The ambidextrous organization in regional and global manufacturing networks – explorative enough?

Lise Gundersen Haukeberg (lise.g.haukeberg@himolde.no)
Molde University College, Specialized University in Logistics

Lise Lillebrygfjeld Halse (lise.l.halse@himolde.no)
Molde University College, Specialized University in Logistics

Abstract

The present study aims at shedding light on how an industry with long tradition in a high-cost country has handled the tension between cost efficiency and increasing needs for delivering innovative products to the market when being part of networks at different scales. We argue that in order to stay competitive, manufacturing firms need to be able to achieve ambidexterity as well as crossing firm boundaries for stimulating its innovation activity. Cases from a high cost location are presented to demonstrate how innovation and ambidexterity unfolds in regional and global manufacturing networks.

Keywords: Innovation, the ambidextrous organization, manufacturing networks

Introduction

The last decades has witnessed an increased internationalization of businesses, pushed forward by increased competition and cost focus. Simultaneously, companies experience intensified competition concerning delivering new and innovative products to the market. Companies must organize for change and innovation internally, while drawing on external resources in their network through open innovation (Chesbrough 2006) or cluster dynamics (Porter, 1998). Moreover, companies need to keep up with escalating technological change, which will require new competence, which is expected to create unseen and unexpected fault lines, and also accelerate the pace of innovation (Yoo et al., 2012). In order to compete in the global market place, firms needs to simultaneously balancing cost efficiency and exploring opportunities represented by new technology. Consequently, there is a need for knowledge regarding how firms can ensure that both cost effectiveness and long-term consequences on innovation and competitiveness, are adequately considered when being part of regional and global production networks. From this follows the research questions in this study: 1) How do small- and medium sized manufacturing firms manage the balance between exploration and exploitation? and 2) How do small- and medium sized manufacturing firms access their regional and global networks in their innovation processes?

In the following, we will first discuss theory on how organizations should organize internally for innovation, before we tap into network theory and how global small- and medium sized firms may find opportunities and challenges in accessing their different networks.

Theoretical background

Organizing for innovation

March (1991) claimed that for long-time survival, firms need to configure organizational resources to exploit existing assets and positions in a profit-producing way, while simultaneously explore new technologies and markets. In this lies a fundamental tension between what he terms exploitation and exploration. Applying this fundamental idea, O'Reilly and Tushman (2004) proposed that the ability to balance exploitation and exploration, that is being ambidextrous, is at the core of dynamic capabilities. Managers must sense changes in the organization's environment, including potential changes in technology, market and regulation, and be able to act on the opportunities and threats by reconfiguring the organization's assets. According to O'Reilly and Tushman (2004), ambidexterity requires commitment of resources to exploratory projects and establishing separate but aligned organizational units for exploitation and exploration, and these should have aligned organizational architectures. Here, leadership is essential in resolving the tensions arising from the two separate units and architectures. O'Reilly and Tushman (ibid) stress that the organization's strategy needs to reflect an importance of both exploration and exploitation that is articulated through shared vision and provide a common identity. Furthermore, they suggest building senior teams that are committed to the ambidextrous strategy, which has incentives to both explore and exploit. Based on the above, we see that the strategic choices by the leaders of an organization are essential for facilitating innovation for future competitiveness, while exploiting existing assets to secure running profit. This comprise the dynamic capabilities of a company (Teece, 2007), which is necessary to survive in the long run (Uotila et al., 2009). The concept of the ambidextrous organization implies that an organization can manage to both exploit their present capabilities, while at the same time be explorative when it comes to new opportunities for value creation (O'Reilly and Tushman, 2004).

However, a criticism to the literature on dynamic capabilities and organizational ambidexterity is that it views the organization in isolation, and does not take into account that innovativeness and organizational survival is dependent on the organization being a part of a larger network of companies (Håkansson and Snehota, 1989, Powell and Grodal, 2005). We have moved from closed innovation to open innovation and the future will be even more open in terms of collaboration, according to Chesbrough (2017). As innovation activity is crossing firm boundaries, and involve stakeholders and customers, it is important for both firms and clusters to have relationships outside the region, with milieus that have a different knowledge base (Chesbrough, 2017). Consequently, interorganizational network is now seen as a source for new knowledge and innovation. Distributed innovations mean that innovation activities are spread across multiple organizations, as opposed to the view that innovation processes takes place internally in organizations. Chesbrough et al. (2006) defines open innovation as "the use of purposive inflows and outflows of knowledge to accelerate internal innovation and expand the markets for external use of innovation". The open innovation model, firms use external as well as internal ideas and knowledge to advance their technology and combine ideas into architectures and systems in order to create value (Chesbrough 2006). In the same vein, Prahalad and Ramaswamy (2004) has influenced innovation literature with the concept of the co-creative enterprise, where the four sources of co-creation is to be found amongst customers, suppliers, partners and employees (Ramaswamy and Gouillart, 2010, Prahalad and Ramaswamy, 2004). Concepts like "co-makership" or "partnership sourcing" has emerged, meaning developing a long-term relationship with a limited number of suppliers, based on mutual trust (Christopher, 2013).

While these streams of literature acknowledge the importance of opening up organizations to others organizations in order to promote innovation, they do not address the role of proximity between these firms for innovation. Cluster theory and associated streams of literature emphasize the importance of geographical proximity for fostering innovation and competitiveness (Porter, 1998). In particular the research stream focusing on the knowledge aspects of clusters, where inter-firm knowledge exchange among cluster firms explains knowledge creation in clusters (Arikan et al., 2009). The theory claims that geographical proximity facilitate face-to-face contact which leads to intensified knowledge exchange, and the emergence of inter-firm trust and norms for cooperation (Maskell, 2001, Storper and Venables, 2004, Bathelt et al., 2004)

Innovation and global value networks

In order to stay competitive, firms have increasingly sourced out activities to low-cost locations. These geographically dispersed networks may contribute to firms' innovation capability, as the networks provide exposure of new ideas, access to new resources and functioning as an arena for knowledge exchange (Powell and Grodal, 2005, Hakansson et al., 2009). In principle, networks spanning larger geographical distances may represent a wider access to knowledge than network that are geographically confined. According to global value chain theory (GVC), there are several ways of organizing global value chains, expressed as different modes of governance. According to Gereffi et al. (2005), the relation mode of governance is appropriate for exchanging tacit knowledge and appears to be the appropriate mode of governance for innovation. As Gereffi point out, many authors emphasize spatial proximity for supporting relational value chain linkages, but they believe that trust and reputation might function well also in spatially dispersed networks. Furthermore, communication technology represent opportunities to reduce the barrier that geographical distance represented before.

The global SME

SMEs play an important role in the economy of many countries. In Norway, companies under 100 employees represent 50 percent of the total value creation. Most of these SMEs are part of a global economy, on the supply side through global sourcing, and on the downstream side delivering to a global market (Nærings- og fiskeridepartementet, 2017). Consequently, these companies are part of networks at different scales, ranging from the local to the global. Internationalization of companies in general has been object for a large number of studies, however mainly focusing on MNEs and born globals. According to Knight and Liesch (2016) SME differ from MNE both in scale and scope, and do not normally possess the market power and large revenues to the extent the MNE or global factory does. Johanson and Vahlne (2009) argue that network embeddedness, at home or abroad, shape firms' internationalization. Being an insider in market networks reduces uncertainty and risk, such as liabilities of foreignness (Zaheer, 1995) and increases chances of successful internationalization. In this view, networks develops over time as firms' internationalize, which means that networks that firms were part of at the time of internationalization, such as local networks, are replaced or supplemented by international networks or own resources (Fernhaber and Li, 2013). The revised Uppsala model takes into account the recent development within network theory, emphasizing the development on trust and knowledge in relationships (Johanson and Vahlne, 2009). Here, knowledge building is related to different kinds of internationalization experience, which includes knowledge about the partner's resources and capabilities, knowledge about how to coordinate relationships, and most importantly knowledge about opportunities. The emphasis is on how learning and commitment in networks leads to the identification and

exploitation of opportunities. Hence, in the revised Uppsala model, internationalization is more about developing opportunities than overcoming uncertainties (Johanson and Vahlne, 2009), which has been at the forefront in much of the internationalization literature. Johanson and Vahlne (2009) claim that the liability of outsidership highlighted by the revised Uppsala model does not necessarily relate to countries but to the relevant network. Consequently, internationalization depends on firm's relationships with partners in its network, where the partners may geographically be found both at home and foreign locations (Johanson and Vahlne, 2009). The model addresses the knowledge building, accumulation and exchange in these networks, independently on geographical location.

Cluster literature is still concerned about the important "buzz" taking place in regional networks, but look upon global linkages as opportunities for getting access to new knowledge, facilitating innovation in the cluster. Widely known is the local buzz –global pipeline view, where learning taking place in regional networks and knowledge attained in global pipelines, that is from selected providers located outside the local network, will provide companies in such clusters an advantage (Bathelt et al., 2004). Similarly, Belussi and Sedita (2012) provide an analytical framework illustrating learning dynamics through two mechanisms: exploitation of local knowledge structures, and exploration of distant knowledge structures. This literature mainly sees opportunities, not challenges with accessing several networks at different geographical scales. Moreover, there have been little concern about how firms access these different networks in their innovation processes.

This study aims at contributing to these gaps in the literature by providing an in-depth study of a traditional industry at a high-cost location. In the following, we will present the methodology of this study before we describe the industry.

Methodology

The explorative nature of the research questions call for a deeper analysis of a cluster, making a case study design appropriate (Yin, 2009). The furniture industry in the north west of Norway is chosen as a case in this study. Investigating the innovation processes, networks and knowledge sharing to other firms internally and externally to the industry requires a qualitative approach. Hence, the main data collection was performed through in-depth, semi-structured interviews of key personnel and through observations in meetings in firms, and workshops where several of the firms have been present. The study covers firms operating in the domestic market, international market, private commodity market, contract market, through specialty retailers, through regular retailers, through own retailer, online and not online/e-commerce.

In the interviews, the questions were formed to identify the most important sources of knowledge both internal and external to the cluster with a particular focus on the processes leading to the development of products and new concepts. The firms' external linkages were identifies along with the kind of knowledge that is transferred through these linkages. Furthermore, we sought information of how the networks has changed over time, and how this may have affected internal and external innovation processes. Eight interviews were conducted between November 2017 and April 2018. The interviews were focusing on mapping the product development processes, and how the firms managed the balance between cost/efficiency and innovation. Moreover, we wanted to explore how the firms were involved in regional networks and international networks.

Other data sources were company documents as contracts, news coverage in newspaper and on the internet, and previous research carried out in this industry, as well as media coverage and business reports.

The furniture industry in North West Norway

In order to address the research question in this study, we studied an industrial cluster in the furniture industry in the north-west coast of Norway. The furniture industry here dates back to the early 1900s, and was the beginning of several start-ups in the area, found to be a result of avoiding unemployment during the economic crisis in the 1920's and 1930's (Amdam and Bjarnar, 2015). Founders of the firms were local men, who started their production at home with few employees. According to Amdam and Bjarnar (2015), the success of the cluster can be attributed to regional ties of the founders and employees involving low labor cost, and the innovativeness of the small scale manufacturing. Worth noting, as opposed to other industries in this area, the furniture industry was not originally built on natural resources or raw materials from the region. The industry emerged as a result of an entrepreneurial and egalitarian culture in the region (Bjarnar et al., 2004) and with a local competitive advantage of low manufacturing cost. The suppliers to the furniture manufacturers where national or international, and customers came from all over the country (Amdam and Bjarnar, 2015).

Over the next decades, the industry grew to being to become the most important and dynamic furniture industry in Norway, becoming known as the most important cluster within this industry. Compared to the rest of the country, the furniture industry on the north-west coast of Norway managed to thrive as the rest declined, and had in the beginning of the 1950 gained a dominating national position (Amdam and Bjarnar, 2015). The industry had established a solid platform for cooperation among the furniture firms during the period from 1960-1970, and in 1974 it was counted 169 furniture firms in the region and 14 percent of the workforce in the region. The industry was highly innovative, and was pioneer in introducing standardized manufacturing methods, as well as cooperating with designers to develop new designs. Examples if internationally renowned designs are the Stressless, Tripp Trapp and Siesta.

Since the end of 1950, the industry has been exposed to international competition, and have worked purposefully to increase export (Amdam and Bjarnar, 2015). In the following decades, the industry made several efforts to establish networks internationally with the aim of getting access to knowledge of leading manufacturing abroad, especially related to manufacturing technology. Through regional cooperation, the industry was able to introduce new technology into the industry. All the major producers cooperated to be able to introduce computer-based technology, as a response to external pressure due to increased global competition. However, when the global competition increased in the 1990s, the response was to offshore manufacturing to low-cost locations, which was in line of a general trend in western countries. Some firms have offshored their entire production, others have offshored part of production, and some still have their entire production in Norway.

For the furniture industry, these locations were countries like Lithuania, Estonia and Thailand, which was largely decoupled from the market in Europe and US. Consequently, the intensions with the international networks changed from being explorative and seeking new knowledge, to being exploitative involving a cost focus (Amdam and Bjarnar, 2015). Furthermore, while the efforts of establishing knowledge-seeking global networks was a cooperative strategy, the decisions to offshore was made by individual companies. According to Amdam and Bjarnar (2015), it has become evident that the

vertical relationships is lacking for the furniture industry in the region, as they do not have strong demanding customers and suppliers as drivers for the business.

Today, the industry experience intensified competition from low-cost locations. Moreover, the industry is also challenged by global competition concerning innovative products and services, brand visibility and availability. New technology following the fourth industrial revolution, also called Industry 4.0, proposes opportunities for the furniture industry in forms of equipment for more effective manufacturing as well as innovation market proposals. The industry is in general concerned by how the market will develop, especially entrance of competitors with new business models. In order to meet the challenges several of the firms in the cluster decided to establish a formal cluster organization, Norwegian Rooms, with the strategy of becoming a center for firms and competence players who wish to develop strong Norwegian international brands. The Norwegian Rooms cluster organization has 32 cluster participants, 10 experts and R&D partners, the cluster turnover is 7,6 billion NOK and the export figures for the cluster is 4,7 billion NOK (NorwegianRoomsCluster, 2018). Not all firms in the region's furniture industry is a member of Norwegian Rooms, but the majority are, and the members are mainly the design- and manufacturing firms. Another initiative, Møbelkraft, is a public-private organization, sprung out around the same time as Norwegian Rooms was established; here we find more suppliers to the furniture industry in addition to design- and manufacturing firms. Several manufacturers are members of both organizations.

Findings

In the interviews, questions were formed to identify the most important sources of knowledge both internal and external to the cluster with a particular focus on the processes leading to the development of products and new concepts. How the firms in this case study work with product development mainly fall into two categories; product development in cooperation with suppliers (either international or local suppliers) and product development in-house.

Product and process innovation

The firms are aware of the importance of possessing tacit knowledge, use it actively, and applying it on core products and markets. Internal innovation processes characterized by intense exchange of tacit knowledge, allows them to fail fast, or skip failing when they already see beforehand that this will not work out.

The in-house product development is mainly driven by employees on management level, were inspiration is coming from meetings with suppliers and industry, i.e. from furniture fairs that are yearly meeting places for the industry. Most companies do not have dedicated teams working on innovation projects. However, the largest firm has the most formalized innovation process; they have a designated department with approximately 28 employees working specifically with product development, and they follow a specific innovation process that includes certain steps. Furthermore, it has its own steering group, which is involved at the end of each step in the process.

The two largest companies appears to have an innovation culture giving flow of ideas from the shop-floor to the management level or the product development group, and with a systematic approach where the management evaluate the process at certain stages. The CEOs are generally close to the manufacturing department and other units in the organizations. Furthermore, the firms have a culture where initiatives from employees are encouraged and welcomed. However, most organizations in the industry are relatively small and do not have dedicated recourses for innovation activity. One respondent express their potential and their limitations: *"There are many things we would like to innovate*

on, and here we have many things we have started, but that we have on hold now today, because now we have to focus on getting the ship to run properly".

Product development in cooperation with suppliers take place with both international suppliers and domestic suppliers. Mainly the international suppliers they use are in Europe, even in Scandinavia, and spatial distance is not regarded as a problem. One of the firms describe the way they cooperate on product development with their long and trusted international supplier as follows; *"We use our suppliers in large scale to increase our knowledge. A large supplier who delivers world-wide, we have good contact with management there, and they turn around quickly and invests in new machinery to solve the challenges we come with".*

Regarding process innovation, several of the firms has invested considerable in automation of manufacturing processes, and some have also implemented lean principles in their manufacturing processes. The ideas and initiatives coming from employees are mostly in the category of making production more efficient. On the question whether employees come to the leader group with ideas, the answer from the manager was resolute: *"All the time. Efficiency, there is constantly ideas coming from internally, here we get input all the time, and it is only a question of financing the ideas. So this is something the people on the shop floor are very good at".*

Networks

The companies has a positive attitude towards innovation activity across firm boundaries. One of the respondents express it this way: *"We must have external competences; we are so small, so we use externals for product development, for design, technology and environmental sustainability".* Most firms rely on value co-creation with their suppliers, and are concerned about exclusivity regarding the results of these processes. However, as the suppliers deliver also to other furniture companies and to other industries, there will be some knowledge spillover, which is regarded as positive. Nevertheless, the largest company in the industry bases their product development on in-house resources with little use of network.

One respondent reflect on how they have used their networks though time: *«The culture here before, regarding networks, it was not so important, we lived in this small fjord, we delivered our products and made money. So it is first in the resent years that we have worked more outward".* The later years, the cluster organization Norwegian Rooms has been central in establishing arenas were company representatives can meet and discuss common challenges and ideas, and developing executive educational programs in cooperation with academic institutions. The respondents were also interested in taking advantage of Norwegian Rooms Scandinavian networks. A majority of the respondents are active users of the general activities Norwegian Rooms have, a few reported that they use it only scarcely, and one respondent is not using it because the activities does not fit their market focus. Networks are important for having update on new technology and markets, building knowledge about how to reach new customers and dealing with retailers. However, time is reported as a reason for not taking active part of such networks. Furthermore, it varies among the firms as how informed they are of the network activities of the formal networks. Some firms are not aware of the activities that the network organization provide.

Even though the respondents considered regional networks as important, it appears that the international networks are the most valued. International suppliers represent important networks that are used actively. Still, most companies claim they use the organized network too little, and wish to use it more actively. Only a few firms purposely draw on external sources for driving innovative solutions in the firm. Most firms draw on

external sources first when they see that they do not have the competence in-house for an already initiated innovation project.

On the downstream side of the supply chains, the retailer represent important actors. Norway has four major furniture retailers, and for the firms selling through one of these, the firm has little or no contact with their end-users. In this case, the retailer's feedback in form of sales numbers and information on trends is one of the drivers for product development. The furniture companies emphasize this part of the value chain as representing a barrier for development in the industry. One respondent describe it as a double squeeze for the manufacturer; the suppliers have consolidated and have more power, and the retailers have strong power, this pressures the manufacturer, and he call it an unbalance in the value chain of the industry that hinder innovation activity. This is the case for most of the firms delivering to the consumer market. However, not the case for the firms operating on the contract market, where the relations are different. There is a broad understanding among the furniture firms that the retailers is mostly concerned about a "status quo", and are not interested in developing their business model in a more innovative and customer centered way. The fear of challenging the retailers hinders the furniture firms to developing solutions including direct contact with the end customers. For example, retailers are not allowing the furniture firms to sell their furniture online. The industry fears that that this consequently will hinder them for preparing for the future competition in the market.

For the firms operating on the contract market, the customer is a driver for product development, and this relationship can be described as close to the customer, with high interaction in the development process.

Technology

The firms are concerned about new technology development and possible entrants with new business models in the market. The cluster organization Norwegian Rooms has contributed to the awareness of opportunities and threats represented by new technology and new entrants. This cluster has, however, not been focusing on manufacturing technology. One respondend claim: *"My experience is that the furniture industry is lagging behind when it comes to technological development. There is a paradigm shift happening right now".* Still, the firms are generally positive towards the idea of sharing expenses, experiences and usage of new technology. One of the respondents went as far as saying that this type of collaboration need to be the model for the furniture firms in the near future, if they are going to survive. Several respondents underline the need to be flexible and adaptable to changes, therefore small-scale robotics are in their interests. One respondent, were the firm do not have recourses to invest in this type of technology, said the following: *«There is no point in us sitting and owning this technology alone, this is typically the type of technology we can own jointly with other actors»*. Several of them are partners in another network called "Møbelkraft that has invested in new technology for the firms to jointly use. For example, the network has invested in a 3D knitting machine. The firms vary in size, and thus their ability to invest in new technology. Consequently, they all express the need for more collaboration locally in the industry to be able to survive in the long run. The few large firms are in front with the newest technology, some are on their way investing in new technology. However, the majority of the smaller firms do not have resources to invest alone.

Discussion and conclusion

In order to be successful in the global competition requiring a high innovation pace, firms need to be ambidextrous as well as being involved in networks at a regional and global

scale. This study set out to study how small- and medium sized firms at a high-cost location handle these demands. By carrying out a study of the furniture industry in northwestern part of Norway, we found that it is indeed demanding for small firms to handle all these demands. Based on earlier historical studies of this industry, we saw that fierce competition from global actors has been present for decades, but has been met in various ways throughout history. In the 1950s, innovation in product and process was the strategy for meeting this competition, and this was accomplished through cooperative initiatives for bringing new knowledge concerning technology and product development into the industry. In the 1990s, offshoring of manufacturing was the main strategy for meeting increased competition. In the recent decades, the firms have cooperated less within the regional industry, which means that the regional network has reduced its importance for innovation. Furthermore, several of the firms had decided to offshore manufacturing, but the largest actor, Ekornes chose differently and strengthened the presence in Norway (Amdam and Bjarnar, 2015). Nevertheless, the tradition of making shared initiatives in the cluster to meet common challenges was broken.

Our findings shows that with the presence of new network organizations, there is an increased awareness and intention for cooperation in the regional network. However, the respondents' report limited resources as a barrier for getting involved in the regional network. The cost focus that was the main motivation for moving manufacturing out of the country, appear as still being the main concern of the companies. Furthermore the firms demonstrate limited time available for innovative processes, they are mainly occupied with "first getting the ship on course". Hence, these companies appear to be struggling to manage the balance between exploration and exploitation, that is being ambidextrous, even though they have both regional and global network available. Hence, our study reveals that there is a need for manufacturing firms to better manage their co-creation activities to exploit the fully potential of their regional as well as global networks.

Relevance/contribution

The globalization and the present technological development represent a context of a rapidly changing environment for businesses of today (Handfield et al., 2013, Lasi et al., 2014), emphasizing the need for organic organization forms (Burns and Stalker, 1971). Our argument is that ambidexterity indeed is necessary, but not enough alone, the organization also need to take an active part in interacting with their network to stimulate their innovation activity. While literature on networks, clusters and open innovations has emphasized the advantages of being part of innovative networks, this study reveals that for small and medium-sized companies, the involvement in such networks is not the obvious choice when the internal focus is on cost efficiency.

References

AMDAM, R. P. & BJARNAR, O. 2015. Globalization and the development of industrial clusters: comparing two Norwegian clusters, 1900-2010.(maritime cluster and furniture cluster)(Report). 89**,** 693.

ARIKAN, A., XE & T 2009. Interfirm Knowledge Exchanges and the Knowledge Creation Capability of Clusters. *The Academy of Management Review,* 34**,** 658-676.

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**,** 31-56.

BELUSSI, F. & SEDITA, S. R. 2012. Industrial Districts as Open Learning Systems: Combining Emergent and Deliberate Knowledge Structures. *Regional Studies,* 46**,** 165-184.

BJARNAR, O., LØSETH, A. & GAMMELSÆTER, H. 2004. Næringskulturer på Nord-Vestlandet. *In:* GAMMELSÆTER, H., BUKVE, O. & LØSETH, A. (eds.) *Nord-Vestlandet - liv laga?* Ålesund: Sunnmørsposten.

BURNS, T. & STALKER, G. M. 1971. *The Management of Innovation*, Tavistock Publications.

CHESBROUGH , H. 2006. Open innovation: A new paradigm for understanding industrial innovation *In:* CHESBROUGH, H., VANHAVERBEKE, W. & WEST, J. (eds.) *Open Innovation, Research ing a New Paradigm.* New York, NY Oxford University Press.
CHESBROUGH, H. 2017. The Future of Open Innovation: The future of open innovation is more extensive, more collaborative, and more engaged with a wider variety of participants. *Research-Technology Management,* 60**,** 35-38.
CHESBROUGH, H., CHESBROUGH, H. W., VANHAVERBEKE, W. & WEST, J. 2006. Open innovation : researching a new paradigm. Oxford: Oxford University Press.
CHRISTOPHER, M. 2013. *Logistics & Supply Chain Management*, Prentice Hall.
FERNHABER, S. A. & LI, D. 2013. International exposure through network relationships: Implications for new venture internationalization. *Journal of Business Venturing,* 28**,** 316-334.
GEREFFI, G., HUMPHREY, J. & STURGEON, T. 2005. The governance of global value chains. *Review of International Political Economy,* 12**,** 78-104.
HAKANSSON, H., FORD, D. I., GADDE, L.-E., SNEHOTA, I. & WALUSZEWSKI, A. 2009. *Business in Networks*, John Wiley & Sons
HANDFIELD, R., STRAUBE, F., PFOHL, H.-C. & WIELAND, A. 2013. Trends and Strategies in Logistics and Supply Chain Management: Embracing Global Logistics Complexity to Drive market Advantage. Hamburg, Germany.
HÅKANSSON, H. & SNEHOTA, I. 1989. No business is an island: The network concept of business strategy. *Scandinavian Journal of Management,* 5**,** 187-200.
JOHANSON, J. & VAHLNE, J.-E. 2009. The Uppsala internationalization process model revisited: From liability of foreignness to liability of outsidership. *Journal of International Business Studies,* 40**,** 1411-1431.
KNIGHT, G. A. & LIESCH, P. W. 2016. Internationalization: From incremental to born global. *Journal of World Business,* 51**,** 93-102.
LASI, H., FETTKE, P., KEMPER, H.-G., FELD, T. & HOFFMANN, M. 2014. Industry 4.0. *Business & Information Systems Engineering,* 6**,** 239-242.
MARCH, J. G. 1991. Exploration and Exploitation in Organizational Learning. *Organization Science,* 2**,** 71-87.
MASKELL, P. 2001. Towards a Knowledge-based Theory of the Geographic Cluster. *Industrial and Corporate Change,* 10**,** 921-943.
NORWEGIANROOMSCLUSTER. 2018. *Norwegian Rooms Cluster* [Online]. Available: http://www.norwegianrooms.com/ [Accessed 8.5.2018 2018].
NÆRINGS- OG FISKERIDEPARTEMENTET 2017. *Industrien – grønnere, smartere og mer nyskapende,* Meld. St. 27 (2016–2017). Oslo: Nærings- og fiskeridepartementet.
O'REILLY, C. & TUSHMAN, M. 2004. The Ambidextrous Organization. *Harvard Business Review,* 82**,** 74-81.
O'REILLY, C. A. & TUSHMAN, M. L. 2004. The Ambidextrous Organization. *Harvard Business Review,* 82**,** 74-83.
PORTER, M. E. 1998. Clusters and the new economics of competition. *Harvard Business Review,* 76**,** 77-90.
POWELL, W. W. & GRODAL, S. 2005. Networks of Innovators. *In:* FAGERBERG, J. & MOWERY, D. C. (eds.) *The Oxford Handbook of Innovation.* Oxford Oxford University Press
PRAHALAD, C. & RAMASWAMY, V. 2004. co-creating value with your customers. *Optimize***,** 60-66.
RAMASWAMY, V. & GOUILLART, F. J. 2010. *The Power of Co-Creation: Build It with Them to Boost Growth, Productivity, and Profits,* Riverside, Riverside : Free Press.
STORPER, M. & VENABLES, A. J. 2004. Buzz: face-to-face contact and the urban economy. *Journal of Economic Geography,* 4**,** 351-370.
TEECE, D. J. 2007. Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. . *Strategic Management Journal,* 28**,** 1319–1350.
UOTILA, J., MAULA, M., KEIL, T. & ZAHRA, S. A. 2009. Exploration, exploitation, and financial performance: analysis of S&P 500 corporations. *Strategic Management Journal,* 30**,** 221-231.
YIN, R. K. 2009. *Case study research: design and methods,* Los Angeles, Sage.
YOO, Y., RICHARD J. BOLAND, J., LYYTINEN, K. & MAJCHRZAK, A. 2012. Organizing for Innovation in the Digitized World. *Organization Science,* 23**,** 1398-1408.
ZAHEER, S. 1995. OVERCOMING THE LIABILITY OF FOREIGNNESS. *Academy of Management Journal,* 38**,** 341-363.