



63rd FTTCE International Congress

26 - 28 September 2024, Kraków, Poland

Network tower sharing analysis in Greece: A Structure – Conduct – Performance approach

Vasileios Argyroulis^{1†*}, Antonios Kargas^{1†*}, Dimitios Varoutas^{2*}

1 Department of Business Administration, University of West Attica, Athens, Greece

2 Department of Telecommunications and Informatics, National and Kapodistrian University of Greece, Athens, Greece

Corresponding Author: vargyroulis@uniwa.gr, akargas@uniwa.gr, d.varoutas@di.uoa.gr

Keywords: Structure – Conduct – Performance, Network Tower Sharing, Greek Telecommunication Industry, International Competition, Strategic Decisions

Abstract

The research on Structure – Conduct – Performance (SCP) has covered over the years a wide range of empirical context applied on specific industries (McGee and Thomas, 1986; Cool and Schendel, 1987). Most studies involved on developing a theoretical link between exploratory variables coming from the research on market's structure and firms' conduct, with performance variables. These variables format five distinct conceptual pillars (Scherer and Ross, 1990) on an extended version of SCP model, whose variables may include (indicatively):

Basic Conditions: price elasticity, substitutes, demand growth rate from the demand side and raw material, technology, and product durability from the supply side.

1. Market Structure: number of sellers and buyers, product differentiation, barriers to entry, cost structures, vertical integration, and diversification.
2. Market Conduct: pricing behavior, product strategy and advertising, research and innovation, plant investments, and legal tactics.
3. Performance: in both terms of financial and in societal welfare terms, such as production and allocative efficiency, full employment, and also profitability (return on assets, ROA, or return on equity, ROE).
4. Public Policy: taxes and subsidies, international trade rules, price controls, antitrust legislation and information provision (Boyer, Ross and Winter, 2017).

Moreover, there are variables that directly affect both structure and conduct, while their use is specifically related with each industry's characteristics. Such variables are the number of patents, the

minimum efficient scale (MES), the Lerner index (difference between market price and marginal cost), seller concentration, and price rigidity (Caves and Porter, 1980; Panagiotou, 2006; Setiawan, Emvalomatis and Oude Lansink, 2012; Caves, Whinston and Hurwitz, 2013; Darmon et al., 2013; Mirzaei and Moore, 2014). Even though SCP paradigm ensures a causal linear correlation between structure and performance (i.e. Structure- >Conduct->Performance), this one-way-cause-effect logic has been questioned (Setiawan, Emvalomatis and Oude Lansink, 2012). Initial theory implied that the conduct and the performance of a company has no impact on the market structure. A more two – way approach, with interactions between the various conceptual pillars has been developed as presented in Figure 1

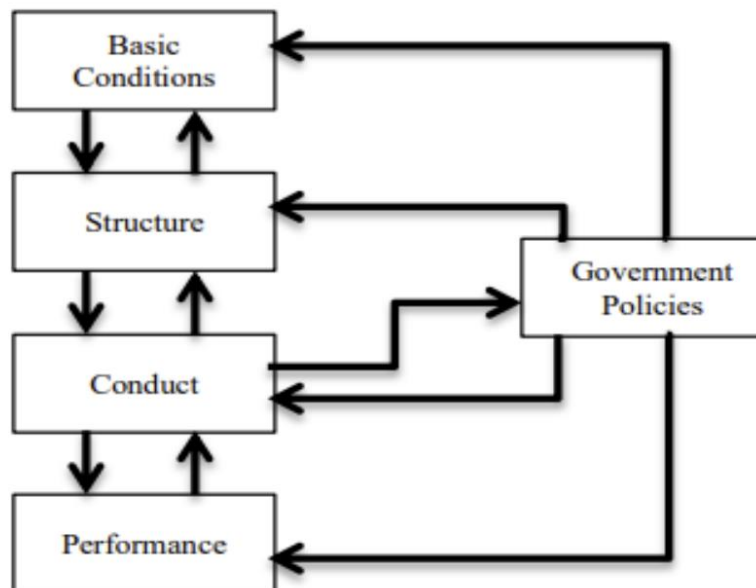


Figure 1. SCP paradigm based on Carlton & Perloff (Carlton and Perloff, 2000)

The proposed two-way interactive framework when conducting SCP paradigm is adopted for the proposed study, since it suits better on addressing micro-economic-related research issues at industry and inter-industry levels (Setiawan, Emvalomatis and Oude Lansink, 2012; Mirzaei and Moore, 2014), while it is in accordance with the more firm-level-oriented, resource-based paradigm, addressing more firm-specific strategic issues regarding sustainable competitive advantage (McGee and Thomas, 1986; Leask and Parker, 2006).

Current research applies the SCP paradigm in the tower sharing market in Greece, taking into consideration the most recent advances related with the Feedback Effects. The paper analyzes the pillars of SCP paradigm, focusing into the causality and the impact of market structure and conduct on firm's profitability. In that respect, market structure defined by the number and size of Greek MVNOs in the



63rd FTTCE International Congress

26 - 28 September 2024, Kraków, Poland

telecommunications market, determines market conduct, which, in turn, determines their profitability. Various industry and firm's specific factors is expected to be explored as influential factors for market performance, following not only the linear one-way relationship, but also examining potential feedback effects, on the basis of a vice-versa and non-linear approach. In that respect, the indirect impact of performance on structure and vice versa will be theoretically analyzed, too.

The main research questions posed in the paper are:

- Has the above-described extended version of SCP paradigm been proved effective, as a methodological tool applied in the Greek telecommunications market? Can SCP paradigm provide valuable information (in strategic and decision-making level) regarding network tower sharing in Greece?
- Which variables, both quantitative or/and qualitative, compromise the various pillars of SCP paradigm when it comes to network tower sharing in Greece?
- How market structure and conduct can affect MVNO's performance and especially their profitability?
- Can specific performance variables be proposed when a network tower sharing strategy is concerned?
- Which are the perspectives of network tower sharing analysis in Greek telecommunication industry according to SCP paradigm?

The proposed paper aims to enrich readers understanding on the overall Greek Telecommunication market, focusing also in parallel into network tower sharing strategy, as a tool to increase firm's profitability. The industry is examined from the perspective of the Structure – Conduct – Performance (SCP) paradigm, following an approach targeting the major 3 MVNOs of the Greek telecommunications market. In that respect, the paper contributes on the network tower sharing analysis in Greece by exploiting for the first time the approach of an Industrial Organization's strategic tool, namely the Structure – Conduct – Performance. A SCP model, in its extended form, is analysed, while a basis of hypothesis is formed for relationships between the different variables (both explanatory variables and performance variables focusing on firm's profitability). The paper is expected to conclude with a qualitative, explanatory interpretive analysis on the perspectives of Network tower sharing analysis in Greek telecommunication industry.



63rd FTTCE International Congress

26 - 28 September 2024, Kraków, Poland

References

- Boyer, M., Ross, T. W. and Winter, R. A. (2017) 'The rise of economics in competition policy: A Canadian perspective', *Canadian Journal of Economics*. Blackwell Publishing Ltd, 50(5), pp. 1489–1524. doi: 10.1111/CAJE.12305.
- Carlton, D. W. and Perloff, J. M. (2000) *Modern industrial organization*. Reading MA: Addison. Addison-Wesley.
- Caves, R. E. and Porter, M. E. (1980) 'The Dynamics of Changing Seller Concentration', *The Journal of Industrial Economics*. JSTOR, 29(1), p. 1. doi: 10.2307/2097877.
- Caves, R. E., Whinston, M. D. and Hurwitz, M. A. (2013) 'Patent Expiration, Entry, and Competition in the U.S. Pharmaceutical Industry', *American Journal of Industry and Business Management*, 3(2), pp. 164–177.
- Cool, K. O. and Schendel, D. (1987) 'Strategic Group Formation and Performance: The Case of the U.S. Pharmaceutical Industry, 1963–1982', <http://dx.doi.org/10.1287/mnsc.33.9.1102>. *INFORMS*, 33(9), pp. 1102–1124. doi: 10.1287/MNSC.33.9.1102.
- Darmon, R. Y. et al. (2013) 'A Measure of Dynamic Market Performance', *American Journal of Industrial and Business Management*. Scientific Research Publishing, 3(2), pp. 164–177. doi: 10.4236/AJIBM.2013.32022.
- Leask, G. and Parker, D. (2006) 'Strategic group theory: Review, examination and application in the UK pharmaceutical industry', *Journal of Management Development*. Emerald Group Publishing Limited, 25(4), pp. 386–408. doi: 10.1108/02621710610655846/FULL/PDF.
- McGee, J. and Thomas, H. (1986) 'Strategic groups: Theory, research and taxonomy', *Strategic Management Journal*. John Wiley & Sons, Ltd, 7(2), pp. 141–160. doi: 10.1002/SMJ.4250070204.
- Mirzaei, A. and Moore, T. (2014) 'What are the driving forces of bank competition across different income groups of countries?', *Journal of International Financial Markets, Institutions and Money*. North-Holland, 32(1), pp. 38–71. doi: 10.1016/J.INTFIN.2014.05.003.
- Panagiotou, G. (2006) 'The impact of managerial cognitions on the structure-conduct-performance (SCP) paradigm: A strategic group perspective', *Management Decision*, 44(3), pp. 423–441. doi: 10.1108/00251740610656296.
- Scherer, F. M. (Frederic M. . and Ross, D. (David R. . (1990) *Industrial market structure and economic performance*. Third edition. Boston: Houghton Mifflin.



63rd FTTCE International Congress

26 - 28 September 2024, Kraków, Poland

- Setiawan, M., Emvalomatis, G. and Oude Lansink, A. (2012) 'Structure, conduct, and performance: evidence from the Indonesian food and beverages industry', *Empirical Economics* 2012 45:3. Springer, 45(3), pp. 1149–1165. doi: 10.1007/S00181-012-0648-3.