Chapter 2

BUSINESS CLUSTERS:

A REVIEW AND A RESEARCH AGENDA FOR MANAGEMENT STUDIES

Konuralp SEZGİLİ¹

INTRODUCTION

The complexity of modern production has brought the study of linkages between geography and organization forward. The concept of the business cluster has a great variety of time and space interplays that draw on the historical background, a rich portfolio of cases, and a diverse body of theoretical perspectives. Although economic agglomerations can be traced back to the early twentieth century (Rosenthal & Strange, 2006), multi-faceted pressures of change towards competitiveness in 1990s (Porter, 1990) phenomenized clusters as a development concept, and a focus of debate (Ketels, 2013). The purpose of this study is to provide insights into the understanding of cluster phenomenon, through the evaluation of conceptual debates, historical background, and publication trends within a management perspective. The study is organized as follows. First, this paper reviews the conceptual debate in the literature. While reviewing the diversity of studies within the historical process, this paper presents some publication statistics and builds connections with established bibliometric analyses, which allow to put forth the main orientations of the cluster research, to provide a map for assessing contemporary management studies. Although the number of studies from management perspectives is relatively scarce (Öz, 2005), the concepts borrowed from management perspectives are frequently found in the literature. Furthermore, as recent bibliometric studies have also revealed, the amount of research published in management journals is rapidly rising. In the last section, this paper provides a descriptive inquiry of contemporary management studies published in the last five year period. Based on the literature review, the author identifies three subjects which are classically known as managerial concepts: namely (a) absorptive capacity, (b) capability, resource and competency, and (c) social capital

Assistant Professor, Adana Alparslan Türkeş Science and Technology University,ksezgili@atu.edu.tr

publication in the 1990s, the current outlook of business cluster literature seems to be subdivided into interconnected research streams. In the presence of the recent surge of interest both in the academic community and among policymakers, this paper summarizes the patterns of publications, which allow for the identification of conceptual diversity and main research streams. From management perspectives, although the number of studies in this area is relatively low, the concepts borrowed from management are frequently encountered. In this respect, this paper employed a second review; relevant research was subsequently grouped into three management streams of research: (a) absorptive capacity, (b) resource, capability and competition strategy, and (c) networks and social capital perspectives; each with specific focus theoretical perspective, study focus, and outcomes/ conclusions. According to the first perspective, firms in clusters absorb external information and disseminate this information through cluster information flows. While absorptive capacity is mostly positively related to innovation and performance, recent studies also brought spatial themes into focus. The second perspective implies that clusters contain most competitive industries, spans unique abilities and contributes to resources. Organizational structures and macro development contexts are also included in these studies. Finally, the relationships between cluster firms and the social behavior of these firms within networks were examined.

Future research should provide more empirical results from diverse institutional and organizational settings of clusters. Despite the increasing interest and conceptual depth in research topics, some questions remain unanswered. For example, different practices in the inter-organizational field are lacking. It seems that the research on clusters has started to focus on emerging markets; in particular, China. Further research on other developing and transition markets is recommended. This study has its limitations. The purpose of this study is to review articles and provide management insight into the cluster phenomenon through the scope of recent cluster research. This paper deployed the web of Science database for its purpose. The filtering processes may have omitted relevant research. Finally, while this framework brings management-related issues to the forefront, it may remain insufficient to grasp such a complex concept with various aspects.

REFERENCES

Antolin-Lopez, R., Martinez-del-Rio, J., Cespedes-Lorente, J. J., & Perez-Valls, M. (2015). The choice of suitable cooperation partners for product innovation: Differences between new ventures and established companies. European Management Journal, 33(6), 472-484.

Asheim, B. R. T. (1996). Industrial districts as 'learning regions': a condition for prosperity. European planning studies, 4(4), 379-400.

- Awad, I. M., & Amro, A. A. (2017). The effect of clustering on competitiveness improvement in Hebron: A structural equation modelling analysis. Journal of Manufacturing Technology Management, 28(5), 631-654.
- Brascoupe, C., Glaeser, E. L., & Kerr, W. R. (2010). What causes industry agglomeration? Evidence from coagglomeration patterns. The American Economic Review, 100(3), 1195-1213.
- Basco, R., & Calabrò, A. (2016). Open innovation search strategies in family and non-family SMEs: Evidence from a natural resource-based cluster in Chile. Academia Revista Latinoamericana de Administración, 29(3), 279-302.
- Bathelt, H., Malmberg, A., & Maskell, P. (2004). Clusters and knowledge: local buzz, global pipelines and the process of knowledge creation. Progress in human geography, 28(1), 31-56.
- Becattini, G. (1990). The Marshallian industrial district as a socio-economic notion. Industrial districts and inter-firm co-operation in Italy, 37-51.
- Belso-Martinez, J. A., & Diez-Vial, I. (2018). Firm's strategic choices and network knowledge dynamics: how do they affect innovation?. Journal of Knowledge Management, 22(1), 1-20.
- Belso-Martínez, J. A., Expósito-Langa, M., & Tomás-Miquel, J. V. (2016). Knowledge network dynamics in clusters: past performance and absorptive capacity. Baltic Journal of Management, 11(3), 310-327.
- Belso-Martínez, J. A., Molina-Morales, F. X., & Martínez-Cháfer, L. (2015). Contributions of brokerage roles to firms' innovation in a confectionery cluster. Technology Analysis & Strategic Management, 27(9), 1014-1030.
- Belso-Martinez, J., Palacios-Marqués, D., & Roig-Tierno, N. (2018). Building resilient clusters through HRM systems: a multiple mediator model. Management Decision, 56(6), 1398-1416.
- Belussi, F., & Sedita, S. R. (2009). Life cycle vs. multiple path dependency in industrial districts. European Planning Studies, 17(4), 505-528.
- Bhawsar, P., & Chattopadhyay, U. (2018). Evaluation of industry cluster competitiveness: a quantitative approach. Benchmarking: An International Journal, 25(7), 2318-2343.
- Boschma, R. A., & Frenken, K. (2006). Why is economic geography not an evolutionary science? Towards an evolutionary economic geography. Journal of economic geography, 6(3), 273-302.
- Braune, E., Mahieux, X., & Boncori, A. L. (2016). The performance of independent active SMEs in French competitiveness clusters. Industry and Innovation, 23(4), 313-330.
- Camisón, C., Boronat-Navarro, M., & Forés, B. (2018). The interplay between firms' internal and external capabilities in exploration and exploitation. Management Decision, 56(7), 1559-1580.
- Chen, M. H., Wang, H. Y., & Wang, M. C. (2018). Knowledge sharing, social capital, and financial performance: the perspectives of innovation strategy in technological clusters. Knowledge Management Research & Practice, 16(1), 89-104.
- Chen, S. T., Haga, K. Y. A., & Fong, C. M. (2016). The effects of institutional legitimacy, social capital, and government relationship on clustered firms' performance in emerging economies. Journal of Organizational Change Management, 29(4), 529-550.
- Chuang, M. Y., Chen, C. J., & Lin, M. J. J. (2016). The impact of social capital on competitive advantage: The mediating effects of collective learning and absorptive capacity. Management Decision, 54(6), 1443-1463.
- Claver-Cortés, E., Marco-Lajara, B., Manresa-Marhuenda, E., & García-Lillo, F. (2018). Location in scientific-technological parks, dynamic capabilities, and innovation. Technology Analysis & Strategic Management, 30(4), 377-390.
- Cohen, W. M., & Levinthal, D. A. (1989). Innovation and learning: the two faces of R & D. The economic journal, 99(397), 569-596.
- Cooke, P. (2001). Clusters as key determinants of economic growth. Cluster policies-cluster development, 2, 23-38.
- Corley, K. G., ve Gioia, D. A. (2011). Building theory about theory building: what constitutes a theoretical contribution?. Academy of management review, 36(1), 12-32.
- Corredoira, R. A., & McDermott, G. A. (2014). Adaptation, bridging and firm upgrading: How non-market institutions and MNCs facilitate knowledge recombination in emerging markets. Journal of International Business Studies, 45(6), 699-722.

- Cruz, S. C., & Teixeira, A. A. (2010). The evolution of the cluster literature: Shedding light on the regional studies–regional science debate. Regional studies, 44(9), 1263-1288.
- Damanpour, F. (1992). Organizational size and innovation. Organization studies, 13(3), 375-402.
- De Oliveira Wilk, E., & Evaldo Fensterseifer, J. (2003). Use of resource-based view in industrial cluster strategic analysis. International Journal of Operations & Production Management, 23(9), 995-1009.
- Díez-Vial, I., & Montoro-Sánchez, Á. (2014). Social capital as a driver of local knowledge exchange: A social network analysis. Knowledge Management Research & Practice, 12(3), 276-288.
- Elangovan, N. (2016). Mediation of perceived innovation characteristics on ERP adoption in industrial cluster. International Journal of Innovation and Technology Management, 13(03), 1640003
- Ellison, G., Glaeser, E., & Kerr, W. forthcoming. What causes industry agglomeration? Evidence from coagglomeration patterns. American Economic Review, 100 (June 2010): 1195–1213
- Enright, M. (2000). Regional clusters and multinational enterprises: Independence, dependence or interdependence? International Studies of Management and Organization, 30(2), p. 114—138.
- Expósito-Langa, M., Tomás-Miquel, J. V., & Molina-Morales, F. X. (2015). Innovation in clusters: exploration capacity, networking intensity and external resources. Journal of Organizational Change Management, 28(1), 26-42.
- Fornahl, D., Henn, S., & Menzel, M. P. (Eds.). (2010). Emerging clusters: theoretical, empirical and political perspectives on the initial stage of cluster evolution. Edward Elgar Publishing.
- Fujita, M., & Thisse, J. F. (1996). Economics of agglomeration. Journal of the Japanese and international economies, 10(4), 339-378.
- Fujita, M., & Thisse, J. F. (2013). Economics of agglomeration: cities, industrial location, and globalization. Cambridge University Press. Gajšek, B., & Kovač, J. (2016). Key Factors for the Successful Operation of Clusters: The Case for Slovenia. Organizacija, 49(2), 150-160.
- Ganne, B., & Lecler, Y. (2009). From industrial districts to poles of competitiveness. Asian Industrial Clusters, Global Competitiveness and New Policy Initiatives, 3-24.
- Gordon, I. R., & McCann, P. (2000). Industrial clusters: complexes, agglomeration and/or social networks?. Urban studies, 37(3), 513-532.
- Grandinetti, R. (2016). Absorptive capacity and knowledge management in small and medium enterprises. Knowledge management research & practice, 14(2), 159-168.
- Hervás-Oliver, J. L., & Albors-Garrigós, J. (2007). Do clusters capabilities matter? An empirical application of the resource-based view in clusters. Entrepreneurship and regional development, 19(2), 113-136.
- Hervas-Oliver, J. L., Gonzalez, G., Caja, P., & Sempere-Ripoll, F. (2015). Clusters and industrial districts: Where is the literature going? Identifying emerging sub-fields of research. European Planning Studies, 23(9), 1827-1872.
- Ho, M. H. C., & Liu, E. Y. W. (2016). Network resource, regional cluster, and technical position. Knowledge Management Research & Practice, 14(4), 502-513.
- Huggins, R., & Johnston, A. (2010). Knowledge flow and inter-firm networks: The influence of network resources, spatial proximity and firm size. Entrepreneurship & regional development, 22(5), 457-484.
- Iturrioz, C., Aragón, C., & Narvaiza, L. (2015). How to foster shared innovation within SMEs' networks: Social capital and the role of intermediaries. European Management Journal, 33(2), 104-115
- Jia, L., Li, S., Tallman, S., & Zheng, Y. (2017). Catch-up via agglomeration: A study of township clusters. Global Strategy Journal, 7(2), 193-211.
- Ketels, C. (2013). Recent research on competitiveness and clusters: what are the implications for regional policy?. Cambridge Journal of Regions, Economy and Society, 6(2), 269-284.
- Kim, L. (2001). Absorptive capacity, co-opetition, and knowledge creation. Knowledge emergence: Social, technical, evolutionary dimensions of knowledge creation, 13-29.

- Kim, N., & Shim, C. (2018). Social capital, knowledge sharing and innovation of small-and medium-sized enterprises in a tourism cluster. International Journal of Contemporary Hospitality Management.
- Krugman, P. (1998). Space: the final frontier. Journal of Economic perspectives, 12(2), 161-174.
- Lane, P. J., & Lubatkin, M. (1998). Relative absorptive capacity and interorganizational learning. Strategic management journal, 19(5), 461-477.
- Lazzeretti, L., Sedita, S. R., & Caloffi, A. (2014). Founders and disseminators of cluster research. Journal of Economic Geography, 14(1), 21-43.
- Lee, C. Y. (2018). Geographical clustering and firm growth: Differential growth performance among clustered firms. Research Policy, 47(6), 1173-1184.
- Lei, H. S., & Huang, C. H. (2014). Geographic clustering, network relationships and competitive advantage: Two industrial clusters in Taiwan. Management Decision, 52(5), 852-871.
- Li, H., de Zubielqui, G. C., & O'Connor, A. (2015). Entrepreneurial networking capacity of cluster firms: a social network perspective on how shared resources enhance firm performance. Small business economics, 45(3), 523-541.
- Li, Z., Li, J., & He, B. (2018). Does foreign direct investment enhance or inhibit regional innovation efficiency? Evidence from China. Chinese Management Studies, 12(1), 35-55.
- Malmberg, A., & Maskell, P. (2002). The elusive concept of localization economies: towards a knowledge-based theory of spatial clustering. Environment and Planning A: Economy and Space, 34(3), 429-449.
- Markusen, A. (1996). Sticky places in slippery space: a typology of industrial districts. Economic geography, 72(3), 293-313.
- Marshall, A. 1920. Principles of Economics, 8th edition, London: Macmillan
- Martin, R., & Sunley, P. (2003). Deconstructing clusters: chaotic concept or policy panacea?. Journal of economic geography, 3(1), 5-35.
- Martínez-Cháfer, L., Molina-Morales, F. X., & Peiró-Palomino, J. (2018). The cluster is not flat. Uneven impacts of brokerage roles on the innovative performance of firms. BRQ Business Research Ouarterly, 21(1), 11-25.
- Maskell, P., & Malmberg, A. (2007). Myopia, knowledge development and cluster evolution. Journal of Economic Geography, 7(5), 603-618. Menzel Fornahl 2010
- Miles, J. A. (2012). Management and organization theory: A Jossey-Bass reader (Vol. 9). John Wiley & Sons.
- Moutinho, R. (2017). Inside the 'Black-Box of Innovation': Translating R&D outlays into economic and employment growth. Journal of Engineering and Technology Management, 45, 37-53.
- Myint, Y. M., Vyakarnam, S., & New, M. J. (2005). The effect of social capital in new venture creation: the Cambridge high-technology cluster. Strategic Change, 14(3), 165-177.
- Myrdal, G. (1957). Economic theory and under-developed regions(No. 330.1 M998). Methuen.
- OECD. (2007). Competitive Regional Clusters: National Policy Approaches.
- Opper, S., & Nee, V. (2015). Network effects, cooperation and entrepreneurial innovation in China. Asian Business & Management, 14(4), 283-302.
- Osarenkhoe, A., & Fjellström, D. (2017, September). Clustering and networking as a sine qua non for SMES and regional international competitive advantage. In 10th Annual Conference of the EuroMed Academy of Business.
- Öz, Ö. (2005). Coğrafya, Strateji ve Organizasyon: Son Gelişmeler. Yonetim Arastirmalari Dergisi, 5(1). Palcic, I., & Pandza, K. (2015). Managing technologies within an industrial cluster: a case from a toolmakers cluster of Slovenia. International Journal of Technology Management, 69(3-4), 301-317.
- Piore, M., & Sabel, C. (1984). The second industrial divide. New York, 19.
- Porter, M. E. (1990). The competitive advantage of nations. Harvard business review, 68(2), 73-93.
- Porter, M. E. (1998). Clusters and the new economics of competition (Vol. 76, No. 6, pp. 77-90). Boston: Harvard Business Review.
- Porter, M. E. (2000). Location, competition, and economic development: Local clusters in a global economy. Economic development quarterly, 14(1), 15-34.

- Porter, M. (2003). The economic performance of regions. Regional studies, 37(6-7), 549-578.
- Pouder, R., & John, C. H. S. (1996). Hot spots and blind spots: Geographical clusters of firms and innovation. Academy of Management Review, 21(4), 1192-1225.
- Ricardo, David (1817/1888). Principles of Political Economy and Taxation. In The Works of David Ricardo, J. R. McCulloch, (ed.) pp. 1-584. London: John Murray.
- Rosenfeld, S. A. (2002). Just clusters. Regional Technology Strategies Inc., Carrboro, North Carolina. Rosenthal, S. S., & Strange, W. C. (2006). Geography, industrial organization, and agglomeration. Geography, 85(2).
- Sölvell, Ö., Lindqvist, G., & Ketels, C. (2003). The cluster initiative greenbook .Stockholm: Ivory Tower.
- Sánchez-Báez, E. A., & Avancini-Schenatto, F. J. (2017). Innovation and competitiveness of the business clusters in Paraguay: evidence of their limitations. Dirección y Organización, 65-73.
- Storper, M., & Harrison, B. (1991). Flexibility, hierarchy and regional development: the changing structure of industrial production systems and their forms of governance in the 1990s. Research policy, 20(5), 407-422.
- Strand, Ø., Wiig, M., Torheim, T., Solli-Sæther, H., & Nesset, E. (2017). Technological innovation capability and interaction effect in a Scandinavian industry cluster. International Journal of Innovation Management, 21(05), 1740007.
- Ter Wal & Boschma 2011
- Tomás-Miquel, J. V., Exposito-Langa, M., Belso-Martínez, J. A., & Mas-Verdú, F. (2018). Multinational enterprise subsidiaries in local clusters: embeddedness or isolation?. European Journal of International Management, 12(5-6), 624-641.
- Tomenendal, M., Raffer, C., Stockklauser, S., & Kirch, J. (2018). Introducing the T-shaped model of cluster competence–an integrative framework and first empirical evidence from the German craftsmen sector. Industry and Innovation, 25(2), 144-166.
- Trippl, M., Grillitsch, M., Isaksen, A., & Sinozic, T. (2015). Perspectives on cluster evolution: critical review and future research issues. European planning studies, 23(10), 2028-2044.
- Yan, E., & Ding, Y. (2012). Scholarly network similarities: How bibliographic coupling networks, citation networks, co-citation networks, topical networks, co-authorship networks, and co-word networks relate to each other. Journal of the American Society for Information Science and Technology, 63(7), 1313-1326.

APPENDIX: An overview of contemporary management literature on clusters			
Study	Perspective	Study focus	Outcomes/Conclusions
Absorptive Capacity			
Exposito- Langa et al., 2015	Absorptive capacity, network position	The effects of absorptive capacity and network position on innovation performance	Networking and firm resources affect performance independently, while absorptive capacity and relational resources are positively active thanks to shared vision.
Belso-Martinez et al., 2016	Absorptive capacity, network dynamics	The effects of absorptive capacity and previous innovative performance on network dynamics	Absorptive capacity and previous innovative performance are predictors of inter-business relationships. Absorptive capacity affects the emergence of linkages in the technological network due to the tacit nature of technological knowledge.