

The micro-foundations of regional branching - the case of digitization of publishing

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Abstract

Theorizing within evolutionary economic geography (EEG) on regional branching of industries has so far been depicted as evolving through routine replication among different economic actors that hold various degrees of relatedness. Methodologically related and unrelated variety has been studied quantitatively, treating relatedness between economic agents as pre-defined industrial classifications. This represents a need for a complementary qualitative and in-depth understanding of how knowledge is re-combined in various settings (Boschma and Iammarino 2009). Based on a qualitative case study in the publishing industry, whose technological platforms and business models are currently facing severe challenges associated with digitization, this paper seeks to improve our understanding of how knowledge is re-combined and re-applied in various ways. The paper explores and discusses how this industry branches over into new activities, and reflects upon the channels through which these processes unfold. How is the old and the new in the economy bridged? How is the relationship between specialization and diversification played out? In this sense the paper seeks to contribute to improve our understanding of the epistemic micro-foundations for regional branching and economic development.

Key words: Evolutionary economic geography, knowledge spillovers, related variety, regional branching, digitization

Introduction

In studies of innovation it is commonly believed that processes of knowledge exchange and interactive learning are vital to industrial development and economic growth (Lundvall 1992). Further there is widespread acceptance that many of these learning processes take place in industrial agglomerations where economic actors are located in proximity to one another (Porter 1998; Maskell and Malmberg 1999).

However, there has been more uncertainty and disagreement on what kinds of knowledge sources and portfolios that can best arrange for interactive learning and innovation (Beaudry and Schiffauerova 2009; Desrochers and Leppälä 2011). According to Gertler and Wolfe (2006 p.224) confusion about the role of spatial proximity in processes of innovation stems from a failure to differentiate between the various types of knowledge that underlie innovative products and processes.

Addressing this uncertainty more recent contributions under the umbrella of Evolutionary Economic Geography (EEG) have made a distinction between different types of knowledge portfolios in regions in terms of different degrees of diversity; i.e. related and unrelated variety (Boschma, Eriksson, and Lindgren 2009; Frenken, van Oort, and Verburg 2007; Boschma and Iammarino 2009). These contributions have given a better and more fine-tuned understanding of the relationship between knowledge, innovation and economic growth.

Still, the studies that have applied a framework on relatedness in terms of related and unrelated variety have so far often been based on quantitative data on labour mobility and knowledge compositions in different industries. Moreover, these studies have treated related and unrelated variety as pre-given categories, which represent a somewhat static and limited approach to understanding industrial change. Consequently a more in-depth understanding of the mechanisms for knowledge transfer through which related variety operates has been called for (Boschma and Iammarino 2009; Desrochers and Leppälä 2011; Boschma and Frenken 2011). Such insights are assumed to contribute to a fuller picture of how related variety bridges the old and the new in regional economies.

Based on a case study of the publishing industry this paper seeks to address this identified gap in the literature, and to go into depth on how the economy evolves across diversity. Like many other cultural industries the publishing industry is currently facing great challenges associated with digitalisation at both industry and organizational level. Existing technological platforms and business models are threatened, and the incumbents of the industry have so far moved slowly towards exploration of new products and markets (Øiestad and Bugge 2013).

To some extent one sees that new digital technologies enable branching over into new parts of the value chain in publishing as well as towards other related and (previously) unrelated industries such as entertainment, games, toys, music, video and learning tools.

*“We are moving from being a traditional publisher to become an entertainment house”
(Krokfoss 2012).*

Being a creative industry the publishing industry is also often seen as a typical urban industry that potentially has access to the diverse labour market of metropolitan regions. At the same time we know from previous research that metropolitan regions may be fragmented and may have difficulties in terms of coordinating its diversity of actors and knowledge (Tödtling and Tripl 2005). To what extent

and how do publishers tap into the knowledge pool of the metropolitan city region where publishing is highly agglomerated? How can the observed behaviour be understood and conceptualized in terms of the notions of localization and urbanization economies? How does it affect our understanding of relatedness? In this sense the paper uses the observed knowledge flows and dynamics at micro-level as an entry point for discussing the mechanisms underpinning processes of industrial branching at a regional meso-level.

The paper is structured as follows: Section two presents the conceptual framework for the present case study, primarily focusing on regional branching and related and unrelated variety. Section three outlines the method applied in the present case study. Section four presents the case study by first describing the characteristics of the publishing industry in Oslo, then by presenting various illustrating examples of mechanisms for knowledge flows and development from the publishing industry and eventually discussing the implications of these findings in terms of theory. Section five summarizes and concludes the paper.

EEG, related variety and regional branching

Recent advancements in theorizing on innovation and industrial development take an evolutionary approach to innovation as a branching process across regional related variety (Boschma, Eriksson, and Lindgren 2009; Boschma and Iammarino 2009; Frenken and Boschma 2007).

Developing an evolutionary framework on how firms and regions diversify over time, Frenken and Boschma (2007) describe how industrial and regional development can be seen as an evolutionary branching process. Drawing upon theorizing on knowledge spillovers from (urban) industrial diversification (Jacobs 1969) and on the replication of organizational routines (Nelson and Winter 1982) the economic development process of regional branching is understood in terms of developing and renewing the existing knowledge portfolios in firms.

The evolutionary turn in economic geography has in this sense put a more articulate focus on how industrial development should be seen as conditioned by pre-existing knowledge portfolios in firms regionally and less depending on systemic features and institutional characteristics as has been common within regional innovation systems (RIS). In addition to this interest in the knowledge base of firms, EEG has also brought a stronger historical dimension and perspective on industrial development. It has been documented how the diversification of regions is anchored in their existing industrial profile (Boschma and Frenken 2011a). The nature and scope of agglomeration externalities in a given region will in this sense depend upon the relatedness among industries present in the region. In addition it will also depend upon the stage of the product lifecycle an industry is in. The economic development of regions is understood as a largely contingent, but still path-dependent process (Boschma and Frenken 2011b).

Frenken and Boschma (2007) use the firm as a starting point for discussing how existing organizational routines and behaviour influence future product portfolios and development traits. Diversification is here seen as a branching process in which re-combinations of existing sources open up new market possibilities. This form of regional branching is evolutionary through the relatedness of a given product portfolio, as firms with product innovations draw upon routines from the production of existing and

related products. According to Boschma and Frenken (2011) routine replication can take place through four types of knowledge-transfer mechanisms or vehicles:

1. Spin-off activities
2. Firm diversification
3. Labour mobility
4. Social networking

These mechanisms represent channels through which the economy reproduces itself from within. Moreover, these are primarily seen to operate at the regional level: Most spin-offs are seen to locate near their parent firm, most new divisions are created inside existing firms, most labour market mobility takes place within the same labour market area, and social networks also tend to be local (Boschma and Frenken 2011). Resembling their list although more concerned with how the mechanisms at play affect the development of new knowledge Desrochers and Leppälä (2011) operate with three different processes of Jacobs spillovers:

1. Adding to, switching or adapting specific know-how to other lines of work
2. Observing know-how and materials and incorporating them in a different setting
3. Formal or informal collaboration of individuals possessing different skills and backgrounds

The first refers to situations where individuals move between different lines of work, which may be a consequence of creative individuals with a need for ever new challenges. In other instances such labour mobility is caused by downsizing or when firms go out of business. The second refers to observational learning in the sense of transferring solutions and ways of doing things from one context to another. The third refers to different kinds of interaction and collaboration between persons with complementary skills and knowledge (Desrochers and Leppälä 2011). In this way the three can be understood as representing different ways of applying knowledge and skills. Whereas the first type involves re-application of own competencies or skills in a new setting, the second type involves being able to exploit external impulses in new ways internally. Finally, networking and different forms of collaboration imply meeting new people with different skills, and which may enable seeing own ideas in a new perspective.

Both lists imply seeing economic development as an evolutionary process in which existing skills, knowledge and specialization is being complemented and re-combined with new skills, knowledge and perspectives. Both perspectives also acknowledge that the process of renewal consists of bridging the old and the new.

It has formerly been debated whether the evolutionary development of regional economies should be understood and conceptualized in terms of continuity from or rupture with the past (Bathelt and Boggs 2003). Many studies have documented how the emergence of new industries should be seen as a continuation of past industrial expertise. Treado's (2009) study of how the emergence of Pittsburgh's steel technology cluster builds upon the city's long tradition in metallurgy and materials science exemplifies this. Oppositely, in a case study from Leipzig on the demise of a book publishing cluster and the emergence of a new media cluster Bathelt and Boggs (2003) show how this transformation should be seen as representing a rupture with the past rather than as continuity. In this way the case

study illustrates how regional economies could also be seen as consisting of different and parallel (latent and manifest) regional development paths.

In order to depict the mechanisms at play behind processes of regional branching the contributions of Evolutionary Economic Geography (EEG) have started to deconstruct and problematize the notion of diversity. It has been addressed how different *kinds* of diversity within a region may affect knowledge spillovers, innovation and economic growth in various ways (Frenken, van Oort, and Verburg 2007; Frenken et al. 2004). The notion of diversity, or variety, has been divided into related and unrelated variety (Frenken, van Oort, and Verburg 2007). The concept of related variety assumes that some sectors are more similar than others, and that agglomerations of related industry actors are more likely to give Jacobs externalities and to be more innovative than agglomerations with similar or unrelated actors (Boschma, Eriksson, and Lindgren 2009; Boschma and Iammarino 2009). Unrelated variety on the other hand should be seen in accordance with portfolio theory (Montgomery 1994), which assumes that diversity protects a region from external shocks and in this sense reducing risk and vulnerability. Findings suggest that related variety enhance employment growth, whereas unrelated variety reduces unemployment growth (Frenken, van Oort, and Verburg 2007). In this sense EEG has not acknowledged the innovative potential that lies in new combinations across unrelated variety. This might be connected with the fact that EEG has not given innovation as such much emphasis. It could therefore be questioned whether a closer focus on innovation as opposed to economic performance would give more approval to unrelated variety.

Variety and relatedness is often measured by using sector codes in employment registers (Boschma and Iammarino 2009; Boschma, Eriksson, and Lindgren 2009), across patent technology classes (Boschma, Balland, and Kogler 2014) or by using revealed labour market mobility as a proxy for defining forms of relatedness (Timmermans and Boschma 2013). The related variety approach has been applied in various ways, e.g. to problematize what kinds of labour market mobility that influence on economic performance (Boschma, Eriksson, and Lindgren 2009; Timmermans and Boschma 2013). This research focuses on how the mobility of skills (measured as education) into a company may be related or unrelated to the company's initial skills sets. Results suggest that inflow of skills that are similar to the knowledge that is already present has a negative impact on economic performance, inflow of skills that are related to the existing knowledge base has a positive effect on economic performance (measured as employment growth), whereas inflow of unrelated skills only contributes positively to economic performance when these are being recruited from within the same region (Boschma, Eriksson, and Lindgren 2009). Prior to EEG's refinement of the notion of diversity into related and unrelated variety, agglomeration theory in economic geography has traditionally distinguished between groups of diverse and of similar economic actors respectively in its search for what input factors and types of knowledge compositions affect performance and output. This distinction is often referred to as localisation economies versus urbanisation economies. In localisation economies, specialization is often seen as the basis for innovation and growth. In urbanisation economies, on the other hand, diversity is perceived as the most important factor for triggering innovation and growth. Localisation economies are often perceived as consisting of the co-location of similar economic actors in one core industry that give MAR externalities, affecting the degree to which knowledge travels across firms in the given industry and influences upon their ability to innovate (Marshall 1890; Arrow 1962; Romer 1990). Urbanisation economies (Hoover 1948; Jacobs 1969; Glaeser et al. 1992) are normally thought of as agglomerations allowing for learning across different industries, causing Jacobs

externalities. This tradition emphasizes that knowledge externalities arise from outside the industry in question, and as such urbanization economies have a more articulated inter-sectoral approach to industrial dynamics than localisation economies.

Indeed, the presence and existence of industrial agglomerations and diversity is not sufficient for innovation and growth. Earlier research on the absorption and assimilation of new knowledge into existing firms has emphasized how absorptive capacity is not only depending on the pre-existence of related knowledge, but that it should also be seen in accordance with other managerial pre-requisites such as organizational forms and combinative capabilities (Bosch, Volberda, and Boer 1999).

In order to benefit from diversity there is also a need for cognitive proximity (Nooteboom 2000) across the involved actors. Boschma (2005) has later elaborated on various forms of proximity, such as organizational, social, institutional and geographical proximity. Such a need for a sufficient proximity between actors to benefit from knowledge spillovers has later been questioned, as 1) the diversity in large firms does not prevent individuals with very different backgrounds to collaborate towards a common goal, 2) people working in unrelated firms in terms of final products may not be unrelated in terms of common generic technologies, and 3) although cognitive distance may be a challenge to joint understanding, it can be solved by frequent face-to-face interaction (Desrochers and Leppälä 2011). These objections support the view that there is a lack of nuances in the related variety concept in terms of distinguishing between different parallel dimensions of relatedness. This implies that different actors may be related in some regards but unrelated in other.

It has also been pointed out how different types of regions may have various challenges in terms of knowledge spillovers. It has been emphasized how specialized regions may become locked-in (Tödtling and Trippel 2005) and how industrial clusters may be characterized by an uneven diffusion of knowledge (Giuliani 2007; Giuliani and Bell 2005). On the other hand, diverse industrial agglomerations in metropolitan regions may often be fragmented and suffer from a lack of coordination and interaction across industrial boundaries (Tödtling and Trippel 2005). In practice this weakness legitimizes speaking of specialization within urbanization economies.

The current examinations of what kinds of variety that trigger knowledge spillovers and innovation can also be seen in relation to whether variety has different effects depending on the maturity of the industry in question. Research on industry life cycles (Audretsch and Feldman 1996; Klepper 1997) has suggested that industry life cycles are strongly associated with the advantages of being located in various types of agglomerations. In particular, the results show that the more mature an industry is, the more likely it is to gain from specialization and localization economies. In contrast; the younger an industry is, the more it is assumed to benefit from Jacob's externalities and urbanization economies (Neffke et al. 2011; Jacobs 1969).

In line with the theorizing on industry life cycles Gilsing & Nooteboom (2006) have specified that the value of relatedness also depend upon the character of the learning processes. A high degree of variety, indicating weaker links between firms and less overlap in competencies, is beneficial for learning processes of an exploratory character; entailing more novelty and less redundancy in information. This is beneficial when the aim is to create new capabilities. Learning processes that are focused on improving existing capabilities, i.e. that are exploitation oriented, are more dependent on

efficient transfer of existing knowledge, which is made more efficient by repeated interaction between similar partners.

Although the pioneering contributions within EEG have significantly improved our understanding of the evolutionary nature of industrial development and epistemic prerequisites for innovation and growth, this approach is still under construction (Boschma and Frenken 2011). The quantitative preference in the existing literature represents a somewhat skewed and limited understanding of the potential channels through which related variety is continuously explored and redefined. Indeed, despite this quantitative bias in the contributions of EEG there have also been qualitative case studies conducted on regional branching that have demonstrated the relevance of relatedness as a driving force of regional diversification (e.g. Bathelt and Boggs 2003; Belussi and Sedita 2009; Treado 2009). So far the theorizing has also tended to be based on generic characteristics of mechanisms independent of type of industry. In these studies related and unrelated variety has often been treated as pre-given categories through revealed labour market mobility or along established classifications such as industrial sector codes.

The emphasis on a quantitative approach to relatedness therefore leaves room for a more qualitative and in-depth understanding of the mechanisms for knowledge transfer through which related variety operates (Boschma and Iammarino 2009; Desrochers and Leppälä 2011). One of the areas that have been identified as in need of further scrutiny is the nature of inheritance (Boschma and Frenken 2011); i.e. an improved understanding of what is being transmitted from the parent firm to the spin-off: Is it knowledge, organizational capabilities, network relations or reputation?

Against this background the present paper seeks to deepen our understanding of how processes of knowledge transmission and recombination unfold and take place. By accomplishing a case study on how an established urban and creative industry transforms into new activities due to digitization, it is the ambition of this article to look into how various sources of knowledge become re-combined at the micro-level and how these play out in different forms of variety. Taking a bottom-up perspective to branching in a creative industry in the Oslo region the paper aims to look at different channels through which firms access, acquire or (re-) combine varied sources of knowledge.

The research questions guiding the paper can be summarized as follows:

- ❖ *How do processes of regional branching play out at the micro level?*
- ❖ *What does bridging old and new knowledge look like in an urban industry?*
 - *What mechanisms for knowledge sourcing can be identified when an industry branches over into new activities?*
 - *How are the heterogeneous knowledge sources of the metropolitan region acquired and utilised?*

Before going on to discuss the results and findings from the case study in more detail we will in the following account for the method applied.

Data collection and method

The data collection is based on a case study of the publishing industry in Oslo, Norway. The data collection is primarily based on semi-structured interviews with 16 respondents representing 13 publishing houses. The interviews were done face to face and were conducted in the period between November 2012 and February 2013.

The sample of publishing houses consisted of five large and established publishing/media houses (Cappelen Damm, Aschehoug, Gyldendal, Schibsted and Egmont), two medium sized publishing houses (Juritzen, Bazar), and six smaller newcomers in publishing (Falck, Flamme, Fair) and technology for publishing (Emviem, Newjelly, FamLab). In addition one interview was accomplished with a large design and technology company (Making Waves) serving as a subcontractor developing digital content for one of the publishing houses. Six of the interviews were done with respondents representing the three largest publishing houses in Norway: Aschehoug, Cappelen Damm and Gyldendal. These publishing houses are all founded and run as book publishers, and handle both fictional and educational publishing.

The interviews were on average one hour long. The topics of discussion were broad and ranged from the personal journey of the individual, to the company history and in-depth description of their work, expertise and placement within the industry dynamics. An in-depth and semi-structured interview format was chosen, as it can reveal “facts of a matter as well as [interviewees] opinions about events” (Yin 1994). The interview format chosen has thus allowed the respondent’s subjective and situational attitudes to inform the dataset. Where possible comparable departments and respondents were chosen from the various firms. All respondents were in positions that enabled them to talk about digital strategies. The interviews were recorded and written summaries were made succeeding the interviews.

We have not been able to follow the cases over time, and are therefore unable to draw any conclusions about the relationship between the observed strategies and behaviour and their long term industrial and economic effects. Instead we believe that the qualitative and in-depth nature of the material has provided a relevant snapshot of the current branching processes of the industry.

Case study of branching mechanisms in an urban industry

Findings in EEG have documented how firms who have access to diverse knowledge perform better when the firms’ knowledge bases are different, yet similar enough to make use of the knowledge. A big city region can have advantages in this regard because the concentration of varied firms and other relevant sources of knowledge they offer imply easy access to new and related knowledge.

The publishing industry in Oslo

Publishing is a small industry in Norway but the industry is highly agglomerated in the Oslo metropolitan region. There are about 400 publishing agencies in the region employing approximately 8150 persons. These constitute 40% of all publishing agencies in Norway and 50% of all persons employed in publishing nationally (Employment Statistics 2013).

Traditionally the role of the book publisher has been to oversee the production of books, from manuscript to printed product. Core competencies are therefore often centred in the preparation of

content, in editorial and curatorial expertise, rights management, marketing (for general titles), and pedagogics (for education). In the case of factual publications, the publisher has also acted as a validator or fact-checker. On the fiction side, an important aspect of publishing has been the recognition of unknown authors and subsequent refining and launching of them in the market. The publishing industry consists of a wide range of actors, roles and functions. The editor's role has traditionally been to develop the text in close collaboration with the author. A wide range of actors work with the editor; including marketing and sales teams, copyreaders, fact checkers, researchers and designers. Developing a book is costly, and as no returns are seen until the product has gained a certain amount of sales there is also a significant risk factor.

One way of offsetting this risk is increasing the volume of sales, and a global book industry based on rights management has been created to support this. The originating publisher (in the simplest scenario) owns all copyrights for a project, and sells these rights on to publishers working in other regions or languages. The biggest geographical market globally is the US, and the Spanish-, German- and Asian-language markets are also lucrative. The largest publishers in the world, such as Pearson, Reed Elsevier, ThomsonReuters and Hachette Livre (Wischenbart 2010), have several international offices. They therefore manage their own rights in large parts of the world, as well as purchase and translate titles from smaller publishers.

The Norwegian publishing industry is atypical in many ways; Norwegian is a small language with a (globally speaking) minuscule market. However, after a long process of gaining national independence, building a national school system, and promoting Norwegian culture and literature, the prevailing norm from the late 19th century onwards has been in favour of strong regulatory protection of the native language. In the second half of the 20th century strong cultural and political incentives were implemented. The main instruments to support Norwegian publishing have been VAT exemption, guaranteed sales (i.e. approximately 1000 copies of a title is sold to public libraries), and the Book Agreement (Norway's version of a fixed book price agreement, with publishers setting the price books will be sold at for the first 18 months). These policies have supported the creation of strong national networks and a sense of cultural responsibility. Towards the end of the 20th century the industry was showing signs of de-nationalisation, with Swedish Bonnier buying Cappelen in 1989, and foreign investors increasingly penetrating the market. To maintain national control the big publishing houses subsequently bought up a large number of booksellers and smaller publishers. The result is a situation where over 90% of Norwegian-language titles are published by the four biggest publishers, who also control the majority of book-clubs and bookseller chains (Andreassen 2006).

Until the iPad hit the market in 2010 there was a minuscule audience for digital books in Norway, and the publishers argue that there is still only a very modest market-pull in place. However, with the uptake of e-reading devices and establishment of the AppStore as a distribution channel, a demand for digital products has emerged. As e-reading devices spread further, the interest in digital books is likely to increase. The Norwegian consumer market is advanced in terms of a fast uptake of new technologies and it also possesses good purchasing power, in addition to Norwegian businesses generally being quick to act in the adoption and diffusion of technology (OECD 2007). Norway is also among the countries with the highest broadband penetration worldwide (OECD 2011). The Norwegian public sector acts as a demanding customer of the publishing industry and uses public procurement of advanced digital solutions for educational purposes. Still, in sharp contrast to publishers in large markets, who are able to offer low prices through large volumes, the small home

market means that Norwegian publishers have limited possibilities to make large investments in R&D or international marketing. The public sector's role as a lead user and the national support schemes have therefore to some extent compensated for the limited domestic market. Nonetheless, the Internet provides further possibilities for expanding the market for Norwegian books.

Access to heterogeneous urban knowledge

Being located and agglomerated in the Oslo metropolitan region the publishing industry has potentially access to a diverse epistemic heterogeneity in terms of collaborators, sub-contractors, competitors, owners and national institutions. To what extent and how do the publishers tap into and acquire these heterogeneous knowledge sources?

Although the publishing industry in principle has access to epistemic heterogeneity in the relatively diverse Oslo region, industry structures and organisational routines constitute barriers to exploiting this variety of knowledge. At industry level the path dependency created by ownership structures (the biggest publishing houses owning the book-sellers) and cultural policies contribute to segment an analogue book publishing regime. At organizational level product specialization in the analogue book publishing regime as well as balancing between current and future business models constitute barriers to a full exploration of new digital market opportunities (Øiestad and Bugge 2013). These characteristics at the systemic and organizational level have slowed down the diversification of this established industry.

Still, against the background of challenges and opportunities associated with digitization, there is considerable knowledge sourcing, development and innovation taking place in the publishing industry. In the following we will present and discuss a selection of examples illustrating different ways in which this established and mature industry evolves from specialization in an analogue book publishing regime to exploring the new possibilities of the digital publishing era. In this way the examples will demonstrate how different mechanisms of knowledge transfer play out in this particular industrial context. The different examples are selected from the broader portfolio of companies to illustrate some of the observed mechanisms for knowledge sourcing found in the case study.

A. New firm formation: Re-application of core competence in new external context

One pattern that emerged was that some actors seemed to redirect their core competencies into new fields and markets.

1) Fair Publishing

After having started a highly successful advertising agency in Oslo and having worked as a copy writer in the advertising industry for about 30 years, this entrepreneur sold his company and started Fair Publishing in 2012, so far consisting of himself and one editor. The money stemming from the sale of his advertising agency to American investors was in this sense reinvested and his core competence (storytelling) was transferred from advertising to publishing where he now uses this competence to spot and share good stories.

The entrepreneur has always been highly devoted to texts and literature, and prior to his career in advertising he was working as a literature critic in one of the national newspapers. In this sense turning from advertising to publishing might be understood as a "coming home", as a natural choice, rather than as a trying out of something completely new.

Through his career in the advertising industry the entrepreneur generated a broad industry network covering a range of sectors such as; design, film making, media and photography, as well as various contacts on the customer side. When putting together the group of investors and partners behind his publishing company he drew extensively on this network. This network of contacts is also utilized in the firms' marketing and PR strategies. The innovative digital sales and marketing strategies in the publishing company largely stem from one partner who runs a social media company, and who was a media customer of the entrepreneur in his previous advertising career.

2) Falck Publishing

The entrepreneur behind the one-man publishing house Falck Publishing established early 2010 has previously worked for several years in the music industry, first running his own record shop and then a record label.

Establishing a publishing company meant that he could approach his major interest, music, from a new angle, and involves the publishing of music quiz books and books on niche musical artists. An extensive personal network constitutes a key asset for the company, opening up opportunities and enabling effective PR strategies.

The publisher has a twofold profile and strategy; publishing commercial music quiz books on the one hand, and narrower music titles on the other. A steady income from the music quiz concept and work in commercial TV allows the entrepreneur to experiment with alternative and innovative activities and publishing projects. The business model of the publishing company is based on being small, inexpensive and flexible, and on using social media together with arranging music events as tie-ins with titles as PR instead of traditional advertising and marketing campaigns.

The financing of the printing of the book projects is based on crowdfunding, i.e. publishing projects are only launched after they have received enough funding from the local fan base on a crowdfunding site co-run by the entrepreneur (www.newjelly.com). The establishment of the crowd-funding site was done in collaboration with acquaintances from his network. In offering book projects and music and entertainment events directly to loyal fans and consumers and thereby potential sponsors, the publishing agency challenges the established business models in the publishing industry by skipping several links in the established books publishing value chain. Within the crowdfunding publishing regime the consumer becomes the new publisher, and a more direct link between financing, production and distribution/sales (than in traditional (analogue) publishing) is created.

In terms of digitization of the publishing industry this form of re-combinant innovation may challenge established business models in terms of representing new modes of financing, distributing and marketing publishing projects through new digital channels. But what do these stories tell us in terms of routine replication and knowledge spillovers? Is this an expression of continuing to do the same thing (i.e. routine replication), or is it an expression of innovative re-combinations? And how can we interpret these industry dynamics in terms of the notions of urbanization and localization economies?

The two examples of Falck and Fair publishing illustrate how the specialized skills and knowledge of sole traders flows across related industrial activities. Both actors do have a core competence and a

specialization that is being re-directed or re-applied into a new industrial context. This re-application of skills seems to draw heavily on their personal networks. In that sense this can be interpreted as maintaining their specialization while at the same time contributing to diversification.

B. Firm renewal: Developing and upgrading core competence

In some cases firms are renewed to tackle the challenges associated with digitization by acquiring external knowledge to bridge and upgrade existing knowledge inhouse. This may relate to developing new products in existing markets or to introducing existing products in new markets.

3) Gyldendal Publishing, Salaby

Since 2007 an independent digital development unit in the Gyldendal publishing house working with the educational universe entitled Salaby moves the borders for what is traditionally regarded core activities within book publishing. Due to the proximity between the contents, user experience and information architecture in digital formats the publisher now develops and owns the rights to the contents itself.

Whereas the main role for publishers traditionally has been associated with ordering, editing, distributing and marketing written texts, digitalisation of teaching materials implies that the publisher now increasingly develops its own digital contents in the form of texts, music, stories, games and films. This implies working in new ways and recruiting new forms of skills. The competencies required for developing these products and services are partly based on employed staff and partly on contracting external specialists temporarily or on the use of subcontractors. A small number of three dedicated intrapreneurs (a designer, an illustrator and a literary scholar with diverse experience from editing, writing and TV/radio productions) have followed the product since the start. These three represent complementary knowledge and have been teaching other temporary employees and other contracted specialists such as within language and linguistics. The dependence on these enthusiasts both ensures continuity, but also makes the product somewhat vulnerable and person-dependent.

Since the start the Salaby development unit has made teaching materials that have sought to approach teaching in new ways based on digital platforms. Salaby initially started out as five additional modules to regular teaching but has evolved into a complex package consisting of 7000 modules that is now covering the entire teaching curriculum. The schools (and sometimes the municipalities) licence the product from Salaby for an annual fee per pupil. Large development costs make it appropriate to upscale the product, and Salaby is currently on sale in India, Denmark, Turkey, Slovenia, Serbia, Bulgaria and The Czech Republic.

4) Egmont, Kids Media Nordic

The traditional publisher Egmont Serieforlaget originally started as a print based company, but is currently gradually being transformed and reoriented towards media and entertainment, with the new name Egmont Kids Media Nordic. The companys core activity is in the management of publishing licences in the Nordic countries for brands like Disney, Barbie, Asterix, and others. The publishing house is part of a larger publishing corporation, and has implemented a clear specialization and division of labour between the Scandinavian countries. Web development is e.g. located in Oslo, whereas app development is located in Copenhagen. In terms of business development Kids Media seeks to expand its markets towards the educational sector as well as towards new digital platforms. At the same time

the organization is concerned with balancing between optimization of current business strengths with an optimal positioning for future challenges.

As part of the initial steps of the expansion towards the educational market the company has contracted a consultant and an educator to study the effects and potential benefits of using their products in the educational sector. In relation to the move towards digital media the main challenge has been to orchestrate the bridging of existing competencies in the editorial departments and new interactive skills in interactive departments. As part of this challenge they operate with three different ways of developing the competencies of the company: Firstly, to think creatively around how to extend existing product lines and services. Secondly, to bridge existing and future business models (e.g. transferring and developing existing analogue games onto digital versions). Thirdly, addressing competence needs where the company does not have any resources beforehand. This is accomplished either through recruitment, intrapreneurship, coursing and upgrading of existing skills or through mergers and acquisitions. The company has acquired small digital agencies in addition to employing digital specialists in existing analogue departments in order to bridge and synchronize skills and competencies across analogue and interactive domains. However, this bridging process takes time and meets with some cultural resistance within the firm.

“Approximately 70% of our employees have their core competences within existing business models and platforms» (Krokfoss 2012).

The Egmont example illustrates a strategy where acquisition of small firms and thereby access to new knowledge is accompanied by employing persons to upgrade and bridge existing skills inhouse. In order to acquire new digital skills Egmont Kids Media Nordic first established separate digital departments. This initiative gave rise to a range of new ideas and products, but it didn't add anything to the existing analogue departments. As a response to this the company applied a method in which digital experts were placed as bridgeheads in the analogue departments. This exemplifies how external sourcing and internal upgrading of skills is closely related in practice.

“We struggled a lot with having the traditional print editorial offices to think around digital possibilities. The solution to this was hiring a digital leader within each business area that became a local facilitator who constantly challenged and added to the existing competencies” (Krokfoss 2012).

The Salaby example illustrates how a dedicated group of intrapreneurs in a development unit within a large publishing house is given freedom to explore new market possibilities somewhat independently from the overall strategy of the entire publisher. Working in interdisciplinary teams across epistemic diversity and resting heavily on temporary contracts this development unit is organized quite differently from the rest of the publishing house. Although this publisher as a whole is conservative when it comes to changing its business model from analogue to digital (Øiestad and Bugge 2013), it enables exploration of new products and markets inhouse. The Salaby case also illustrates how technological maturation makes formerly unrelated activities and products related.

The two examples of Salaby and Egmont Kids Media illustrate how two large publishing houses are exploring ways to break out of specialization through acquiring external knowledge, using this to upgrade internal knowledge and to facilitate product development and inhouse exploration across

the internal knowledge pool. Both cases show how recruitment of (temporary) external skills and personnel are drawn upon in order to bridge, upgrade and re-combine existing knowledge inhouse.

C. Firm diversification: Expanding core competence through external acquisition

As opposed to the former way of using external knowledge to develop existing products and upgrade internal capabilities, another way of innovating is through acquiring new skills and business solutions externally, and to implement these as new products under the existing company umbrella.

5) Schibsted, E-bok.no

Schibsted is the largest media company in Norway and the fourth largest actor within the publishing industry and is specialized in digital businesses.

After a lengthy development process of an e-book online service (www.ebok.no) the initiative was bought by the investment unit of the Schibsted corporation. The e-book initiative was developed by a local entrepreneur who initially established the company and developed the business idea and basics of the technology. Schibsted Growth then acquired the company and established a small team of three persons to run the new e-book startup with background from publishing, business development and digital technology. As such this example resembles the dynamics observed in other industries such as the life sciences in which business development is often based on large corporations continuously scanning the market for small start-ups based on new technologies or business models. The new digital service Ebok.no was launched Autumn 2013.

The (top-down) orchestration of resources and competencies in this corporate investment unit focusing primarily on digital growth possibilities takes place above the traditional publishing agency being part of the same corporation. The publishing agency itself has been slow in taking up digital technologies, but at corporate level the company possesses good knowledge on business strategies in the digital era as well as having a good overview of the global market, various technologies and partners which represents a solid foundation for innovative re-combinations of technologies, products and competencies across markets, sectors and countries. As such the corporation draws upon urbanization economies in terms of acquiring the external ebook initiative, and at the same time applies its own specialization in digital business strategies onto this particular field (i.e. publishing).

6) Aschehoug Publishing, GAN, Dunderly

The small publisher GAN was acquired by Aschehoug in 2006. The small unit was kept as an independent unit within the Aschehoug corporation, although with some more staff employed. In 2011 Dunderly was launched, a universe consisting of about 25 different products, such as books, picture books, pointing books, puzzles, music CD, toys and an App for iPhone, iPad and Android. Dunderly addresses the private and the educational market, and was also launched in China in 2013. GAN has about 12 staff, half of which were involved in Dunderly. The majority is educationalists and some are economists. External experts on music and film are sub-contracted on temporary basis. In this way the product development taking place in Dunderly is orchestrated by the management.

Through the acquisition of GAN the publisher gained a new entry point for existing product lines as well as a new way of approaching product development. By bringing a new business model inhouse they also gained more flexibility.

After the acquisition of GAN in 2006, the former external company was given office space and set up as an inhouse department. Drawing on the external business model and product line the department was asked to develop a multimedial educational work. This product line branches into education, toys, fiction, audio and more. Because of the time involved in the process, we were unable to observe the success of the pairing of new knowledge and business model with the existing product line. However, despite its long term approach the department receives support from the organisation. The hiring of interdisciplinary staff and active mingling is seen as an asset conducive to innovative product development that crosses markets and departments.

The two examples of Dunderly and E-bok.no illustrate how two large publishing houses expand their core competences and facilitate exploration of new markets by acquisition of firms with new complimentary knowledge. By bringing alternative products catering to complimentary markets under their umbrella, the firms expand their product portfolio and gain increased flexibility through a diversified inhouse knowledge pool. In the e-book example the firm re-develops the acquisition to fit their advantageous business infrastructure and knowledge. This creates a streamlined launch of the new product under the company umbrella. In this investment the firm gains a new sales and marketing channel for existing products. In the GAN example the acquired firm brings with it a complimentary portfolio of products with an alternative business model that proposes a different way of bringing products to both existing and complimentary markets. Thus the parent firm incrementally transforms their business model and reduce their vulnerability through an expanded product portfolio.

Discussion of findings: Three modes of re-combination

The review of the examples above has showed how knowledge may be re-applied and re-combined in different ways, and which signals an exploration into new ventures and product lines. The examples presented illustrate how branching occurs and unfolds in the publishing industry in the Oslo metropolitan region. They represent different mechanisms that are at play when firms branch over into new activities.

The exploration, extension or bridging of competences have proven time consuming and challenging for all the firms in this study. For small actors the stable structure and conservative organisation of the industry poses a challenge, while the larger firms contend with difficulties in bridging existing specialised skills with external impulses. Some common issues are the upgrading of established work methods, business models and ways to market. The more dynamic and fast-moving firms rely on entrepreneurs and intrapreneurs to drive innovation forward, which makes the new products somewhat vulnerable. The firms relying more on top-down management on the other hand, find that assimilation of new knowledge is somewhat slow. The examples have shown what mechanisms the various firms employ to navigate among these challenges.

What have the examples shown in terms of drawing upon the knowledge heterogeneity in the metropolitan region? The case study has documented how a mature industry like publishing draws upon various knowledge sources when facing new generic technologies. As digitization opens up new

possibilities for new services, processes and business models in publishing, one may say that digitization makes the mature industry immature, and in this sense activates the necessity to explore new opportunities and to tap into the urban heterogeneity.

Based on the data collection and analysis in this case study it is possible to summarize a set of typical modes for re-combination of knowledge and mechanisms in regional branching.

Table: Mechanisms for knowledge sourcing

RE-COMBINANT MODE	BRANCHING MECHANISM	INDUSTRY DYNAMICS	EXAMPLES
Re-application of existing specialization onto new industrial context	Labour mobility, Networks, Firm diversification (new firm)	Transfer of existing skills to new industry	Fair, Falck
		Entrepreneurship, New firm formation	Fair, Falck, Schibsted
		Transfer of existing (internal) business model to new industry	Schibsted
Re-configuration of existing knowledge to exit current specialization	Labour mobility (recruitment to upgrade existing skills), Firm diversification (firm renewal through new sub-unit)	Product development and introducing new product in existing market	Gyldendal
		Intrapreneurship, spin-offs	Gyldendal, Aschehoug
		Re-combining internal and external resources to upgrade and bridge existing knowledge	Egmont, Gyldendal
Re-combination of various specializations	Acquisition of innovative concepts and implementing these into existing organization, Firm diversification (new sub-unit within existing firm)	Entering new markets	Egmont, Schibsted, Gyldendal
		Establishment of new department under enterprise umbrella	Gyldendal, Schibsted
		Acquisition of business concept externally	Schibsted, Aschehoug

This summarizing taxonomy presents a set of mechanisms that causes industrial branching into new products or business models, or new versions of existing ones. The taxonomy expresses ways in which knowledge may be combined or re-combined in different ways.

Confirms relevance of and nuancing formerly identified mechanisms

Overall our findings tie in well with the vehicles for knowledge transfer and processes of Jacobs spillovers earlier identified by Boschma and Frenken (2011) and Desrochers and Leppälä (2011). Labour market mobility, spin-off activities, firm diversification and social networking have proven to be relevant vehicles for knowledge transfer bridging the old and the new in the economy. Also, the ways in which knowledge is re-combined in different ways such as transferring specific know-how to other lines of work and incorporating external know-how internally have proven relevant in the

present case study. The mechanisms identified also resemble sources of (de-locking) path creation identified at the regional level, i.e. indigenous creation, reconfiguration of local diversity, transplantation from elsewhere, redeployment of core technologies and upgrading of existing industries (Martin and Sunley 2006).

Moreover, the mechanisms documented seem to play out differently among various types of actors. Smaller actors seem to re-apply or re-direct their own core competence in new (related) settings externally, whereas larger actors seem to have a greater capability in terms of linking less related forms of competence internally. Sole traders – possessing one specialization – can activate some of the diversity found in the metropolitan region by re-applying their core competencies into new contexts. Smaller industrial actors thus seem more prone to redirect their core competencies into new markets and to use their personal networks. Larger firms on the other hand seem more likely to acquire other firms and to hire new personnel, and to explore and exploit their diverse internal (related and unrelated) capabilities through (re)orchestration of resources. This relativity in terms of how labour market mobility is played out is also reflected in internal firm diversification among larger firms whereas smaller actors appear more likely to act as entrepreneurs. In this way the different types of actors seem to play various roles in the regional economy.

Dynamic interplay between specialization and diversification

In addition to confirming the relevance of the types of mechanisms for knowledge spillovers and branching, the case study has demonstrated how the different channels for knowledge transmission or re-combination play out in specific industrial contexts and how they relate to existing specializations.

First, the case study has documented how sole traders moving between different lines of work may re-apply their core competencies in new contexts, and as such one may be inclined to operate with parallel notions of specialization and diversification (re-application of existing specialization). This has, in our examples, led to new firms and entrepreneurial activity. But this mechanism may also apply to larger actors, who can re-apply a successful business strategy or business-model from one industry to another.

Secondly we have observed how an existing specialization is being upgraded through internal exploration and through the inflow of new external skills. In our examples this has caused intrapreneurship and product innovation in-house (re-configuration of existing specialization). This form of re-combination has taken place in different ways; either as different persons with complementary skills working in a separate business unit, or in the form of external experts being placed in different departments as bridgeheads or satellites.

Thirdly we have seen how branching may take place through the re-combination of different internal and external skill sets and specializations. This may involve the acquisition of external solutions, and also seems to imply an orchestration of skill portfolios and to the launching of new products and entering new markets. This primarily seems to apply to large firms and corporations.

To the degree that the observed modes of re-combination differ from the mechanisms identified in the literature, this relates to larger firms who orchestrate (related and unrelated) resources internally. This heterogeneity inside firms and corporations challenges the methodology often applied in studies of related variety. There is often a tendency to focus on firms as the unit of analysis

in quantitative studies of related variety, treating a firms' sector code as its main indicator of knowledge profile. There is thus a need to go beyond the level of the corporation in order to grasp the more fine-grained nuances of industrial relatedness. This is in line with former research that has also pointed at the need to approach relatedness at the individual level and in terms of knowledge forms (Desrochers and Leppälä 2011).

In line with former theorizing on industry life cycles, the case study has demonstrated how there is a dynamic interplay between existing strategies of specialization and diversification. The taxonomy presented shows how there may be reason to talk about a continuation of existing specializations while at the same time developing and re-defining the same specialization through re-configuration or re-orchestration of competencies. As such one may say that the urban knowledge diversity constitutes a pool of latent and potential possibilities that are tapped into and drawn upon every now and then, contingent to the socio-economic and technological circumstances.

A dynamic and multi-level approach to relatedness

The case study has also encouraged problematizing how the notion of related variety is not static or stable, but may rather continuously evolve and change depending on technological maturation and the industrial possibilities that arise from this. What is related and what is unrelated should therefore not be seen as given categories defined once and for all, but rather as evolving categories that are continuously being redefined. In the example of the Salaby universe made by Gyldendal, in which the publisher now develops its own contents, has exemplified this phenomenon. Here technological development and maturation has opened up new possibilities of relatedness.

A final consideration concerns the degree to which relatedness should be regarded as consisting of different and parallel dimensions. Instead of being seen as dichotomous categories indicating whether two industrial actors are related or not, this could be regarded as a multifaceted exercise. The case study has provided some insights in terms of how knowledge is re-combined in different ways, and subsequently how these processes may help explain how the economy evolves. We have seen how a core competence like storytelling can be applied in various mediums and industries (e.g. advertising or publishing), or how a product like a music album is related to a book about the same artist. As such competencies and product categories may constitute different dimensions of relatedness. Another dimension might relate to technology, as seen in the Salaby example. This showed how a digital universe in publishing may comprise or bridge several formats and industries such as music, film, text and programming.

In line with the different notions of proximity between various economic actors, such as cognitive, organizational, social, technological, institutional and geographical proximity (Boschma 2005), there are possibilities that various actors may be related on some parameters and unrelated on others. Applying the proximity dimensions onto relatedness would imply arriving at a more dynamic and nuanced approach to understanding the degrees of relatedness across various economic domains.

Concluding remarks

This paper has sought to deepen our understanding of how processes of industrial branching play out at the micro level. Addressing a lack of qualitative approaches to the understanding of how related and unrelated variety affect innovation and regional development the paper has explored how knowledge transfer mechanisms may play out in different ways. Based on the insights from a case study of the publishing industry - whose products and business models are currently challenged by

digitization - the paper has explored how branching occurs and unfolds across related and unrelated variety. The paper has discussed the mechanisms through which coupling of heterogeneous knowledge sources take place in the metropolitan region.

The paper has identified and categorized a set of mechanisms for knowledge sourcing that has been typical for the present case study. In line with the mechanisms for knowledge sourcing identified by Boschma and Frenken (2011) and Desrochers and Leppälä (2011) the study has described three modes of re-combination of knowledge that both reflect some of the industry dynamics unfolding as well as the epistemic bridging of the old and the new in the economy. The three modes are 1) re-application of existing specialization onto new contexts, 2) re-configuration of internal resources through external impulses to upgrade and develop existing skills, and 3) re-combination of different skills sets drawing upon internal and external resources. One might wonder whether certain modes are more likely to be successful in affecting firm performance than others. However, the data gathered in this study does not allow for such conclusions to be drawn.

The study has suggested that the different mechanisms can be played out in various ways depending on different industrial contexts and actors. Moreover the study has suggested that there is a dynamic interplay between specialization and diversification, and also that there is a need to take a more nuanced, dynamic and multi-level approach to studying relatedness.

Do the different patterns observed in this case study apply to other industries in the same way, or will other industries hold different characteristics in terms of knowledge sourcing? Being based on a qualitative case study in one industry it is hard to judge whether the findings are generalizable to other types of industries and contexts. Still, to the degree that publishing shares characteristics with other creative industries in particular and service industries in general one might be inclined to think that there are similarities to be found across sectors. However, this remains to be seen in future studies.

Other objectives for future research includes testing and expanding the modes of knowledge re-combination observed in this paper, as well as using these insights as entry points for new types of quantitative analyses. Finally, studies elaborating on the innovative potentials of unrelated variety and on the suggested different dimensions of relatedness are also welcome.

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