, advanced technology, product quality and profit rate (Tung et al., 2010, p. 1119). Therefore it is argued that structure and conduct, together determine performance of a certain industry (Norman/La Manna, 1992, p. 1).

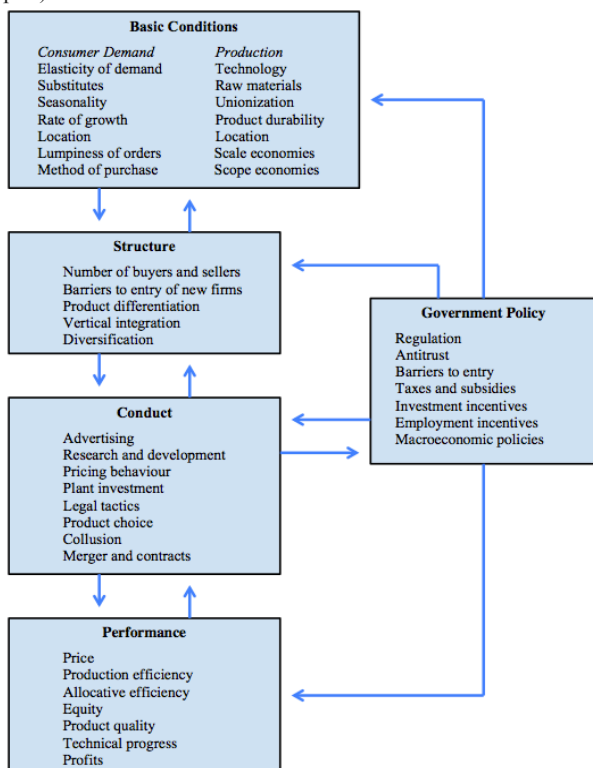


Figure 1: SCP-Paradigm (Carlton/Perloff, 2000, p.4)

### 2.4.4 Government policies have an effect on basic conditions, structure, conduct, and performance.

Government policies are an important factor in modern business. According to Carlton and Perloff (2000, p. 4), who incorporated government policy as an extra element into the SCP-paradigm (See figure 1), government policy has an effect

on basic conditions, structure, conduct, and performance. Next to that they suggest that the influence between conduct and government policy is two-sided, in other words; government policy influences conduct and conduct affects government policies as well (Carlton/Perloff, 2000, p. 4). The variables of the element government policy are regulation, antitrust, barriers to entry, taxes and subsidies, investment incentives, employment incentives, and macroeconomic policies (Carlton/Perloff, 2000, p. 4). All these government actions are intended to either increase or decrease welfare (Carlton/Perloff, 2000, p. 4). Antitrust policies have three main parts. They are supposed to act against (1) established high concentration, (2) mergers that may create new market power, and (3) cooperation among firms to reduce competition (Shepherd, 1990, p. 202). All three parts are intended to reduce market power (Shepherd, 1990, p. 202) and eliminate market inefficiencies (Carlton/Perloff, 2000, p. 645). Taxes and subsidies are supposed to encourage either a tighter or a more competitive market (Shepherd, 1990, p. 203). In the end, all these government actions are supposed to lead the market into the right direction and regulate competition, and so governments could even establish entry barriers. Ronald Reagan remarked to the White House Conference on Small Business at the fifteenth of August, 1986 (Carlton/Perloff, 2000, p. 648): "Government's view of the economy could be summed up in a few short phrases: If it moves, tax it. If it keeps moving, regulate it. And if it stops moving, subsidize it." Since, government policy is always present in modern business, this paper will not further elaborate on this element. Yet, it is important to notice that government policy is of great importance in daily business.

### 2.5 Empirics - With help of different measures, empirical research shows that the SCP-paradigm has been transformed over time towards a two-way relationships.

Since conduct was thought to be difficult, if not impossible, to observe directly, the focus of the SCP-paradigm is on identifying structure variables that are observable and measurable and that are linked with market power or collusion (Church/Ware, 2000, p. 425). The SCP-paradigm is concerned with measuring the degree of competition in markets and understanding its underlying determinants (Corts, 1993, p. 227). The SCP-paradigm has generated much empirical work. The principal tests have sought to relate profits (or price) to: 1. Market concentration 2. Market concentration plus entry barriers 3. Differences in relative or absolute firm size causing differences in efficiency or in the rate of innovation 4. Differential growth rates which imply that markets are in disequilibrium 5. The level of advertising relative to sales (advertising intensity) (Furguson/Furguson, 1994, p. 22). The competitiveness of a market determines the extent to which prices and costs vary, with important implications for consumer welfare, firm profits, and the efficiency of the market. The price-cost margin is the natural measure of a market's competitiveness (Corts, 1993, p. 227). Measures of market performance provide an answer to the degree of market power exercised in the industry (Carlton/Perloff, 2000, p. 238). According to Carlton and Perloff (Carlton/Perloff, 2000, p. 238), there are two different commonly used measures that reflect the profits or the relationship of price to cost to test how close an industry's performance is to the competitive benchmark. These two measures are: 1. Rate of return, which is based on profits earned per euro of investment. 2. Price-cost margin, which is

based on the difference between price and marginal cost. The Lerner-index or price-cost margin is a theoretical measure of market power, which means it also is an indicator of market performance (Ferguson/Ferguson, 1994, p. 15). The formula of the Lerner-index is:  $(\text{price} - \text{marginal cost}) / \text{price}$ . The closer the index is to 1, the greater the market power (Ferguson/Ferguson, 1994, p. 15). A third measure, which is less commonly used, is Tobin's q. Which is the ratio of the market value of a firm to its value based on the replacement cost of its assets (Carlton/Perloff, 2000, 239). Measures of structure are thought to have a relation to the degree of competitiveness in an industry (Carlton/Perloff, 2000, p. 247). The structural variables have typically been measures of seller concentration and barriers to entry. Therefore, industry concentration, entry barriers, and product differentiation are discussed (Church/Ware, 2000, p. 428-430). Industry concentration is in most SCP studies the most emphasized variable. It is typically measured as a function of the market shares of some or even all of the firms in the market (Carlton/Perloff, 2000, p. 247). The most commonly used measure to measure market structure is the 'four-firm concentration ratio', which is the share of industry sales accounted for by the four largest firms. This form of measurement also exists as 'eight-firm concentration ratio', since it is more reliable comparable to measure concentration on only the four largest firms of an industry (Carlton/Perloff, 2000, p. 247). Next to that, for measuring concentration with all firms, the Herfindahl-Hirschman Index is the most used function. This calculation equals the sum of the squared market shares of each firm in the industry (Carlton/Perloff, 2000, p. 247). Next entry barriers, which is according to Carlton and Perloff (2000, p. 250) the most important structural factor determining industry performance. Commonly used proxies for entry barriers include minimum efficient firm size, advertising intensity, and capital intensity (Carlton/Perloff, 2000, p. 250). Bain (1956) defined the height of entry barriers as the increase in price above average cost. This would in return induce entry (Church/Ware, 2000, p. 430). Then, measurement of product differentiation. Variables to measure the extent of product differentiation typically are based on some measures of the intensity of research-and-development expenditures or of advertising expenditures (Church/Ware, 2000, p. 430). The traditional SCP-paradigm assumes a flat causal relationship running from the basic conditions, towards structure, which in turn affects conduct and conduct affecting the actual performance. With help of the above mentioned measurements, empirical research that has been conducted over the years shows that there is not just an one-way relation between those elements. Moreover, empirical studies show that performance, and more particularly, conduct, affect structure (Ferguson/Ferguson, 1994, p. 17). Implicating that performance is not just dependent on structure and conduct, but that performance also influences structure in turn. This means that there is evidence for a two-way relationship. Research by Tung et al. identifies two-way causes and effects that exist between market structure and their strategic behaviours (Tun et al., 2010, p. 1124). Next to that, market structure influences the conduct and the performance, on the other hand, is affected by the conduct (Grigorova et al., 2008, p. 30). Therefore, it could be concluded that the static SCP-paradigm has been transformed over time towards a SCP-model with two-way relationships. Therefore, it could be stated that both hypotheses are proven to be right by empirical research.

## 2.6 SCP-paradigm to Purchasing Decision Points: Foster Decision Making and Increase Performance

### 2.6.1 SCP-paradigm and Decision Point 1: 'Make-or-Buy'

The following chapters will address the link between the four decision-points and the SCP-paradigm. In order apply the model as extensive as possible, this paper make uses of the neoclassical assumption of the SCP-paradigm. This neoclassical assumption implies perfect competition and perfect information (Roth, 2004, p. 11 cited according to Wirth/Bloch, 1995, p. 18). Next to that, for the SCP-paradigm to influence the decision points, this paper assumes that a firm should analyse both their own and supply market with help of the SCP-paradigm. The first decision point identified in the purchasing year cycle is 'make or buy'. After the clarification of a need, this question will come forward. The sourcing decision is important since it affects costs, and therefore performance (Monczka et al., 2010, p. 159). Important key factors for this decision point are: 1. Vertical integration 2. Demand planning and 3. Volume (un)certainly. Beside these key factors derived from the Purchasing year cycle, Monczka et al. (2010, p. 159) present a 'strategic sourcing model' which shows when to buy and when to make it in-house. The 'strategic sourcing model' focuses on maturity of technology in the market, the firm's own technical competencies and the significance of process technology for competitive advantage. From this model one could conclude that there are four main factors that influence the decision point make or buy. These are: 1. Volume (un)certainly, 2. Maturity of technology in the market, 3. Firm's own technical competencies, 4. The significance of process technology for competitive advantage. Vertical integration is determined by make-or-buy decisions (Walker/Weber, 1984, p. 374). The more vertically integrated a firm is, the more integrated this firm is produces in-house. Vertical integration indicates if the firm makes or buy. Vertically integrated firms can manufacture the components they need, but they face a relatively high cost of governance. Specialized firms can produce at lower cost, but search for partners is costly, and input suppliers face a potential holdup problem (Grossman/Helpman, 2002, p. 85). Furthermore, firms are likely to keep operations internal that they consider part of their core operations (Monczka et al., 2010, p. 159). In order to establish a link between demand planning and the decision whether to make or to buy, volume uncertainty becomes the critical driver. This uncertainty is reduced when the company has unilateral control by performing all activities in-house (Walker/Weber, 1984, p. 373). Since under conditions of high volume uncertainty, suppliers experience unexpected production costs and excess capacity while buying companies have to deal with stock-outs and excess inventory, it is argued that volume uncertainty shifts the supply decisions to making rather than buying. The volume (un)certainly can be derived via the basic conditions of the SCP-paradigm, since these are concerned with seasonality, rate of growth, and the lumpiness of orders. These factors are part of the demand side of the basic conditions. The maturity of technology in the market, firms own technical competencies, and the significance of process technology for competitive advantage are another important factors in this decision point. These factors are identified in the 'strategic sourcing model' (Monczka et al., 2010, p. 159): The contribution of the SCP-model towards these factors that influence the first decision point could be as follows. As already mentioned, the certainty of volume can be derived from the basic economic condition. The maturity of



technology of the market can be derived as well from the basic conditions, yet from the supply side, since this is concerned with technology, so the way the products are produced in the supply market (Carlton/Perloff, 2000, p. 4). Next to that, information about the maturity of technology of the market can also be derived structural and conduct part of the model, since high maturity could be an entry barrier, which are identified in the structure of the paradigm. Conduct refers to research and development. Since maturity of technology can be indicated from technological development (e.g. no technological development indicates high maturity of technology). The significance of process technology for competitive advantage indicates the overall low cost strategy of the generic strategies of Porter. In case of low cost strategy, the significance of process technology should be high, since streamlined processes will decrease cost, which in turn leads to higher turnover, so higher profits which will result in better performance, so competitive advantage. According to the model, structure defines performance in terms of market power (Shaik et al., 2005, p. 2). This is important in this decision point, since high market power equals influence on price (Reynolds, 2005, p. 1). Therefore, it is important to indicate if the supplier of the buying firm has market power. This can be analysed by the structure part, since market concentration indicates the market power of firms (Edwards et al., 2006, p. 1). In case of the buying party having market power, he has influence on the price the supplier asks, since in some sense, the supplier is the submissive party. The other way around; the supplier having market power. In this case the buying party should consider the price as given and might even experience minimum order quantities. Therefore, vertical integration becomes an issue for the buying firm. As long as the price of producing the product in-house does not exceed the supplier's price, vertical integration could be attractive. Since vertical integration is a part of structure, this would in turn change the market structure. It could act as an entry barrier by means of large scale production. This in return leads to higher entrance investments, since new firms should correspond with those high production volumes (Caves/Porter, 1977, p. 246-247). This, in turn will have an effect on the firm's conduct, since (plant) investments are part of conduct. Next to that, since structure influences performance (Scherer/Ross, 1990, p. 59), vertical integration has a positive effect on the performance element when: 1. The market is too risky and unreliable, 2. Companies in adjacent stages of the industry chain have more market power than companies in your stages of the industry chain, 3. Integration would create or exploit market power by raising barriers to entry or allowing price discrimination across customer segments, 4. The market is young and the company must forward integrate to develop a market, or the market is declining and the independents are pulling out of adjacent stages (Stuckey/White, 1993, p. 73). Yet, the decision to make a product (e.g. vertical integration is high), improves the competitive advantage and increases profits (Isaksen/Drayer, 2000, p. 4). This does influence the profits (performance), which in turn affects the structure of a market again, since vertical integration could act as entry barrier (Tung et al., 2010, p. 1124). Concluding, the decision to make or buy is dependent on the basic conditions and the market structure. Next to that, the decision is able to change the structure and performance of a firm. Yet, the paradigm could be used perfectly for this decision, since this decision mainly depends on structural characteristics of the market a certain firm operates in. Lastly, seen the effect of the make or buy decision (e.g. vertical integration) on the industry, it implicates that vertical integration has an effect on both hypotheses of the

SCP-paradigm.

### **2.6.2 SCP-paradigm and Decision Point 2: 'Category Strategy'**

The second decision point identified in the purchasing year cycle is 'category strategy'. This decision point is about the sourcing strategy, which is determined by the corporate strategy. The strategy for sourcing is dependent on two factors that are identified as influential towards this decision point, which are product value and market complexity/supply risk. Market complexity concerns for instance supply monopoly or oligopoly, entry barriers, pace of technological advantage, and logistics costs (Kraljic, 1983, p. 111). The strategic value of a product is concerned with the costs, value adding profile or profitability profile of a product. Therefore, the strategic value of a product can be acquired by the performance element of the model. Since this element is concerned with the price and quality of a product and profits of a firm (Tung et al., 2010, p. 1124). Moreover, the basic conditions on the supply side are concerned with product durability, which is strongly related to product quality (Carlton/Perloff, 2000, p. 4). Then, market complexity, which is related to the supply market structure, since it is concerned with concentration (e.g. supply monopoly or oligopoly) and entry barriers. Next to that, it is also related to conduct, since the pace of technological advantage strongly relates to research and development (degree of introduction of new products/processes). Yet, this conduct is concerned with the firm's market. From an analysis of both supply and own market, the information is acquired for identifying the right sourcing strategy with help of the Kraljic matrix. The Kraljic matrix puts every product into one of four different quadrants and advises how to implement the strategy. With leverage items (High value; low market complexity), firms should employ their purchasing power. With strategic items (high value; low market complexity), A partnership with the supplier is appropriate. With non-critical items (Low value; low market complexity), efficient processing should be ensured. Lastly, with bottleneck items (Low value; high market complexity), firms should focus on assuring supply (Kraljic, 1983, p. 111-112). The sourcing strategy through tactical levers can now be applied according to one of the chosen quadrants. This approach operationalizes and executes the sourcing strategy (Schiele et al., 2011, p. 319-322). A sourcing lever is 'a set of measures that can improve sourcing performance in a commodity group' (Schiele, 2007, p. 279) Again, the generic strategies differentiation, overall low cost, and focus in order to achieve competitive advantage are of influence on the corporate strategy (Dess, 1984, p. 467). This corporate strategy determines, with help of the chosen quadrant, which sourcing strategy (operationalized by sourcing levers) should be employed. Lastly, this sourcing strategy is part of the firm's conduct, which in turn, will affect performance again, and therefore structure of the supply as well as the firm's market (Hypothesis 1 and 2 of the SCP-paradigm). Therefore, one could conclude that the decision 'sourcing strategy' depends on the supply market structure and the firm's performance. Next to that, entry barriers resulting from vertical integration could have an effect on conduct in terms of investments to overcome these barriers.

### **2.6.3 SCP-Paradigm and Decision Point 3: 'Supplier Relationship Strategy'**

At this point, firms need to identify suppliers that suit best to their own vision and to the product they want to buy. Firms need to stipulate a strategy on sourcing. They have many different possibilities such as the choice of single or multiple

suppliers (Monczka et al., 2010, p. 164), and firms need to think about having a short- or long-term relationship with suppliers (Fudenberg et al., 1990, p. 2-3). After this has been decided, information needs to be gathered on potential suppliers after which the most suitable supplier will end up in a "shortlist" (Monczka et al., 2010, p. 167). This shortlist is meant to decrease (eliminate the weakest suppliers) the long list of potential suppliers to a list of strong suppliers (usually 4-6 suppliers) (Monczka et al., 2010, p. 167). Firms use so called "entry qualifiers", which are features needed to add a potential supplier to a shortlist (Monczka et al., 2010, p. 167). These considerations finally lead to decision point three; selecting supplier strategies and making supplier portfolio decisions. For this decision point the purchasing year cycle defined one important factor, being: supplier competencies, in order to establish a potential supply pool. Next to that, Monczka et al. (2010, p. 167) identifies seven factors that might influence the decision for creating a potential supply pool: (1) buying directly from a manufacturer or through distributor, which is dependent on four criteria; purchase size, manufacturer's policies about direct sales, storage space available at the buyer's facility, and required additional service. (2) Local, national, international or global suppliers, which depends on price, transport costs, stocks, communication, general risk and responsiveness. (3) Large or small suppliers, which is mainly dependent on demand changes, because large firms offer extra capacity. (4) Multiple or single sourcing. If a supplier gets into difficulties, multiple is preferable, since it reduces risk. Or, single sourcing and building up a long-term relationship. (5) Acceptable financial risk, which is about the financial health of a supplier. Preferable to know, since a healthy supplier is less risky. (6) Availability of supplier performance, which comes for instance from historic performance for instance. (7) Evaluation of supplier-provided information. Information about the supplier, used to screen the supplier and the

capabilities of that supplier. The SCP-paradigm can help firms with some of these criteria in theory. Supplier competencies (e.g. availability of supplier performance) could be identified with help of the SCP-paradigm. The conduct element of the paradigm could give insight in the research and development of the supplier, hence innovation and technical capabilities for instance (Carlton/Perloff, 2000, p. 4). The performance part of the SCP-paradigm could give insight in the supplier competencies as well, this in terms of quality of the product, price and the efficiency of production for instance (Carlton/Perloff, 2000, p. 4). Next to that, again the basic conditions of the supply market could be an indicator of product quality, since product durability is a determining factor in the quality of a product. So, competencies of the supplier can be assessed by the supply market basic conditions, conduct and performance of the supply market. Next, buying from local, national, international or global suppliers. The SCP- paradigm is in this case able to first identify by the structure element if the buying firm is able to choose. Structure gives insight in the concentration (number of buyers and sellers) (Ferguson/Ferguson, 1994, p. 14). This could also mean that there is a monopoly at the supply side, which implies that there is just one supplier available. If there are more suppliers available, price can be derived from the performance element of the supply market. Lastly, the basic conditions of the supply market also indicate the production locations in the supply market, which could indicate the transport costs, stocks, communication, general risk and responsiveness (Carlton/Perloff, 2000, p. 4). The choice between buying from small or large suppliers mainly depends on the demand (un)certainty. This is an element that can be derived from the basic conditions, as mentioned before. For the choice between single and multiple sourcing the SCP-paradigm, structure can again just identify if there are suppliers to choose from with help of the concentration. For example, high concentration in the supply market could imply

that there is one supplier having a monopoly. The financial health of suppliers, supplier performance could deliver this information in in terms of equity and profits by analyzing the supply market with the SCP-paradigm. Next to financial information about the supplier, additional information can be derived about the supplier by the conduct (behaviour) of the supplier, such as the degree of advertising and pricing behaviour (Carlton/Perloff, 2000, p. 4). Factor six and seven (e.g. availability of supplier performance and evaluation of supplier-provided information) can be considered as supplier competencies, since with perfect information all information is present about the performance of a supplier (Roth, 2004, p. 1 cited according to Wirth/Bloch, 1995, p. 18).

#### 2.6.4 SCP-Paradigm and Decision Point 4: 'Contract Awarding'

The fourth and last decision point in the purchasing year cycle is concerned with awarding contracts

Decision Points	Theory			
	Basic Conditions	Structure	Conduct	Performance
DP 1: make-or-buy	<ul style="list-style-type: none"> <li>Volume (un)certainty at the demand side (seasonality, product rate of growth, lumpiness of orders).</li> <li>Technology at supply side as indicator of maturity of technology of the market.</li> </ul>	<ul style="list-style-type: none"> <li>Maturity of technology in the market as entry barrier.</li> <li>Concentration buyers and sellers → who has market power?</li> </ul>	<ul style="list-style-type: none"> <li>Maturity of technology in the market by R&amp;D.</li> <li>Plant investment as result from vertical integration as an entry barrier.</li> </ul>	<ul style="list-style-type: none"> <li>Profit: effect of vertical integration of firm's profit</li> </ul>
DP 2: category strategy	<ul style="list-style-type: none"> <li>Supplier's product durability as indicator of the product's quality.</li> </ul>	<ul style="list-style-type: none"> <li>Supply market complexity: market concentration</li> </ul>	<ul style="list-style-type: none"> <li>Degree of introduction of new products and processes (R&amp;D).</li> </ul>	<ul style="list-style-type: none"> <li>Strategic value: price, profits, quality</li> </ul>
DP 3: supplier relationship strategy	<ul style="list-style-type: none"> <li>Volume (un)certainty at the demand side (seasonality, product rate of growth, lumpiness of orders).</li> <li>Supplier's product durability as indicator of the product's quality.</li> <li>Supplier's production location indicating the transport costs, stocks, communication, general risk and responsiveness.</li> </ul>	<ul style="list-style-type: none"> <li>Supply market concentration</li> </ul>	<ul style="list-style-type: none"> <li>Supplier competencies (R&amp;D)</li> <li>Additional information about supplier</li> </ul>	<ul style="list-style-type: none"> <li>Supplier competencies (quality, price, efficiency etc.)</li> <li>Supplier's financial health (equity, profits)</li> </ul>
DP 4: contract awarding	<ul style="list-style-type: none"> <li>Volume (un)certainty and market (un)certainty at the demand side (seasonality, product rate of growth, lumpiness of orders).</li> <li>Supplier's technology for certainty of supplier's process/technology.</li> <li>Scale economies indicate degree of advantage from high purchase value.</li> </ul>		<ul style="list-style-type: none"> <li>Degree of introduction of new products and processes (R&amp;D) for certainty of processes/technology.</li> </ul>	<ul style="list-style-type: none"> <li>Technical progress for certainty of processes/technology.</li> <li>Supplier's ability to affect costs by production efficiency, allocative efficiency, technical progress, and product price.</li> <li>Value of the purchase; just the product price.</li> </ul>

Figure 2: Matrix with SCP-Paradigm's contribution to the four decision points in Purchasing

after negotiating with suppliers and taking the supplier strategies into account. During negotiation, the buyer and supplier establish the terms of a purchase agreement (Perdue/Summers, 1991, p. 175 cited according to Dobler et al., 1990, p. 220). The negotiation process between two parties is determined by time management, information and the power between them (Perdue/Summers, 1991, p. 176). The complexity of a project determines if negotiation or competitive bidding is preferred. With a highly complex project, negotiation is most likely, since that way transmits more information between companies than with competitive bidding (Bajari et al., 2009, p. 386). Next to that, cost-plus contract are more suited for negotiations (Bajari et al., 2009, p. 379). With competitive bidding, the buying firm sends a request for quotation to the suppliers on the short list. Competitive is most effective when: orders are large, specifications are clear, the market is competitive, suppliers asked already been pre-selected and put into a short-list, suppliers have enough time to evaluate and respond, and if the buyer does not already have a preferred supplier (Monczka et al., 2010, p. 39). Moreover, fixed price contracts are more suited for competitive bidding (Bajari et al., 2009, p. 379). Next, for this decision a model presented by Monczka et al. (2010, p. 336), called 'Desirability of using types of contract', serves as the best way to come to the right decision on this point. This model takes into account several environmental conditions, such as market uncertainty, the term, trust, process/technology uncertainty, supplier's ability to affect cost and total purchase value. These environmental conditions are compared to fixed-price contract, and cost-based contract. Market (un)certainty is the first condition in the model, which can be derived from the SCP-paradigm. This condition can be derived from the basic conditions on the demand side in terms of seasonality, rate of growth and lumpiness of orders (Carlton/Perloff, 2000, p. 4). The higher this uncertainty, the more preferred a cost-plus contracts are. Next, the term. The choice between long or short term contracts depends on the (un)certainty of the market (Petrasch, 2006, p. 546). This again can be derived from the basic conditions on the demand side. Following, the degree of trust between buyer and seller. This cannot be derived from the model. Yet, cost-plus contracts are suited in a relationship with high trust (Monczka et al., 2010, p. 336). Furthermore, the certainty of process/technology. This can be derived from the basic conditions, conduct and performance element of the paradigm. The basic conditions on the supply side refer to technology, which is an indicator for the process of the production (Carlton/Perloff, 2000, p. 4). Conduct refers to research and development, which refers to the degree of introduction of new products/processes (Godin/Lane, 2011, p. 44). Whereas performance refers to technical progress, which includes the progression of the production process. Moreover, supplier's ability to affect costs. Monczka et al. (2010, p. 336) state that this ability can be derived from the fact that the supplier improves continuously or not. This has to do with production efficiency, allocative efficiency and the technical progress of a supplier and the price of the product. These factors are part of the performance element. Therefore, the buyer could analyze the process improvements of the supplier in order to buy at the cheapest price. In case of the supplier's ability to reduce price through process improvements, a cost-based price is preferred (Monczka et al., 2010, p. 336). Lastly, the total value of the purchase. This factor cannot be derived from the paradigm directly and completely, since quantity and price in this factor are determining for the total value. Yet, the product price can be derived from the performance element, but quantity depends on the firm's order size and is not available in the

SCP-paradigm. Nevertheless, the higher the value of a purchase, the more desirable a pricing mechanism with incentives becomes. Next to that, the supply market's basic conditions indicate the advantage of scale economies (Carlton/Perloff, 2000, p. 4), which could be a useful factor for determining the total purchase value.

### **3. CONCLUSION – INDUSTRIAL ECONOMICS (SCP-PARADIGM) THEORATICALLY SUPPORTS DECISION MAKING IN PURCHASING**

Industrial economics is said to help firms to understand e.g. levels of capacity, output and prices, differentiation in the market, investments, and advertisement. Next to that, this paradigm is proven to be an important contribution to the supply chain management as methodology for understanding conduct and industry structure and performance. The core model in traditional industrial economics, the SCP-paradigm, has been subject to an analysis in this paper and linked to purchasing. Moreover, the SCP-paradigm is in the basic focused on gaining market power, which can be measured by performance, which is affected by structure and conduct in the model. The theoretical link established in this paper, between purchasing and the paradigm shows that the purchasing decisions, which are conduct, since these are related to the behaviour of the firm, are indeed capable of creating performance. This because some decision points in purchasing are capable of changing the market structure (e.g. vertical integration as part of make-or-buy), this in return affects the firm's market position and therefore is capable of influencing the performance. This implies that both empirically found hypotheses might be confirmed and that the SCP-paradigm is of added value towards purchasing. Moreover, the SCP-paradigm is capable of making an extended overview of the industry the firm is operating in, including the (potential) suppliers. With this objective information, the firm could make deliberated choices. Therefore, the main question is this paper is; does the SCP-paradigm in theory enhance decision making in purchasing. It is clear from the established link in chapter 5 that the SCP-paradigm is able to enhance decision making in purchasing, since it analyses the complete market. By analysing both the firm's own market and the supply market the paradigm gives an exclusively extended insight in all aspects of both markets, which could be used as an advantage in making the four main decisions in purchasing. As shown in the matrix, the paradigm could be of influence on almost every decision point identified in the purchasing year cycle. Therefore, it could be concluded that the SCP-paradigm is of added value towards all 4 identified core decision points. Yet, since the SCP-paradigm is based on neoclassical theory, which assumes perfect information, this paradigm would in practice not be of the same added value towards these decision point as in theory. In order to explain the relations within the paradigm and the effect of business operations on the performance and market structure, perfect competition is the most ideal market structure, since most variables and conditions are equal, so that a direct comparison and the effect are easily exposed. Next to that, in order to make these decisions in the best way possible, the buying firm should analyse both the firm's own and supply market. Therefore, this theory would be in practice far more complex and less complete than in theory. Therefore, in practice this model is very complex and is not most effective in market structures other than perfect competition, which are rarely now-a-days. Nevertheless, from this theoretical analysis, including the perfect information view, it could be stated that in theory this

SCP-paradigm is of great added value towards the decision making. Therefore, it can be concluded that the SCP-paradigm is enhancing decision making in purchasing and is able to analyse the effects, on both market structure and performance, of the decision made.

#### 4. REFERENCES

- Aguirregabiria, V. (2011). *Empirical Industrial Organization: Models, Methods, and Applications*. University of Toronto.
- Ahamed, M.D.M. (2012). Market Structure and Performance of Bangladesh Banking Industry: A Panel Data Analysis. *Bangladesh Development Studies Vol. XXXV*, 3.
- Allen, A.J./ Shaik, S./ Myles, A.E./ Muhammad, S. (2005). *The Structure Performance Hypothesis and The Efficient Structure Performance Hypothesis-Revisited: The Case of Agribusiness Commodity and Food Products Truck Carriers in the South*. Presented at the Southern Agricultural Economics Association Annual Meetings, Little Rock, Arkansas.
- Bain, J.S. (1968) *Industrial Organization 2nd edition*: John Wiley & Sons Inc., New York.
- Bajari, P./McMillan, R./ Tadelis, S. (2009). Auctions Versus Negotiations in Procurement: An Empirical Analysis. *The Journal of Law, Economics & Organization*, 25(2), 372-399.
- Barthwal, R.R., (2004). *Industrial Economics*: New Age International (P) Ltd., Publishers, New Delhi
- Beaulier, S.A./ Mounts, W.M.S. (2008). *Asymmetric Information about Perfect Competition: The Treatment of Perfect Information in Introductory Economics Textbooks*. Doi: [http://www.scottbeaulier.com/Information\\_Version\\_2.doc](http://www.scottbeaulier.com/Information_Version_2.doc)
- Bernath, U./ Vidal, M. (2007). The Theories and the Theorists: Why Theory is Important for Research. *Distances et savoirs*, 5(3), 427-458.
- Bridoux, F. (2004). *A RESOURCE-BASED APPROACH TO PERFORMANCE AND COMPETITION: An Overview of the Connections between Resources and Competition*. Presented at the 2004 SMS Conference, Puerto Rico, USA. Doi: [http://www.uclouvain.be/cps/ucl/doc/iag/documents/WP\\_110\\_Bridoux.pdf](http://www.uclouvain.be/cps/ucl/doc/iag/documents/WP_110_Bridoux.pdf)
- 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.
- Catena, M. (2000). *Efficiency Structure Hypothesis: An application to the Argentine Banking Sector*. BCRA Working Paper,12. Doi: <http://www.bcra.gov.ar/pdfs/invest/itrabajo12.pdf>
- Clarke, R. (1985). *Industrial Economics*: Basil Blackwell Ltd.
- Carlton, D.W./ Perloff, J.M. (2000), *Modern Industrial Organization*: Addison-Wesley Longman.
- Caves, R.E./Porter, M.E. (1977) From Entry Barriers to Mobility Barriers: Conjectural Decisions and Contrived Deterrence to New Competition. *The Quarterly Journal of Economics*, 91(2), 241-261.
- Chicksand, D., Watson, G., Walker, H., Radnor, Z./Johnston, R. (2012). Theoretical perspectives in purchasing and supply chain management: an analysis of the literature. *Supply Chain Management: An International Journal*, 17(4), 454-472.
- Church, J./ Ware, R. (2000). *Industrial Organization: A Strategic Approach*. The McGraw-Hill Companies, Inc.
- Corley, T.A.B. (1990). Emergence of the Theory of Industrial Organization, 1890-1990. *BUSINESS AND ECONOMIC HISTORY*, 2(19), 83-92.
- Corts, K.S. (1993). Conduct parameters and the measurement of market power. *Journal of Econometrics*, 88, 227-250.
- Cousins, P.M./ Lamming, R./ Lawson, B./Squire, B. (2008). *Strategic Supply Management*. London: Pearson Education.
- Dassiou, X. (1990). The market power versus the differential efficiency ambiguity a discrimination theory. *Spoudai*, 45(3-4), University of Piraeus
- Dess, G./ Davis, P.S. (1984). Porter's (1980) Generic Strategies as Determinants of Strategic Group Membership and Organizational Performance. *Academy of Management Journal*, 27(3), 467-488.
- Devine, P.J./ Jones, R.M./ Lee, N./ Tyson, W.J. (1974). *An Introduction to Industrial Economics*: George Allen & Unwin Ltd., London.
- Edwards, S./ Allen, A.J./ Shaik, S. (2006). *Market Structure Conduct Performance (SCP) Hypothesis Revisited using Stochastic Frontier Efficiency Analysis*. Paper presented at the American Agricultural Economics Association Annual Meeting, Long Beach, California.
- Ferguson, P.R./ Ferguson, G.J. (1994). *Industrial Economics: issues and perspectives*: The Macmillan press Ltd.
- Forza, C. (2002). Survey research in operations management: a process-based perspective. *International Journal of Operations & Production Management*, 22(2), 152-194.
- Fudenberg, D./Holmstrom, B./ Milgrom, P. (1990). Short-term contracts and long-term agency relationships. *Journal of economic theory*, 51(1), 1-31.
- Funaki, Y./ Houba, H./ Motchenkova, E. (2012). *Market Power in Bilateral Oligopoly Markets with Nonexpandable Infrastructures*. Tinbergen Institute, 1-39. Doi: <http://papers.tinbergen.nl/12139.pdf>

- Godin, B./ Lane, J. (2011). 'Research or development? A short history of research and development as categories'. *Gegenworte*, 26, 44–48.
- Grigorova, N./ Müller, J./ Hüschelrath, K. (2008), *The Plausibility of the SCP Paradigm for Strategic Industry Analysis – Evidence from the Bulgarian Mobile Telecommunications Industry*. Paper presented at the 17th Biennial Conference. Doi: <http://www.canavents.com/its2008/abstracts/276.pdf>
- Grimm, C.M. (2008). The Application of Industrial Organization Economics to Supply Chain Management Research. *Journal of Supply Chain Management*, 44(3), 16-21
- Grossman, G.M./ Helpman, E. (2002). Integration Versus Outsourcing in Industry Equilibrium. *The Quarterly Journal of Economics*, 85-120.
- Isaksen, J.R./ Dreyer, B. (2000). The Impact of Vertical Integration on Performance. IIFET 2000 Proceedings, 1-10.
- Jacquemin, A. (2000). *Theories of Industrial Organisation and Competition Policy: What are the Links?*. European Commission, Forward Studies Unit.
- Joskow, P. (1988). Asset specificity and the structure of vertical relationships; Empirical evidence. *Journal of Law, Economics and Organization*, 4(1), 95-117.
- Kraljic, P. (1983). Purchasing must become supply management. *Harvard Business Review*, 61(5), 109-117.
- Krause, D.R./ Pagell, M./ Curkovic, S. (2001) Toward a measure of competitive priorities for purchasing. *Journal of Operations Management*. 19(4), 497–512.
- London, K.A./ Kenley, R. (2001). An industrial organization economic supply chain approach for the construction industry: a review. *Construction Management and Economics*, 19, 777–788.
- Meschi, M. (1997). Analytical Perspectives on Mergers and Acquisitions: A Survey. *CIBS Research Papers in International Business*, 5(97). Doi: <http://www.sbu.ac.uk/cibs/acrobats/5mesch97.pdf>
- McWilliams, A./ Smart, D.L. (1995). The Resource-Based View Of the Firm. *Journal of management inquiry*, 4(4), 309-316.
- Mohamed, Z./ Shamsudin, M.N./ Latif, I.A./ Mu'azu, A. (2013). *Measuring Competition Along the Supply Chain of The Malaysian Poultry Industry*. Presented at the International Conference on Social Science Research.
- Monczka, R.M./ Handfield, R.B./ Giunipero, L.C./ Patterson, J.L./Waters, D. (2010). *Purchasing & Supply Chain Management*: South-Western Cengage Learning.
- Nayyar, P.R. (1993). On the Measurement of Competitive Strategy: Evidence from a Large U.S. Multiproduct firm. *Academy of Management Journal*, 36(6), 1652-1669.
- Needham, D. (1970). *Economic Analysis and Industrial Structure*: Reinhart and Winston, New York.
- Nollet, J./ Ponce, S./Campbell, M. (2005). About “strategy” and “strategies” in supply management. *Journal of Purchasing and Supply Management*, 11(2), 129-140.
- Norman, G./ La Manna, M. (1992). *The New Industrial Economics*. Edward Elgar Publishing Ltd, England.
- Perdue, B. C./ Summers, J. O. (1991). Purchasing Agents' Use of Negotiation Strategies. *Journal of Marketing Research*, 28(2), 175-189.
- Petrash, J.M. (2006). LONG-TERM NATURAL GAS CONTRACTS: DEAD, DYING, OR MERELY RESTING?. *Energy Law Journal*, 27(545), 549-582.
- Prahinski, C./ Benton, W.C. (2004) Supplier evaluations: communication strategies to improve supplier performance, *Journal of Operations Management*, 22, 39–62.
- Rendon, R.G. (2005). Commodity sourcing strategies: Process, best practices, and defence initiatives. *Journal of Contract Management*, 3(1), 7-20.
- Reynolds, R.L. (2005). *Alternative Microeconomics. Part II, Chapter 13– Market Power*. Doi: [http://web1.boisestate.edu/econ/lreynol/web/PDF/Short\\_13\\_Market\\_power.pdf](http://web1.boisestate.edu/econ/lreynol/web/PDF/Short_13_Market_power.pdf)
- Roth, A. (2004). *The Ecology of a Dual Television Market: Competition and Diversity in the Netherlands*. Presented at the 6th World Media Economics Conference, Montreal, Canada.
- Schiele, H. (2006). *Quantifying the impact of the purchasing function's sophistication on cost savings through balanced sourcing strategies*. Paper presented at the IMP Conference, Milan, Italy
- Schiele, H. (2007). Supply-management maturity, cost savings and purchasing absorptive capacity: Testing the procurement–performance link. *Journal of Purchasing and Supply Management*, 13(4), 274-293. doi: <http://dx.doi.org/10.1016/j.pursup.2007.10.002>
- Schiele, H./Horn, P./ Vos, B. (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.
- Scherer, F.M./ Ross, D. (1990). *Industrial Market Structure and Economics Performance*; Houghton Mifflin Company, Boston.
- Shepherd, W.G./ Wilcox, C. (1979). *Public policies toward business 6th edition*: Richard D. Irwin, Inc.
- Shepherd, W.G. (1990). *The Economics of Industrial Organization*. Prentice-Hall International Ltd., London.

Smith, A. (1999). Testing theories of strategic choice: The example of crisis escalation. *American Journal of Political Science*, 1254-1283.

Song, M., Calantone, R.J., Di Benedetto, C.A. (2002). Competitive forces and strategic choice decisions: An experimental investigation in the United States and Japan. *Strategic Management Journal*, 23(10), 969-978.

Stuckey, J./ White, D. (1993). When and when not to vertically integrate. *Sloan Management Review*, 34(3), 71-83.

Sutherland, J.W. (1975). *Systems: Analysis, administration, and architecture*: Van Nostrand Reinhold Company New York, USA.

Tung, G./ Lin, C./ Wang, C. (2010). The market structure, conduct and performance paradigm re-applied to the international tourist hotel industry. *African Journal of Business Management*, 4(6), 1116-1125.

Turocy, T.L./ von Stengel, B. (2001). Game Theory. *CDAM Research Report LSE-CDAM-2001-09*.

Walker, G./Weber, D. (1984). A transaction cost approach to make-or-buy decisions. *Administrative Science Quarterly*, 373-391.

## APPENDIX

