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Mining through controversies: Public perceptions and the legitimacy of a planned gold mine near a tourist destination

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ABSTRACT

The economic, social and ecological implications of the extraction of mineral resources have been increasingly discussed under the heading of the social licence to operate. In Finland, critical public framings characterized by impressions of failed economic promises, unreliable technology and environmental hazards have dominated the recent mining debate. Operators probing for opportunities to establish new mines have faced critical public reactions. Changes to legislation, natural resource management and corporate responsibility have been demanded in order to effectively address environmental concerns and local social acceptability issues. We studied media representations and planning documents in order to identify the variety of publicly presented concerns related to a planned gold mine and mining company's social licence to operate. Our case study focuses on the planning processes of a gold mine adjacent to an important tourist destination in the Kuusamo municipality in north-east Finland. We highlight the role of public debate on the formation and erosion of legitimacy and the fragility of the social licence to operate.

1. Introduction

The mining industry intensively modifies surface and subsurface areas, affects regions far beyond mining sites through atmospheric emissions and hydrological cycles, and has a wide impact on local economies, social structures and cultural values. Critical public debate often accompanies the planning, construction and operation of a mine, and controversies may also emerge during or long after the closure of a mine (Hilson, 2002; Worrall et al., 2009). These public debates may remain as mere discursive acts without any discernible impact on mining operations, or they may directly or indirectly lead to a refocusing of mining schemes or even the cancellation of operations. Through intensive media reporting and various online and social media applications, local-level public controversies can gain wider attention at national and international levels, especially if conflicts between different societal sectors – such as mining and tourism – are involved (Urkidi, 2010; Tiainen et al., 2014). As noted by McLennan et al. (2014), even though mining and tourism are local issues, they are likely to be reported through national-level media coverage.

The concept of social licence to operate (SLO) is a framework that allows for the causes of conflict and public acceptance to be organized and articulated. It has been increasingly used to understand the formation of local acceptance or opposition toward mining operations, and to manage conflicts between the mining industry and local communities (Owen and Kemp, 2013; Prno and Slocombe, 2013; Bice and Moffat, 2014; Parsons et al., 2014; Koivurova et al., 2015). SLO refers to the constraints and opportunities related to locally determined societal expectations. It aims to inform conflict management strategies by focusing attention on the activities that local communities consider unacceptable, the need for early and active interaction, transparent disclosure of relevant information, and context-sensitive decision-making that is responsive to local culture and history (Prno and Slocombe, 2013). The concept points to social acceptance and legitimacy beyond formal planning and permitting processes, and highlights the need for learning, not only by the employees of the mining industry but also by the members of local communities.

SLO was initially used as a metaphor for the ability of communities to resist or stop mining projects (Boutilier et al., 2012). It is typically perceived in terms of local acceptance of mining operations characterised by a set of four steps or linear stages, ranging from distrust and the withdrawal of licences to acceptance, approval and and finally trust-creation of the mining company's presence in the local community (Boutilier and Thomson, 2011;

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Table 1
Legitimation as control of resources by stakeholder groups in the mining sector (compiled based on: Hybels, 1995; Mitchell et al., 1997).

Key stakeholders	Examples of resources controlled by stakeholders
Authorities (state/municipality)	Legislation, regulations, permits, subsidies, taxation, contracts
The public (local communities)	Patronage (as customer), support (as community interest), labor
Finance sector (investors)	Investments
Other industries (e.g., tourism)	Intensity of competition, indirect control by influencing other stakeholders
Media (including social media)	Indirect control by influencing other stakeholders, informing, framing

Koivurova et al., 2015). In this article, we consider this as an oversimplification. Instead, we claim that the formation of SLO requires legitimation that is a result of many parallel and often non-linear social processes with opportunities for amplification and attenuation. Here we focus on the roles of public debates.

Social licence, and more broadly, societal legitimacy, is granted to mining companies and operations through various stakeholders (Prno and Slocombe, 2013; Table 1). Legitimacy can be understood as a resource that an organization must acquire from its environment. Here we take the characterization of Hybels (1995) as a starting point: the legitimation of an organization or industry comes from different constituencies through two general types of actions. First, the stakeholders communicate their good (or ill) will toward the organization and second, they grant (or deny) some kind of resources that are important to the organization. Here we adopt a broad definition of stakeholder (Mitchell et al., 1997) and consider actors such as government or municipal authorities and the media as stakeholders. Stakeholders such as NGOs or journalists can direct critical or positive public attention toward the company, whereas authorities may have a direct influence through permitting procedures. Stakeholders such as customers may communicate complaints about a product or service and then withdraw their support by boycotting the company. Legitimacy is thus coupled with the control of resources that are critical to the organization, with real leverage.

The media has not traditionally been considered as a separate constituency of legitimacy (Hybels, 1995). However, the media – and more recently, social media – has an important indirect influence over how various groups and institutions perceive and react to the legitimacy of a given organization. Legitimation processes involve different discursive underpinnings that highlight and institutionalize certain examples, interpretations, ideologies and narratives (Vaara et al., 2006). Thus, the media does not directly govern resources vital to the organization, but it does affect constituencies' considerations and decisions over the acceptability of a company and its plans and operations, leading to concrete measures of support or withdrawal thereof (Vaara and Tienari, 2008; McLennan et al., 2014; Lyytimäki and Assmuth, 2015).

SLO and the legitimacy of mining operations have been studied predominantly from the perspective of developing economies and corporate social responsibility (e.g., Dashwood and Puplampu, 2010; Hanna et al., 2016). Here the focus is on an industrialized but sparsely inhabited northern country and on public debate. The mining sector in Finland stagnated at the end of the 20th century, but experienced a revitalization after the turn of the millennium. The amount of functioning metal ore mines increased from six to twelve between 2007 and 2012 and over 30 global companies have recently carried out exploration for further deposits (Wessman et al., 2014). The best-estimate future scenario shows continuous growth of the industry and it has been estimated that the metal mining industry has the potential to provide benefits, especially in economically regressive areas (Tuusjärvi et al., 2014). Management of the environmental and economic risks and maintaining the industry's social licence to operate have been identified as key challenges (Jartti et al., 2012; Tuusjärvi et al., 2014).

Public criticism toward the mining industry has intensified in Finland during recent years. One mine in particular has influenced the critical tone of the public debate (Rytteri, 2012): The Talvivaara mine, situated in Sotkamo, in the eastern part of the country, was first welcomed – both locally and nationally – as an economically promising large-scale investment with innovative domestic bioheapleaching technology to extract the metals from ore. The planning phase, the construction of the mine and the commencement of production in 2008 did not draw major public criticism (Meriläinen-Hyvärinen et al., 2012). Critical debate started in 2010. That was first mainly related to the planned uranium production from the by-products of the mine. In addition, the occasional odor nuisances and deterioration of water quality in nearby watercourses attracted criticism. A major leak from the gypsum waste pond caused severe water pollution in 2012 and several subsequent environmental management failures intensified the debate (Tiainen et al., 2014). The critical tone was strengthened by the very poor economic performance of the mine.

Largely because of the high-profile media debate related to the Talvivaara mine, the mining sector as a whole has recently been discussed under critical public framings. As a reaction to the critique, various activities for improving environmental management practices, environmental performance and the public image of the mining sector have been launched. For example, in addition to traditional forms of environmental governance, the Finnish Ministry of the Environment launched a voluntary stress test that was conducted on nearly half of all Finnish mines (Välisalo et al., 2014) and the Ministry of Employment and the Economy has launched a sustainable mineral industry action program (Jokinen, 2013).

This article studies how the legitimacy forming the basis for the social licence to operate is created or eroded while the land use planning processes of a new mine take place. We focus on public perceptions and local debates that inform us about, or advance or oppose the plans for gold mining. We ask who the actors occupying the public discursive space are and how they aim to create, stabilize or destabilize the legitimacy of the planned mine and the mining sector more generally. The main focus is on the views presented as a result of the Environmental Impact Assessment (EIA) process and on the roles of traditional media and online debates to create framings that legitimize or delegitimize the mining industry. We identify key issues and concerns that are framed as relevant by different actors on different platforms of communication. By frames, we mean ways of selecting and highlighting certain aspects of a perceived reality and to intentionally or unintentionally promote a particular problem definition, causal interpretation, moral evaluation or recommendation (Entman, 1993).

Our discussion is based on newspaper coverage, online debate and planning documents. We employ a case study approach and focus on the municipal-level planning process in Kuusamo, northeast Finland. It should be noted that some of the lessons from the case are directly applicable only to the Finnish planning and management context. Here we focus on the more widely applicable lessons related to public debates. Our study contributes to the critical discussion of the concept of the SLO and the formation of legitimacy.

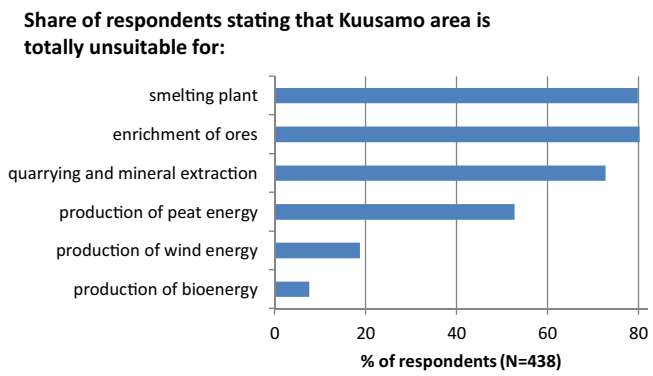

Fig. 1. Attitudes toward different types of land use in the Kuusamo area (source: Sweko, 2014).

2. Materials and methods

2.1. The case context

This analysis is based on the multiple-material case study approach. Materials focus on public debate and include data from newspaper and online debates, and views presented in planning documents. The study area is the municipality of Kuusamo in northeast Finland. The municipality has almost 16,000 inhabitants and it covers a land area of 4,978 km^2. About two-thirds of the population live in the town of Kuusamo. Most of the land area is sparsely inhabited rural areas and forests. Oulanka National Park is situated in the northern part of the municipality. The main economic sector is tourism, with about a million tourists visiting the area each year. The most popular tourist destination is the winter ski resort of Ruka. Other key economic sectors include forestry, reindeer husbandry and small industries. The unemployment rate has been around 12% in recent years (Statistics Finland, 2014; Ruka-Kuusamo matkailuyhdistys, 2013). The permanent residents of Kuusamo municipality as well as the owners of second homes living elsewhere have shown critical attitudes toward the plans for a new mine (Sweko, 2014, Fig. 1). One key explanation for the criticism is the perceived risks of the mine to the tourism sector. It has been estimated that the number of annual visits of domestic nature-based tourists to Kuusamo will fall to about half if the mining plans are implemented (Hietala et al., 2014). This would lead to a decrease in employment and wages in the tourism sector equaling the increase in employment and wages brought about by the mine.

The Kuusamo mine, planned by the Australian-based Dragon Mining Oy (formerly Polar Mining Oy), is a potentially important new investment in the area. The metal deposits – gold in particular – in the Kuusamo area were discovered in the mid-1980s. A Finnish state-owned company (Outokumpu Oy) acquired the prospecting rights in 1990 and examined mining options until 1994. However, mining activities were not started and the company renounced the prospecting rights. Dragon Mining Oy conducted wide explorations between 2010 and 2013 with more promising results. The company has valid mining licences for five deposits, the largest being the Juomasuo deposit.

The Environmental Impact Assessment (EIA) process for the gold mine required for the environmental permit was initiated in 2011. The ore input of the planned mine is approximately 500,000 t/y. According to the mining company, gold is considered the only economically potential metal, but the EIA process also includes an evaluation of the potential impacts of producing a cobalt-bearing concentrate. It is specifically emphasised that 'the Company is not contemplating uranium extraction or producing uranium-based products.' (Dragon Mining Oy, 2013: 8).

2.2. Materials

Various data sources illustrating the level of public acceptance were used in order to examine the case (Table 2). The planning documents studied here include comments made during the assessment program of the EIA for the Kuusamo mine. This material consists of the summaries of statements by municipal or expert organizations and summaries of opinions by private individuals or non-governmental organizations (NGOs) as compiled in the official statement of the EIA authority (North Ostrobothnia Centre for Economic Development, Transport and the Environment) (ELY, 2011). The purpose of this material is to provide information on the views presented in the context of the planning process.

In addition to planning documents, the media debate is studied. Representations created by the media – including various social media applications – both reflect and influence public and policy agendas (Anderson, 1997; Cox, 2010). Issues and risks related to mines are brought to people's attention and are amplified or attenuated largely through the media. Media material was selected from the leading local newspaper of the area, Koillissanomat. It is a daily newspaper with a circulation of 6449 in 2013 (Levikintarkastus, 2014). Material was collected using keyword searches from the newspaper's online archive. After testing several search strings, keywords denoting gold mining (kultakaivo*) and the place of the planned mine (juomasuo*) were selected. Data collection stopped in August 2014 and all preceding hits were included. It is possible that some news items related to the case but not containing the keywords tested here remained outside the sample. However; we consider the sample adequate to identify the key phases of the debate.

The news stories were analyzed to generate a long-term overview of the public discussion. Online debate sparked by one newspaper item was analyzed to provide a snapshot of a more interactive and informal debate. The studied online debate was based on a newspaper column entitled 'Hysterical people disappointed with EIA' (Hysteerikot pettyivät yvaan, published on 13 December 2013), published both online and in the printed newspaper. It was felt that the publication of the EIA report was a focusing event influencing the public agenda-setting and opinion formation (Birkland, 1998). All 44 comments published in the newspaper's discussion forum on this column were analyzed. The number of online comments can be considered relatively high for a local newspaper with a limited readership.

Both the document and media analysis followed the standard content analysis approach (Krippendorff, 2004). Materials were screened for the key issues presented, the overall tone toward the mining industry, and the key frames of concern. The coding scheme included an element of subjective interpretation. Cohen's kappa was used to test intercoder reliability. The test showed perfect consistency between two researchers on the main subject of the news item ($\kappa = 1.00$), and good consistency on the overall tone ($\kappa = 0.74$) and key actors ($\kappa = 0.64$) of the news item (Landis and Koch, 1977). The chi-square tests were used to identify statistically significant differences between binary coded variables.

3. Results

The debate related to the planned gold mine in the Koillissanomat started in late 2010 (Fig. 2). The coverage was relatively stable during the early phase of the debate in 2011. The coverage increased during late 2012, largely because mining issues were discussed as one of the themes related to the municipal elections. The

Table 2
Characterisation of the material.

Type of material	Actors presenting their views	Number of units	Timing
Representations by local newspaper	Newspaper editors, writers of the letters to the editor	124 media items	Oct 2010–Aug 2014
Online debate	All people active in the online environment	44 online comments	13–29 Dec 2013
Summaries of views presented in the EIA process	Limited to actors with a potential interest in the proposed project	50 summaries of statements or opinions on the assessment programme	29 Apr–31 May 2011

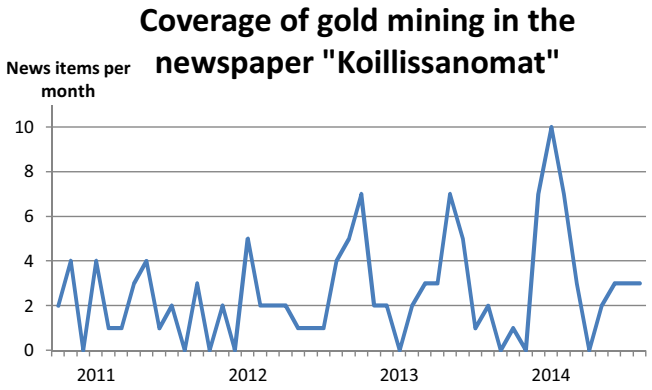

Fig. 2. Coverage related to the planned gold mine in Koillissanomat.

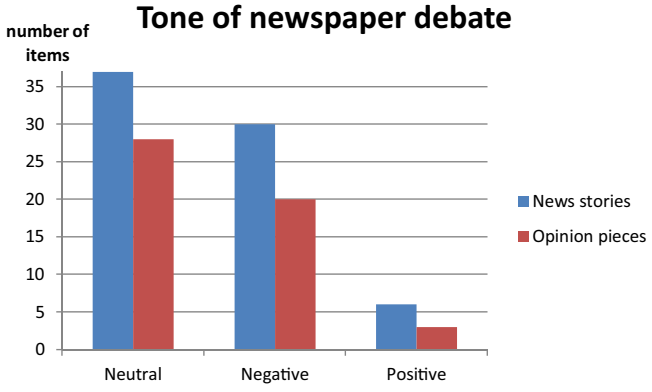

Fig. 3. Overall tone of the coverage towards mining industry in the local newspaper Koillissanomat.

second intensive phase of discussion in mid-2013 was related to the preparation and release of the EIA report on the mine. This intensive debate continued in early 2014. The coverage thus followed a cyclical pattern, revolving around critical events relevant to the support of the gold mine project.

The overall number of news items in our sample was 124. Over half (58.9%) of the sample consisted of news stories, while the rest were letters to the editor or columns by newspaper editors or external writers. The majority (83.9%) of the items in the sample focused on mining issues. The rest focused on other issues and mentioned mining as a side topic. The items with mining as a side topic often presented mining activities as examples of negative development, and were more critical toward mining plans than the items focusing on mining issues ($x^2 = 7.63$ df = 2, $p = 0.022$).

Over half (52.4%) of the coverage had a neutral tone toward mining while 40.3% had a critical tone and 7.3% positive tone (Fig. 3). The overall tone of the debate changed over the years ($x^2 = 16.61$, df = 8 $p = 0.034$). A neutral or positive tone toward the planned mine dominated during the first years of the debate, while a negative or neutral tone dominated the last years.

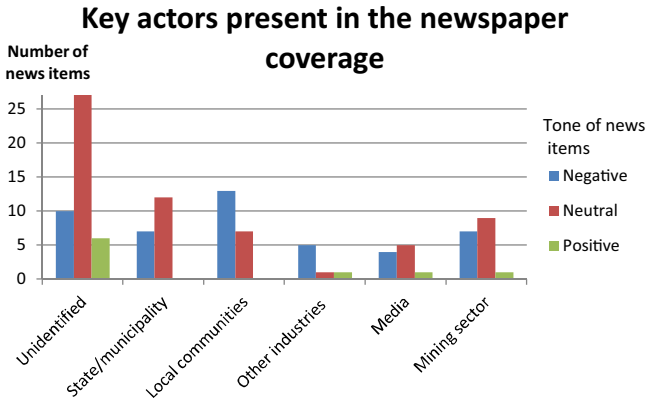

Fig. 4. Key actors present in the press coverage according the tone of the news item.

Criticism was mainly related to the environmental risks of the planned mine. Potential risks related to water quality, dust and odor problems were emphasized. Risks related to uranium were highlighted even though there were no official plans for uranium mining. Environmental risks were highlighted by taking the Talvivaara mine in eastern Finland as a reference point. A considerable share ($N = 17$) of the sample mentioned the Talvivaara mine, all with a negative tone. For example, a letter to the editor entitled 'Talvivaara forces us onto tiptoes' (11 Nov 2012) emphasised the need for caution and careful risk assessment. A news item entitled 'Decisions needed at Juomasuo' (1 Jan 2012) took the Talvivaara case as a cautionary example of public image control and highlighted the fact that the actual performance of the mining sector is better than the reputation that had been ruined by the problems at the Talvivaara mine.

The high level of scepticism toward the efficiency of environmental management and environmental technology of the mining industry was clear, particularly in the letters to the editor. However, the majority of the opinion pieces framed the mining industry in neutral tones. For example, a column entitled 'People must be asked about the mine' (10 Jan 2014) demanded that the local people be consulted, partly in order to prevent the escalation of local controversy to the national or even international level. However, the column did not express a clear opinion for or against the mine.

All the news items that took a positive stance toward the mining industry highlighted the potential benefits to the local economy and employment. However, the economy was also presented as a rationale for opposing the new mine. Both the negative impressions related to the planned mine and actual risks related to the mining industry were raised. The former included potential image damages and economic loss to the tourism industry, and the latter the direct and indirect costs related to potential environmental damages.

The key actors defining the issue and creating the framings in our sample were journalists and private individuals writing letters to the editor or comments in social media. However, a wider set of actors presented their views through the newspaper coverage as interviewees or information sources (Fig. 4). Over a third (36.3%) of the newspaper sample did not contain any dominant actor that

could be identified from the title or first paragraph of the news item. These news items took a neutral or positive tone toward mining more often than the news items with a clearly identifiable dominant actor ($x^2 = 11.28$, df = 2, $p = 0.004$). This suggests that the actors with a strong negative view are likely to end up as interviewees in the news industry—emphasizing the idea that 'bad news is good news' (Lowe and Morrison, 1984). Since the debate was focused mainly on the local level, the most commonly featured actors were the municipal policy-makers and members of local communities. The tone of the news items with local level actors as key information sources was more critical than the tone of other news items ($x^2 = 6.71$ df = 2, $p = 0.035$).

Actors representing regional administration and national-level policy-makers were present only occasionally—when the EIA authority issued its decisions and when the minister for the environment commented on mining issues during trips to the region. The news items with representatives of the local community as dominating sources were often critical toward the mining industry. The finance sector and investors were not directly present in our sample. Perhaps surprisingly, the other industries, notably tourism, were discussed more by other actors than the representatives of the relevant entrepreneurs themselves. The passive role adopted by other industries may be explained by the uncertainty around economic impacts of potential mining activities (Hietala et al., 2014). Also, the tourism industry was part of a broader lobbying group and may not have wanted to speak publicly through individual companies. The tone of these news items was generally negative toward the mining industry.

Over a tenth (13.7%) of the news items had the representatives of the mining sector as primary actors defining the issue. No statistically significant differences in the tone of news items were observed between news items with mining sector actors and other actors as key sources. The overall tone of news items with an emphasis on the views of the mining sector was typically neutral or negative, with just one news item taking a positive tone. This suggests that the actors in the mining sectors were unable to influence the framing of the news, even in cases when they served as the key information sources.

The comments given to the EIA programme in 2011 ranged from brief statements noting that there are no major concerns, to general-level expressions of concern opposing all mining activities. The statements also included detailed technical critique of absent or misdirected assessment of impacts. The majority of the statements and opinions did not present direct views for or against the planned mine, but instead presented demands for issues to be taken into account in the assessment report. The issues ranged from the assessment of potential archaeological value to the estimation of potential vibration effects as a result of the mining activities, making the scope of potentially legitimate issues very wide.

Only one of the 50 statements took a clearly positive tone toward the planned mine. The opinions of private individuals and statements by environmental NGOs were highly critical. For example, the Northern Ostrobothnia district organization of the Finnish Association for Nature Conservation stated that 'The program clearly avoids presenting relevant information.' The tone in the statements by expert and municipal institutions and stakeholders was more neutral, even though various concerns about the scope and depth of the EIA were presented.

The timing of the assessment proved to be a key issue defining the legitimacy of the EIA. A major shortcoming mentioned by several statements was the lack of information about the key methods used in the treatment of metal ores. Such information was not yet available. Other commonly noted issues included the need for further assessment of wastewater treatment options, the impact on air, water and groundwater quality, requirements for infrastructure and traffic, impacts on reindeer husbandry, and the relationship

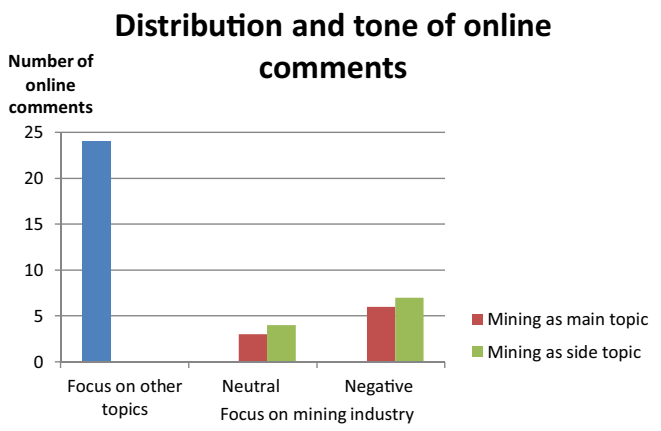

Fig. 5. Topics and tone of online comments sparked by the newspaper column. Note the absence of comments with a positive tone.

between the mining and tourism sectors. The management of uranium in the mining waste was raised as a potential problem in the absence of uranium recovery. The impact on tourism was highlighted together with fears of damage to image because of questions about uranium. The damage to tourism because of concrete dust and noise problems and changes to the landscapes and scenery were also noted as subjects for more in-depth assessment.

In addition, the presentation of the results from the assessment was strongly criticized. Easy-to-read maps with adequate scale and outlining, and the use of photographs to illustrate the impacts on landscapes were required. Improving the possibilities of the inhabitants and entrepreneurs to follow and participate in the planning was called for. The language of the assessment program was criticized as being too technical. Several errors and a number of inconsistencies were detected from the material and the layout was criticized as unfinished.

Despite the critique, the EIA program was accepted by the EIA authority and the process continued with the preparation of the assessment report. It was released on 11 December 2013. The newspaper column that served as a starting point for the online debate studied here was published soon after the EIA report on the mine was released. The online debate consisted of 44 responses to the column and it was characterized by critical overall tones. However, over half (54.5%) of the online comments focused on issues other than the mining industry or the EIA report. These comments contained arguments directed at people rather than issues, and commonly used ironic or satirical expressions aimed to ridicule the opponents. In particular, the ability of the newspaper to serve as a trustworthy and objective communication platform was questioned because of the critical views toward people opposing the plans presented by the editor-in-chief who wrote the column. The majority of those comments focusing on the mining industry were critical (66.7%), as were the majority of comments mentioning the mining industry as a side topic (63.6%) (Fig. 5).

The EIA authority received 225 comments and opinions concerning the EIA report, including ones with several signatories. This can be considered as a high number in the Finnish context. The responses were again critical of the planned mine. In addition, the quality of the assessment report was criticized as poor, and several errors were pointed out. The final decision was given in June 2014 (ELY, 2014). The EIA authority found that the report contained significant shortcomings and that the instructions given based on the assessment program were not fully adhered to. Therefore, the assessment report was not approved and it was returned for preparation. In practice, the process was taken back several steps since a satisfactory EIA is the precondition of permitting the mine. This exceptional decision did not cause a major peak in newspaper cov-

erage. Dragon Mining Oy publicly estimated that the additional studies required by the EIA authority would cause a delay of several years (Koillissanomat, 4 July 2014). After this, the company closed down its local office in Kuusamo. In August 2014, Finland's minister for the environment visited in Kuusamo area and stated that he did not believe that the mine would be established (Koillissanomat, 4 August 2014). At the same time, the national economy and the mining sector were going through an economic downturn, which meant that the future of the mining project remained uncertain. This situation prevailed during the year 2015.

4. Discussion

The media is an important legitimation arena for organizations (Vaara et al., 2006). However, it is often fickle. Attention given to certain issues and the tone of the debate are prone to rapid changes. The cyclical pattern of debate shown in our case study resembled the development of other recent mining disputes in Finland (Tiainen et al., 2014), as well as other environmental debates related to projects affecting land use (Lyytimäki and Assmuth, 2015). This cyclicality can be caused by various factors such as environmental accidents, policy events or campaigns, economic development or changes in public attitudes. In our case, the changes in the intensity of the public debate largely followed the cycles of municipal decision-making and land use planning. The EIA process provided local actors with opportunities to present their views and motivated journalists to include the issue in the news agenda. Our analysis also showed that the critical tones in the public debate and the media used the tailings dam failure and other problems at the Talvivaara mine as a reference point. Thus, the Talvivaara spill served as a 'critical event' for both the Finnish mining sector and opponents to the Kuusamo gold mine. The process of legitimization was also influenced by the overall economic development and global downturn of the mining industry.

In our case, the reporting by the local newspaper was relatively neutral toward the planned gold mine. However, the case also highlighted that an actor operating in a resource-intensive sector such as mining is very likely to face public criticism, which eventually leads to partial erosion of the legitimacy and social licence to operate. In particular, the claims presented via new online and social media applications may leave the actor subject to stark criticism with little opportunity to respond effectively. Research focusing on international corporations has suggested that even active corporate online communication in social media is largely unable to build genuine engagement and legitimacy (Colleoni, 2013). Likewise, in Finland, the Talvivaara mine company has been unable to influence the critical public framings and restore the legitimacy of its operations, despite the active communication strategy that was adopted by the company (Tiainen et al., 2014).

Thus, our results show that because of the media reporting reflecting concerns on various scales, the legitimacy of a local-level issue such as a mine is to a great extent defined by national or even international factors. The critical framings created by the national-level public debate related to the problems at the Talvivaara mine influenced the local-level discussion of the planned gold mine in Kuusamo, despite the clear differences between these two cases. Our results also showed that a local case can influence the public agenda at national level. The Kuusamo case was raised up, for example, by the national public broadcast TV-channel (TV1) that aired a special panel discussion focusing on the conflict between mining and tourism (28 Nov 2013).

The critical tones of the media coverage, public opinion and responses to the EIA report show that the gold mine project has been contentious since the beginning. This seems to echo the observations by Boutilier et al. (2012) that local communities are often divided in their opposition/support for mining, but, overall, mining has become increasingly difficult to justify, especially in communities with prosperous economies. The benefits of mining to local communities are not readily perceived and there is less tolerance toward the environmental and social costs it incurs. In Kuusamo, moreover, the mine was perceived as a threat to another key asset of the local economy: tourism, based around the local ski resort.

Our results provide further support for the finding that trust is a key issue restricting the co-existence of tourism and mining, as highlighted by the analysis of Australian newspaper discourse (McLennan et al., 2014). In our case, the negative overall framings cast over the whole mining industry, together with the local economic importance of the tourism industry for the region (Hietala et al., 2014), created serious obstacles for corporate communications aiming to convince local actors about the viability of the mining scheme. In addition, the poor quality of the EIA documents compiled by an external consultant firm accelerated the critique and decreased the trust.

In addition to external events such as the Talvivaara mine accidents, stakeholders who are not local residents play important roles in defining social acceptance and legitimacy. In particular, the mobilisation around the Kuusamo mine shows that interest groups rallying against the mine were not all local. Cottage owners, typically living in Southern Finland and seeing Kuusamo as their recreational landscape, were active and vocal in their opposition. Interestingly, some commentaries questioned the justification of the cottage owners' participation in the debate, on the grounds that they were 'not local' and thus should not be considered as stakeholders in the planning process. However, the cottage owners organzed and founded their own association, which points to the fact that the geography of the SLO cannot be strictly bound to the mining locality. Cottage owners may well be affluent and influential, as well as very media-savvy.

Critical public debate around the mining industry can be seen as a sign of an active and well-functioning civil society, and an important part of the social processes needed for building legitimacy (Kronenberg, 2013; Owen and Kemp, 2013). The existence of the possibility to present public critique is also a precondition for stable social structures needed for making long-term investments in industries such as mining. Active participation by non-governmental organizations and other stakeholders led to delays and changes, incurring considerable costs to the exploration and mining companies. However, such participation can also widen the knowledge base needed for natural resources management. Wide debate including a diverse set of actors may help to achieve the optimal long-term decisions taking into account all relevant information, including local natural, social and cultural conditions. In particular, wide-based participation as early as possible in the planning phase provides a means to reconcile disagreements and identify 'known unknowns' that may otherwise remain unnoticed and aggravate conflicts later on (Gross, 2010; Lyytimäki et al., 2012).

Perceptions about the importance of and trade-offs between the social, economic and environmental impacts of mining activity can vary significantly (Rytteri, 2012; Rolfe and Windle, 2015). A high capacity for social learning is required in order to create a shared understanding based on different and often incompatible values, aspirations and knowledge bases by various actors. In particular, interactive communication, sensitivity to different perceptions and specific mediation and conflict resolution mechanisms are needed in order to avoid an escalation of conflict and inclusion of different types of knowledge in the assessment and planning processes (Bloodworth et al., 2009; Prenzel and Vanclay, 2014). The results from our case study suggest that the formal EIA process, newspaper debate and online debates lack the ability to serve such integration and social learning.

Reflecting the contentious character of the Kuusamo gold mine, the public debate was dominated by critical attitudes toward the planned mine. The debate showed little or no sign of social learning or constructive engagement between different parties. In the mining sector, this kind of failure to harness the positive potential of public debate is a common one (Hilson, 2002; Hamann, 2004; Kemp et al., 2011; Tiainen et al., 2014). The disapproval of the EIA report clearly indicated a lack of ability to include and learn from the insights presented during the earlier phases of the planning process. The EIA process can support constructive communication and conflict management, if these functions are acknowledged (Peltonen and Sairinen 2010). It may provide opportunities for collaborative learning affecting all participants, but such learning requires that special attention is paid to adapting participatory methods and knowledge brokerage for a particular context instead of just aiming to fulfil the minimum regulatory demands set by legislation and the authorities (Saarikoski, 2000; Sinclair et al., 2008; Saarela et al., 2015).

More generally, in our case, the EIA process demonstrated the important role of public authorities in the process of legitimation. Since the mining operation cannot proceed without an officially approved EIA, granting or holding such approval by the authorities is a concrete act of (de) legitimation. This decision is partly informed by the publicly presented stakeholder opinions and complaints filed with the authorities. Since the sufficiency of an EIA process cannot be strictly defined by law, the consideration goes beyond mere legality. Legitimacy, as seen through this lens, is not just a matter of opinion, but a powerful factor in granting social licence to operate.

The legitimacy and public acceptance of an organization is indirectly influenced by the media. This ability is, in turn, influenced by the legitimacy of the individual media, which is constituted by factors such as the perceived level of independence from political or economic interests and quality of the media contents (Cox, 2010). An important trend is the development of information and communication technologies toward more interactive forms of communication allowing and inducing additional critique. As our sample showed, the online debates induced by print media contents have the advantage of meta-commentary over conventional print media content. More generally, social media provides a channel of media criticism, thus serving as a measure of the contentiousness and perceived neutrality of conventional media content. Anticipating and learning from this meta-commentary remains one of the key challenges of developing the social licence to operate.

5. Conclusions

In addition to legislative and economic issues, legitimacy and social licence to operate are increasingly important questions in environmental governance and land use policies. The importance of SLO is emphasized partly because of critical debates in traditional media, new social media applications and more participatory planning and governance approaches. Our observations on the use of social media as a meta-commentary on media content, reflecting the acceptability of the framings and interpretations, warrants future research on the effects of social media on the other organizational resources of legitimacy.

The concept of social licence to operate has originated from the mining sector, but it has gradually been used in other industries too (Boutilier et al., 2012; Bice and Moffat, 2014). In order to be meaningful, the concept should not be seen only as a tool for restraining local opposition or building positive corporate reputation. Instead, it should be used as a conceptual aid for building practices and operations acknowledged as legitimate by all stakeholders. A key issue is the preparedness of the mining industry to communicate and justify planned actions and the willingness to openly engage local communities as well as other stakeholders.

However, the challenge goes beyond issues of open communication. The ability to learn from other actors is the ultimate key to building social licence to operate and to avoid the erosion of legitimacy of operations. Our case highlighted the importance of including local concerns and knowledge in the planning of operations that potentially affect local land use and livelihoods. Our case study also suggests that conflicts are not necessarily something to be avoided or feared. In most cases related to mining, they are unavoidable, as local communities question the impacts and cost-benefit ratios of mining operations. The emergence of the notion of social licence can be seen as a reaction to such trends, with high demands of transparency, stakeholder engagement, ex-ante assessments, and precautions for environmental and social harm. Therefore, it is very useful to consider conflicts as potential opportunities for social learning.

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