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Will Lytle
Michigan Technological University, wjlytle@mtu.edu

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EVALUATION OF SOCIAL LICENSE FOR THE FOREST PRODUCTS
INDUSTRY IN HOUGHTON COUNTY, MICHIGAN

By

William J. Lytle

A THESIS

Submitted in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

In Forestry

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This thesis has been approved in partial fulfillment of the requirements for the Degree of MASTER OF SCIENCE in Forestry.

School of Forest Resources and Environmental Science

Thesis Advisor: *Dr. MARK RUDNICKI*

Committee Member: *Dr. CHELSEA SCHELLY*

Committee Member: *Dr. MATTHEW KELLY*

School Dean: *Dr. TERRY SHARIK*

Table of Contents

List of Tables

1. Abstract

This research investigates how the local community grants social license to the forest products industry in Houghton County, Michigan. Interviews were conducted with industry and community stakeholders using a snowball sampling method to understand perspectives on the social license continuum. The viability of supply chains and individual industry sectors associated with forest resources in the county are largely governed by macroeconomics. However, there is a very local component that allows individual corporations to operate within the community. The data analysis, based on the interviews, focuses on understanding local perceptions of natural resource management and community relations. The results reflect social license has a spatial variation that allows local industry a higher degree of license than non-local. With an absence of community engagement and emerging forms of stakeholder communication in Houghton County, the social license possessed by the forest products industry could be vulnerable to disturbances that may accompany changes in operations.

2. Introduction

2.1 Social license

Social license is a term that is used to describe the relationship or relationships between a community and a natural resource based extraction industry. Social license is generally regarded as being synonymous with community approval, but given the dynamic nature of relationships, community approval fails to describe all of the essential interactions of social licenses such as how different stakeholder groups perceive individual sectors of the forest products industry (R. Parsons, and Kieren Moffat, 2014). For the purpose of this research, social license depicts the expectations that a community has for an industry or industry's operation; from that starting point it would be most productive to view social license not as a linear relationship that directly binds our two main actor groups, but as a continuum, spectrum or even web of relationships (Dare, 2014; Edwards, 2014; R. Parsons, Justine Lacey, and Kieren Moffat, 2014). Gunningham (2004) defines social license as "the demands on and expectations for a business enterprise that emerge from neighborhoods, environmental groups, community members and other elements of the surrounding civil society" (p.308), and this mirrors the working definition used to direct the research conducted for this thesis.

Communities can be defined as "a social unit of any size that shares common values, or that is situated in a given geographical area" (James, 2012, pg. 14). Communities can also be described by stakeholders (James, 2012). Stakeholder is defined as "a

person with an interest or concern in something" and can be comprised of one or more of the following: shareholders, owners, residents, Indigenous peoples, government or nongovernmental agents, and employees (Merriam-Webster, 2016). Communities are often viewed as people that fall in a certain geographic region. Even when they are grouped by descriptors, it is understandable that communities are comprised of many individuals with a variety of perspectives and values that shape the way that they view industrial operations that take place in their region. Communities have several different relationships with industry; they provide a physical location, are stakeholders in the local environment, comprise a workforce, consume a product, are partners in projects, benefit from or supply infrastructure, pay taxes and are the group of individuals who will have resources extracted from or brought to their community (James, 2012). When visualizing the common connections between communities and industry, it can be difficult to determine which of the mentioned interactions are most important. Often, leaders or key influencers in the community will understand and communicate the values of a subset of individuals (James, 2012). The relationships that these leaders form with industry can be significant with regards to how the industry is able to operate. If the community has a good relationship with industry, then they may offer a high level social license. If the community does not approve of the operations of the industry, then they withdraw social license. Natural resource extraction industries, especially ones with controversial practices, recognize the value of social license for transforming how industries and communities communicate, and

some forecast that social license could become a part of the governments licensing process (Lacey, 2012; R. Parsons, Justine Lacey, and Kieren Moffat, 2014)).

2.1.1 Achieving Social License

Traditionally, industries have used community engagement or public relations strategies and personnel to reach out to community members. Two pertinent types of community engagement are described in literature (M. Dare, Schirmer, J., Vanclay, F, 2014). First, strategic engagement includes reaching out to community leaders and finding key influencers with whom to form relationships. Second, operational engagement exists at the location where work is taking place. Operational engagement includes the experience a person may have at the location of an operation and individual conversations that may occur between industry and stakeholders. In certain communities, direct interactions and word-of-mouth communication at the operational site are viewed as effective engagement by the local stakeholders and industry members (Dare, 2014). When the spatial scale does not allow for all community members to be engaged by industry at the site of their operations, then community members rely on other sources, such as the media, to help them form their opinions (M. Dare, Schirmer, J., Vanclay, F, 2014; Lester, 2016). Previous research suggests that operational engagement has limitations relating to: communities not trusting local managers, a failure to reach the full body of stakeholders, and the inability of organizations to adapt operations to fit with changing social norms (M. Dare, Schirmer, J., Vanclay, F, 2014). The operations location for forestry can be stationary (i.e. mills) or move around (i.e. logging operations). Thus, the nature of the forest

products industry can complicate operations level engagement. Despite the limitations, the two types of community engagement can be an important part of a corporation's achieving social license (Prno, 2012).

One important pillar of social license that is often missing from industry led conversation is consent (R. Parsons, Justine Lacey, and Kieren Moffat, 2014). This could be due to the acceptance of the industry through the legal licensing process. Legal license, or the laws that regulate the operations of an industry can be controlled by governmental organizations at a range of spatial scales (Gunningham, 2004; Morrison, 2014). However, legal license can be influenced by groups in power and through politics (Syn, 2014). Legal licenses also generally serves to penalize bad behavior rather than incentivize good behavior which can impact compliance in natural resource dependent communities (Gunningham, 2004). Legal license may not be fully enforced or hold industry accountable for operations especially in regions where industry has strong political license (Syn, 2014). Political license may be achieved through strategic engagement by industries, where by leaders or representatives of a group endorse and operation (Dare, 2014). Unfortunately, minority groups or stakeholders that are unable to have representation in leadership may not be considered when political licenses are assigned (Syn, 2014). Legal and political license in certain situations may include factors that would be addressed by social license, however social license would not have emerged in discourse surround

the extraction of natural resources if stakeholders felt that their interests were being protected by legal and political licenses alone.

Some of the concerns expressed by stakeholders may be derive from their relative level of understanding about operating conditions of the industry, which change rapidly with time (Egan, 2009). Community engagement is a method by which industry can keep stakeholders up-to-date on activities. Dare (2014) outlines three important facets to an industry involved in community engagement: "trust in organizations, capacity to engage stakeholders, ability of organizations to respond to changing expectations" (pg.191-192). These three elements form the vehicle that allows a corporation to increase its social license.

Boutilier (2011) constructed a pyramid and flow chart that includes positions for categorizing social license. There are four main groupings that an industry's social license can be categorized under: withholding, acceptance, approval and psychological identification. Withholding occurs when stakeholders are dissatisfied with an industry's operations and seeks to disrupt or halt them. Acceptance is when an industry is allowed to operate. Approval is when community stakeholders have developed an understanding for industry operations and feel positively about community-industry relationships. Psychological identification, also known as co-ownership when viewing the pyramid from the perspective of community stakeholders, is the highest ranking for social license. Psychological identification is

when community stakeholders feel invested in industry through collaborative projects that build reputation and trust. Co-ownership is when the industry recognizes the values and needs of the local community and invests itself equally as a stakeholder in those goals (Boutilier, 2011). Research conducted by Parsons analyzing industry discourse (2014) demonstrated that companies visualized social license as including an acquiring, maintaining and diminishing pathway. Most companies believed they were in the maintenance process, possibly because they had already established their operations and were past the point of proposing and acquiring an operation. Acceptance may be the default social license as stakeholders develop opinions on organizations and operations (Parsons, 2014).

Dare (2014) adds to Boutilier's (2011) visualization of social license. A community's perspective can range from withholding to psychological identification, but an industry may have more than one social license. On the local level, industry may have a license with neighbors, residents and local government. At a regional level, they might be engaged with Indigenous peoples, business owners and markets. At a society-wide scale, and industry could have social licenses with NGOs, agencies of the federal government, and consumers (M. Dare, Schirmer, J., Vanclay, F, 2014). Dare (2014) hopes that when using the social license continuum concept, corporations will be able to identify the multiple licenses needed to develop trust. Dare (2014) suggests doing this by having an industry focus its energy on "relevant micro-scale social licenses operating in practice" (pg. 194) and at the same time to "continually highlight

the outcomes and lessons… to gain traction for, and recognition of, necessary and/or desired changes in management practices" (pg. 194).

Legitimacy, credibility and trust have been described as the three relationship components that exist between the four levels of the social license continuum (Boutilier, 2011). Trust is widely regarded as an important component of social license that can unlock more effective community-industry relationships (Boutilier, 2011; R. Parsons, Justine Lacey, and Kieren Moffat, 2014; Stern, 2015). Stern and Baird conceive of a 'trust ecology' (2015) that depicts the many facets of trust that may be shared between natural resource managers and stakeholders. Trust ecology includes: prior behavior and performance, personal histories, positive direct interactions and equitable procedures (Stern, 2015). Although it can be overwhelming to break down each segment of social license into its own system or ecology, it is vital for industry to better understand in detail the meaning of the trust boundary and more importantly how to reach psychological identification (Boutilier, 2011). Acknowledging multiple forms of trust exist in the social license allows for greater institutional resilience in that if one type of trust becomes jeopardized, the other forms will help retain the license (Stern, 2015). At a society-wide scale, and industry could have social licenses with NGOs, agencies of the federal government, and consumers (Dare, 2014). A second relational element of trust is reputation, a concept that captures the organizational legitimacy of a corporation, representing how different stakeholder groups can influence the formation of each other's social license (Lester, 2016). Interview subjects, that were asked about social license, by Parsons (2014) regarded

reputation to be one of the central premises of the license. The reputation of a corporation, also known as organizational legitimacy, represents how stakeholders perceive the identity and values of an organization (Morrison, 2014). Operational legitimacy is based on the action or production of services provided to stakeholders by the organization (Morrison, 2014). Lacey (2012) suggests that social license can take a long time for a corporation or industry to achieve. However, social license can be lost very quickly, for a variety of factors including changes in stakeholder expectations, technology, or other disturbances. Without transparency and communication with the local community, which can be used to generate reputational capital, the social license could be fragile. When asked about social license, interview participants in one study indicated that it can be hard to assess social license but it can definitely be lost or identified as absent (Parsons, Lacey, and Moffat, 2014). Gunningham (2004) adds that meeting and exceeding regulations to build reputational capitol is not only good for the society and environment, but also economically vital; saying: "in certain circumstances, they cannot afford to do otherwise" (pg.321). This concept is in opposition of the viewpoint that many companies cannot afford to exceed stakeholder expectations for social licenses; rather, it emerges from the observations that were made of corporations overcoming disturbances and disruptions to their operations based upon their positive reputation (Gunningham, 2004).

"Disturbance is inevitable in natural resource management, arising from values conflicts, personnel changes, policy changes and myriad transformations of the natural

resources themselves" (Stern and Baird 2015 para. 46). Disturbance can be used to describe stochastic events that change the way an industry operates (Stern and Baird, 2015). Evolutions in technology and emerging markets could be considered disturbances. Social media, smart phones, and the internet have changed and escalated the communication potential among suppliers, customers, and the local community (R. Parsons, and Kieren Moffat, 2014). The markets for local pulpwood and saw logs are expected to change in response to European bioenergy demands, the decline of the paper industry and the emerging field of tall wood buildings (Wear, 2015). As ecolabels and certification programs begin to communicate the full suite of virtues provided by forests, including their ability to sequester carbon, it is expected that life cycle assessments of materials will favor wood (Cobut, 2013). Without social license, stakeholders can use a variety of direct and indirect strategies to damage or halt the operation of an industry (Sharma, 2005).

2.2.2 Conceptual Overlap and Critiques

Although the pyramid provided by Boutilier (2011) is an informative introductory tool, it can be problematic when stakeholders are first introduced to social license to gauge their understanding of the specific terms. Asking anyone to define or show the difference between the words: *legitimate, credible, support, accept, permit, approve*, or *consent* can be an exercise in futility (R. Parsons, Justine Lacey, and Kieren Moffat, 2014). Likewise, social license becomes more opaque when held next to terms like *corporate social responsibility, sustainable development,* and *corporate citizenship*,

which seek to call attention to the same general concept of striving for an industry that balances economic, social and environmental goals (Elkington, 2004). Sustainable development is an effective concept when applied to communities that are welcoming to new industry or infrastructure, but is less useful when discussing embedded industry (James, 2012).. Corporate social responsibility paired with stakeholder engagement are described as two inputs that can help an industry achieve social license (Syn, 2014). The individual definitions of these terms as they relate to social license are chronicled in industry driven discourse however they may not be individually differentiable by community stakeholders (R. Parsons, and Kieren Moffat, 2014).

There has been some specific disapproval for the term social license; one example comes from a region where the term was adopted by industry and then used in conversation with the local community (Lester, 2016). Stakeholders and media felt that the term was being used against them as propaganda and that it was difficult to fully comprehend and sounded unfamiliar (Lester, 2016). Other critics suggest that the concept of social license bypasses the democratic framework of legislation and favors small, highly vocal groups (Lester, 2016; R. Parsons, and Kieren Moffat, 2014).

Social license is not a physical document that the community leaders present to industry representatives (R. Parsons, and Kieren Moffat, 2014). Rather, social license is the endorsement that an industry receives and is required to continually renew with the community. City, county or state official might endorse industry operations while

local residents withhold a social license. Social license encompasses more than a single contract with an individual or a yearly renewal. This ever changing and complex relationship can be difficult to identify or measure (Lester, 2016). Despite that, many industries including mineral extraction and timber harvesting, have become interested in analyzing their social license in hopes of cultivating more effective partnerships with local communities (Morrison, 2014, Parsons, 2014.

Syn (2014) argues that term social license is not a continuation of the discourse on corporate social responsibility, corporate citizenship and free, prior, informed consent. Instead social license is seen as a new effort to create meaningful change in the operations of industries based upon the expectations of stakeholders, which corporate social responsibility and consent have not been successful in realizing (Syn, 2014). Social license allows underrepresented groups to have their opinion valued, especially when groups are not able to participate in formal legal licensing processes (Syn, 2014).

2.2 System Boundaries and Background

This research focuses on how the public grants social license to the forest products industry in Houghton County, Michigan. Houghton County is the spatial scale for considerations of industry and community with a land area of 1,009 square miles (U.S Census Bureau, 2010). Houghton County had a population of 36,628 people which has been gradually increasing in recent decades (U.S Census Bureau, 2010). Due to the remote location, low population and high resource availability, Houghton is an

exporter of forest products. Distance to market is a critical factor in the economic viability of an industry (Overdevest, 1995). The raw logs, from the trees cut in Houghton, are shipped throughout the Upper Peninsula of Michigan, Wisconsin, to neighboring states and to foreign markets abroad (MDNR, 2014). Regional paper mills and companies that manufacture products for building houses receive the majority of logs from Houghton County. In Houghton, there are no paper mills which statewide account for over 50% of the volume of wood processed in mills. There are also limited few housing starts which makes the corporations in Houghton County dependent on other companies further down the supply chain (MDNR, 2014). Data from 2014, shows that the manufacturing of wood furniture in the state of Michigan had 9,943 direct jobs and "were among the top sectors in all U.S. states in number of jobs and annual wages" attributed to it (Leefers, 2016). Unfortunately, there are only limited examples of large scale value added processing facilities in or near Houghton County. For the purpose of this research, when the wood product crosses the county line, data collection and analysis on the industry cease. However, when the industry and county rely on exporting the forest products harvested locally, macroeconomics and global markets have a large influence on local dynamics.

For this research, the forest products industry was defined as all the lands owned and the operations that take place involving the managements of forests or the processing of wood within the county. Houghton County has a substantial asset in non-timber forest products including maple syrup, mushrooms, berries, aesthetics, ecosystem

services and wildlife, but this research focused on wood based products for the assessment. As the term forest products industry is used, going forward, it is referring to public and private landowners, foresters, loggers, truckers, saw mills, primary processors, manufacturers, artisan woodworkers and specialty wood procurement taking place within the geographical boundaries of the county. Vertical integration is when a corporation is invested or owns more than one segment of the supply chain. Vertical integration can help to increase profit margins, secure access to a resource, and add resilience to the expansion and contraction of the industry based on economic cycles. The way that industry arranges and presents its sectors to the local community could influence social license.

Houghton County has a long history of embeddedness with extractive industry, beginning in the 1848 when the Quincy Mine began to commercially mine copper (NPS, 2016). This region was flooded with investors, laborers and entrepreneurs over 150 years ago. Trees were cut to build houses, lay railroad tracks and support mine shafts. The hillsides were laid bare of their timber as the mines' expansion demanded greater and greater resources. With the passage of time, the mines became less profitable due to labor disputes, high operating costs and the emergence of other mining locations (NPS, 2016). Although there was still copper left in the ground, the mining operations failed to turn a profits a quarter of the way into the 19th century, with the Quincy Mine shutting its shafts shortly after World War II (Yarbrough, 1998). Many of the local people are descendants of the early miners and supporting

laborers who came to the area to seek a better quality of life for their families. The traditional relationships that existed between industry and community members in small towns throughout Houghton County shape the way community members perceive present day organizations and operations of the forest products industry.

Social license is often evaluated in industries that rely on the extraction of natural resources such as mining, logging and drilling for fossil fuels. These industries must set up their operations near natural resources that are relatively high in concentrations. It is often advantageous to process the resources locally to reduce the costs associated with the transport of raw materials. Altogether, the natural resource extraction industries can require large swaths of land to bring their products to market. Gunningham (2004) found through the interview process that industry felt location and visibility had a very strong connection to the social license, even claiming that "an economically dependent local community would be likely to have a more relaxed social license" (pg. 324). In communities with a diverse economy, the pressures from the social license are often much greater (Gunningham, 2004). Thus, although the local community may exert low pressure on the industry due to its economic dependence, the industry requires more than just local consent in order to operate (Lacey, 2012). Studies suggest that regions with a diverse forest products industry have higher per capita incomes than those only involved with extraction (Overdevest, 1995). And yet Egan (2009) reports that 52% of loggers that were surveyed in Maine would not encourage their son or daughter to enter the profession. Houghton County is

grappling with many of the same issues. However, Overdevest (1995) goes on to state that the types of benefits that forested lands provide to communities are broad and go beyond basic employment statistics. Along with the products desired by consumers come the byproducts such as air, noise, water and soil pollutants, which can impact local communities and ecosystems profoundly.

The local community in Houghton County has a unique perspective for observing the operation of the forest products industry. There are visual limitations to what the community can see, due to the ever-changing sites of harvesting operations that often take place on private land. However, the community is able to hear through key influencers about the forest products industry in real time. Until recently, local communities were considered to be of lesser consequence than end consumers and were seen as only secondary stakeholders to managers (Sharma, 2005). Many operational improvements and upgrades for efficiency are well communicated through the industry by equipment suppliers and by comparison to other companies (Sharma, 2005). It appears that in certain regions, these improvements may not be well communicated with community stakeholders. For the forest products industry, best management practices (BMP's) take a variety of forms based on the type of harvest being conducted, the equipment being used, and the expected impact to the individual ecosystem (Henriksen, 2016). BMP's to protect soils and water resources focus on maintaining or improving the quality of infrastructure by up keeping roads, providing culverts for stream crossings, making sure that equipment is not overly loaded or

entering the site when soil wet. The protection of water resources is done by creating riparian buffers, mitigating and remediating erosion, and ensuring the safety of bridge crossings. Wildlife is addressed in the prescriptions created by foresters, which include preserving habitat for threatened or endangered species (Henriksen, 2016).

BMP's for land management in Houghton County are often voluntary or audited measures that are proposed by the Michigan Department of Natural Resources, Michigan Natural Resources Conservation Service (NRCS) or groups with sustainability goals (Henriksen, 2016). In addition, there are many independent governing bodies that issue certifications or ecolabels for sustainable operations (Dare, 2011). The parts of the industry related to processing and manufacturing have different standards to adhere to that are related to the health and safety of their workers as well as the impacts of their facility (Gunningham, 2004). The Forest Stewardship Council and the Sustainable Forestry Initiative (FSC/SFI) are the two primary certifying organizations in Houghton County. Some sustainability certifications consider whether a corporation possesses social license before certifying them which might serve as an opportunity for communities to negotiate on perceived risk (Lester, 2016). Although adherence to regulations or voluntary participation in sustainability certifications is standard to the industry, it is unclear if the details of the industry performance is being communicated with the public effectively.

3. Goals and hypotheses

The first goal of this research was to identify how the relationships between the forest products industry and community in Houghton County function. The second goal of this research was to provide stakeholders in the community and industry with updated discourse on how the industry communicates, operates and views their relationship with the local community. The evaluation of social license will provide a framework to balance the perspectives of diverse stakeholders in Houghton County. Themes that arise from individuals or cut across groups of stakeholders will be contextualized and assessed for validity.

The initial hypothesis tested in this research is that different sectors of the forest products supply chain would each have a different social license. Social license or community approval happens on a continuum, applies to different elements within the broader industry differently, and is also temporally contextual, which can separate individual industry actions or join them together in a supply chain. Testing this hypothesis may provide insights into where social license is the strongest and where it is the weakest in the continuum. Knowing where social license could be improved would help prioritize stakeholder concerns and allow the forest products industry focus energy in those areas.

4. Methods

4.1 Introduction

The snowball sampling method was chosen to help better understand the social license continuum by receiving names of key informants that could be difficult to identify from outside the industry (Heckathorn, 2011). This standard sampling method was conducted by adding a question to the end of every interview asking participants to name others who might be willing to participate in our research on how the forest products industry relates to the community in Houghton County. When people or companies from outside Houghton County were referred, they were not contacted for an interview. After using the snowball sampling method in the first several interviews, the contact information provided by participants was used as the primary directory. The snowball sampling method allowed one means of determining when the data approached theoretical saturation, when names were referred multiple times and very few new names were added. As themes and theories about the data developed, they helped to inform who would be key informants (Charmaz, 2003). An inherent fault of this method is that many of the participants suggested their friends, who perhaps had similar experience, job status and perspective on the industry. Although the research aimed for a diversity of responses, the snowball sampling method favored those who had strong relationships with others, were at the zenith of their career (see Table 1) and communicated well, which may influence the results of our data (Heckathorn, 2011). Although not pre-selected as such, participants fell into favorable categories of "having corporate-level social responsibility and/or stakeholder relations" (Lacey, 2012).

An initial assessment of the sectors of the forest products industry present in Houghton County was performed using the Michigan Department of Natural Resources: Forest Products Industry Directory searchable database. Thirty-three corporate profiles, and three industry sectors were retrieved using the directory. These profiles were utilized for developing basic classifications of the industry as well as providing an initial point of contact for the interviews. Expansion of the sectors and classification system was necessary to accurately include the operations of corporations that were referred to participate in interviews through the snowball sampling method

4.2 Interview Protocol

The industry and community interview protocol was designed to elicit responses from participants about the human dimensions of the forest products industry. A primary goal was to learn about the process of how and why participants engaged with others related to forest products industry organization or operation. To support that goal, I began by asking questions that had concrete answers and then through the use of probes and follow-up questions transitioned the interview towards more abstract concepts (see Appendix) (Lytle, 1993). As the interview progressed, participants were encouraged to express their personal views of their industry and their community with a strong focus on relationships, responsibilities, values and disturbances. To prevent the interview participants from being led to certain topics, there were no questions in the protocol directly stating the terms social license, biofuels, bioenergy, climate

change, sustainability, and local license. However, many participants addressed these topics spontaneously.

The interview questions received approval from the Institutional Review Board at Michigan Technological University to ensure that the methods of research complied with recognized standards for conducting research on human subjects. Before beginning the interviews, an oral consent form was read to each participant to inform them of their rights to confidentiality and help them understand the broad goals of the research. Interviews were designed to be about one hour in length so that participants could comfortably plan their schedule around the interview. The interviews took place at a time of day and location chosen by the participants. Approximately 10 questions were asked, with the potential for 2-3 probes or follow-ups attached to each. The semi-structured interviews were documented, with the permission of participants, with both written notes and digital audio recording.

Each participant agreed to the interview and consented to being digitally recorded. The recording and interview schedule were given an identifying number to ensure accuracy during data processing. Each interview was transcribed verbatim. From the full transcription, personal information and private stories unrelated to the research were deleted from the record to help maintain the confidentiality of the participants.

4.2.1 Industry Classifications

There were 14 interviews conducted with individuals from industry. Industry was considered to be the collection of all corporations and sectors involved with forest products in Houghton County. Each participant was given a primary classification based on the operations of the corporation (referred to as businesses and companies in some interview responses) and the individual position of the participant (see Table 1). 6 of the companies were given secondary classifications based on their organization spanning more than one class. The classification denotes the *sector* to which corporations were assigned. The sector could also be considered as a group of corporations with similar operations, industry nodes, and links in the supply chain. The definition of these terms and industry sectors is relevant to testing the hypothesis on uneven distributions of social license throughout the forest products industry.

The "Landowner" classification includes the participants that indicated the majority of the organization being represented was devoted to acquiring, consolidating and disposing of land. This includes privately held timber investment management organizations (TIMOs) and publicly traded real estate investment trusts (REITs) as well as state and private landowners. The "Manager" classification describes those participants who were involved with on the ground management of forests. This group is primarily composed of foresters. The "Extraction" classification describes the logging, hauling, and activities required to support the physical removal of trees from the forest undertaken by participants in the industry. The "Primary Processing" classification includes participants who represented sawmills and wood chipping.

21

Outside of Houghton County there is a much larger sector of operations that would be classified under primary processing. The "Specialty Procurement" classification represents participants who seek to connect high value forest resources with niche markets. Examples of the niche markets would be musical instrument makers and luxury products that might favor figured wood. The "Secondary Manufacturer" classification includes participants who received a preprocessed forest product; wood that had perhaps been treated, dried, chipped or milled, from which a new commercial wood product was created (e.g. windows, doors, cabinetry, and flooring). The "Woodworker" classification was applied to participants who were involved in carpentry or woodworking. They would often take a preprocessed forest product and then work directly with a consumer to design and build a custom product to fit the customer's needs. Due to the size of the sampling region and the importance of keeping participant identities confidential only basic information, including the primary classifications assigned to forest product industry participant and number of years with the industry and corporation, is presented in Table 1.

Table 1. Classification of industry participants.

FPI ID	Classification	Years with (Industry/Corporation)
1	Woodwork	(35/35)
2	Primary Processing	(30/3)
3	Specialty Procurement	(40/10)
4	Woodwork	(15/11)
5	Secondary Manufacturing	(36/36)
6	Manager	(32/32)
7	Landowner	(29/10)
8	Landowner	(32/3)
9	Extraction	(20/11)
10	Extraction	(27/27)
11	Landowner	(26/15)
12	Manager	(15/11)
13	Secondary Manufacturing	(4/4)
14	Landowner	(35/32)

4.2.2 Community Classifications

The classifications of the six community participants were determined to be legitimate by the snowball sampling method and the primary group of stakeholders that the participant represented. Table 2 displays information about each participant, limited to present confidential profiles. The classification, length of residency in Houghton County, and the description of landownership are displayed for 6 community members who participated in interviews.

23

Table 2. Community participant profiles.

Community ID	Classification	Years in County	Landownership
1	Developer (n-1)	2	No
2	City Official (n-1)	All but 2	Yes
3	Environ. Activist (n-1)	2	Yes
4	Conservationist (n-2)	12	Yes
5	Conservationist (n-2)	14	Yes
6	Media (n-1)	10	Just residence

For clarity, the conservationist and environmental activist classifications are described in the context of their roles in Houghton County. The conservationist classification describes a person who works to set aside land in a non-profit conservancy or trust to limit the way the land is harvested, developed or mined. The environmental activist classification describes a person who advocates for the development of formal policies and regulations that protect human health and the environment (Gunningham, 2004).

4.3 Coding

An iterative process was applied to the coding and analysis of the interviews. The audio files were reviewed and assessed for overarching themes. They were then transcribed by a single researcher, with all responses relevant to understanding social license dynamics being transcribed verbatim. The raw transcripts were then each read individually before beginning the coding process. The full transcriptions were then cut into segments in a spreadsheet. The identification number of the participant, identification of the response, and the interview question were arranged in parallel columns. Key themes from literature and overarching themes from interview responses were used as additional column headers after extensive review of the

conceptual frameworks that could be best applied to the data (Ryan, 2003). Although

initially, the interviews were designed around concepts of community engagement (M.

Dare, Schirmer, J., Vanclay, F, 2014), there appeared to be very little evidence of

direct community engagement, communication with the goal of educating the public

about the forest products industry, taking place in Houghton County. Morrison's

(2014) descriptions of organizational and operational legitimacy were added to the

axial coding to more accurately represent the relative weights of themes seen in the

responses (Bryman, 2015). Conceptually, social license involves three primary parts.

A) The community, a collection of stakeholders involving boundaries that can be

placed at any scale. B) The organization or corporation, which is the person or persons

who are performing or orchestrating the operation. C) The operation, the action,

inaction, service or policy which is being evaluated for legitimacy by the community.

Ultimately, responses were coded as falling into one or more of the following

classifications: trust in organizations, capacity to engage stakeholders and ability to

respond to changing expectations of stakeholders. For the industry responses, these

classifications were then evaluated to determine how the industry engaged the

community, with its organization or its operation. Three divisions were created as

descriptors under organizations as well as operations.

The influence of organizational legitimacy was analyzed by assigning industry

participant responses tallies under three divisions: relationships, ethics and

responsibilities. These divisions were informed strictly by the relative weights of

themes found in industry responses. Relationships included the personal and professional interactions of individuals within the industry and any other stakeholder. An example of a quotation that would be tallied for relationships would be: "*the time that we spent together- designing, figuring and their business to the shop usually take that relationship deeper.*" The ethics division denoted responses that could be categorized as being part of a moral code or standard beyond what is required by the profession. An example of a quotation that would be tallied for ethics would be: "*as a Christian [there are] guidelines as to what is right and what's wrong.*" The final division under organizational legitimacy is responsibilities. Responsibilities were the obligations or duties assigned to a person by themselves or other stakeholders such as family, neighbors, and corporations. An example of a quotation that would be tallied for responsibilities would be: "*I have to make sure we buy the proper material to give us the greatest yield for the least amount of money.*" Responses tallied in these divisions were not counted mutually exclusively, some comments bridge several divisions that were relevant for assessing social license.

The influence of operational legitimacy was analyzed by assigning industry participant responses tallies under three divisions: specialization, sustainability and resource management. These divisions were informed strictly by the relative weights of themes found in industry responses. Specialization included changes in operational procedure or machinery to better meet market demands and improve efficiency. An example of a quotation that would be tallied for specialization would be: "*equipment to manufacture [a product] has undergone a lot of changes, before it was a very hands on, labor*

intensive, and dangerous." The sustainability division denoted responses about

operations that balanced social, economic and most often environmental goals. An

example of a quotation that would be tallied for sustainability would be: "*We do*

culvert permits whenever a stream needs to be crossed or bridge permits- that is very

common now." The final division under operational legitimacy is resource

management which included the inputs and outputs of manufacturing and the methods

by which forests were managed in Houghton County often including comments about

granting public access to private forest lands. An example of a quotation that would be

tallied for resource management would be: "*Thinning a hardwood stand is very*

extensive. Clearcutting aspen, not particularly intensive. It regenerates so quickly."

Responses tallied in these divisions were not counted mutually exclusively, some

comments bridge several divisions that were relevant for assessing social license.

After the columns were populated with theme headings, tallies were assigned for each

participant response in each column where a presence or absence was attributed.

Although responses were given a binary coding for the purpose of analysis, they are

not intended to represent the overarching measure of social license, which is widely

accepted as beyond binary (Moffat, 2015). The tallies were summarized by participant

and industry class and reviewed to check intra-coder reliability. The aggregate patterns

were then used to generate tables that allowed the qualitative data to be displayed in a

quantitative format (see Appendix for full tables).

5. Results

Data gathered from semi-structured interviews are presented as a combination of sample quotations and matrices composed from primary themes found in participant responses. Analysis of the responses and inputs from relevant scientific research from the field of social license help to guide the reader through data that has a significant breadth and depth. The sections within the results follow a chronological order where possible and begin with a brief history of resource extraction that shaped the development of the county. This is followed by data on relationships within the county and how the industry has adapted to changes in stakeholder expectations for harvesting, safety, accountability and communication in recent decades. History of extraction, relationships and adaptations were central themes that participants talked about which related to the social licenses for the industry in Houghton County. The last section of the results builds upon the previous sections to review the current social license dynamics supported by interview participants.

5.1 History of Extraction in Houghton County

The 1860's marked the start of the logging era, with 1888 considered the peak of logging in the region (Center, 1993). This history continues to shape the attitudes and identities of industry participants today; several talked with pride about the importance of hard work, saying things like "*I have always made sure that we are cutting all the time. If you sit you are going backwards*" and "*Work harder than the next guy out there, do a better job.*" The economic cycles of the last decade have left only the most

fit forest product industry corporations intact. The quotation of an industry participant speaks to the stoic nature of one of the surviving organizations that was fortunate enough to have experience in dealing with economic cycles, "*Our long term focus has been helpful. You can make a lot of bad decisions if you are thinking short term. We have been around 100 years. You have got to keep reminding yourself of the long term goals*." Several of the participants that were interviewed represented companies that have many generations of experience operating in the region which may provide continuity on issues that would impact social license.

Residents of Houghton County are no stranger to the rugged beauty and challenges of living in the remote North. They are also well acquainted with the boom and bust economic cycles that accompany resource extraction. Several participants mentioned how the local culture here was to accept the conditions of industrial leaders saying "*collectively, the culture still reflects that this was a mining region and that the mining companies were the giver,*" and "*people were used to depending on the company store, not challenging the father mine figure and that carried over so that the people are looking to somebody to give them the job or someone to fix it.*" The data supports that the social norm of relying on industrial leadership may persist in the county, and the forest products industry may receive social license through the channels that were established by mining corporations.

Industry and community interviewees seem to have different interpretations of the present, in relation to the past operations. One interviewee from industry said, "*Years ago there might have been raping and pillaging, but in the last 20 years there hasn't been, that's for the most part.*" This industry member is talking about poor management practices in a time frame of two decades that is well within the memory of current industry members. Yet community members used much older examples, a century, to discuss past management, "*Otherwise [without regulations] you have the mess that we had in the 20's-30's with the cut overs*." These differences may be influenced by the proximity to operations. Many community members do not interact with timber management areas, and so their opinions may be formed through the photographs taken in the early 1900's which are available to look at in museums, homes and even grocery stores in Houghton County.

Another community member, when comparing the historic impacts of logging and mining to the land says, "*No. The legacy mining thing is worse than the whole (pre)forestry thing*." The biophysical characteristics, the resiliency of local ecosystems and the natural regeneration of many tree species, rather than anything attributed to industry responsibility allowed the industry to remain intact according to a community member's quotation, "*We poorly managed it for 80 years and it survived or came back, one would think that with a little more practical and sensitive management, it could be more than it was."* An industry member focuses on the positive aspects of the modern industry operations and says, "o*ne of the things about*

our industry is that the trees that we grow are renewable. A lot of industries are extractive type industries. Ours is a renewable industry. So that is a really neat thing. And the other thing is that our industry can go very well hand in hand with other interests that folks have and we have. For instance, recreation, biodiversity, hunting, you name." The renewable resource and ability to manage the forest for multiple uses would potentially be factors in community members giving consent and social license to the industry in the present day.

5.1.1 Consent

Historically, it is unlikely that community members were consulted or given the opportunity to consent to forest operations. These interviews suggest that certain stakeholders consent to the operations of the industry. One community member said this about the forest products industry, "*They don't need community's consent to do their job, they shouldn't.*" Current community members may not consent to certain practices. The original methods used to log the forests of Houghton County were very aggressive, yet the region was booming with who would have given consent to the operation. One community member said, "*We don't really have the kinds of battles they have out west over the big trees. I don't know if they ever did. This whole area was already logged over once. The growth that has come back hasn't generated that kind of thing.*" After the peak of logging in 1888, the forests took time to regenerate and recover, which altered the scale of operations of the industry. The consent the

industry received in the 1800's may have been carried through to the present, even with changes in operations.

When community members compared the copper mining industry, to the forest products industry, the forest products industry was portrayed as much more dependable and renewable. One community member describes the volatile economic situation of mining as, *"Mining is inherently a boom bust. There is value that comes from it, it enriched communities in its heyday. But when the mines close, they leave the infrastructure and culture, but you lose jobs."* In comparison, the forest products industry has not only been present for the last 150 years, but has provided jobs continuously. These jobs have connected many local community members to the industry. A community member recalls the jobs a local mill provided, *"The industry here has a long history. There was a mill outside where I grew up. Most of the area worked there at one time or another. I think even my dad worked there."* Families who have resided in the region for a long time have likely given the forest products industry consent by seeking jobs within the industry.

5.2 Relationships

The importance of relationships as a factor of social license was expressed in literature on the topic and was reinforced by the participant's responses to interview questions. The data would support that relationships, between the community and industry as well as internal industry relationships, provide much of the reputation trust that are

required for having a stable social license. It is through personal relationships that engagement takes place within the community and through personal relationships that stakeholders develop opinions about the industry.

5.2.1 Reputation and Trust

Social license can help give companies resilience, through banked reputational capitol, to allow them time to communicate and adjust operations where necessary. A community member from Houghton County stated "*the industry has recognized the importance of image.*" This statement helps validate the opinion of the local community members and promotes positive interactions from the industry.

Many of the resources affected by forest management are held in the public trust. The public needs to trust that the forest products industry will act as stewards of the regions resources, including water, air and wildlife. An industry member talks about the responsibility for the environment that accompanies their position, "*Protecting water quality, protecting threatened and endangered species, make sure wildlife habitat is conserved, making sure the neighbors are treated correctly. Those things are common to everybody and those things are what we really got to focus on. Particularly water quality. I think as an industry in general we have come a hell of a long ways in improving what we do around water. Both in road construction and skidding wood and harvesting.*" In the interviews with the industry, it was widely acknowledged by participants that the wellbeing of their industry was directly linked to the wellbeing of the environment. There were a range of comments made by

industry members related to ensuring that the forest would be healthy and available into the future including: "*So our responsibility is we are obviously utilizing today, we want to make sure that future generations can utilize as well.*" An industry member supports that idea in saying, "*I am responsible for achieving that budget in terms of the amount of wood we harvest and the amount of money we make off of that. We have to do that in an environmentally sustainable manner that means that we can keep doing it for a long time in the future.*" Comments like these reassure stakeholders that industry members are focused on more than just economic gains.

Table 3 displays the percentage of comments from the aggregate forest products industry that build trust in their organization. The left three columns in Table 3, Relationships, Ethics and Responsibilities have been selected as metrics upon which to measure the organization. The three columns on the right, Specialization, Sustainability and Resource Management, reflect key elements of the industry's operations as they relate to social license. Table 3 is composed of the aggregation of all industry responses to interview questions, to view the response based upon industry sector and to see the sample size of responses calculated, please see the Appendix.

Table 3. Trust in organizations.

Trust in Organizations- FPI Aggregate (n-14)					
Organizational Themes as Related to Building Trust			Operational Themes as Related to Building Trust		
Relationships	Ethics	Responsibilities	Specialization	Sustainability	Resource management
46%	89%	46%	22%	59%	43%

The forest products industry relied on their organization's or participant's ethics to build trust with the public (Table 3). The organizations also relied on their relationships within the industry and community as well as their perceived responsibilities to help form trust (Table 3). The forest products industry responded that operationally, sustainability had the largest impact on whether the public would trust the organization (Table 3).

Examples of characteristics or actions that help to build trust and reputation across all stakeholders are touched on in the following three quotations. The first industry member talks about the importance of positive communication efforts while developing relationships with others, "*It's all about people skills, you can't go in there be a know-it-all. It's all about listening and talking. Being friendly, being open, being honest, being empathetic.*" This open and honest manner carries into the second industry quotation where a participant addresses concerns of a stakeholder saying, "*Most people are pretty understanding of what we do. They realize. Once in a while they ask when you do something that seems to be out of the norm, I usually get called on it. There are lots of people around- I know just about everybody in the community. They kind of trust you and if they see something, they want to know why too. It is not hard to explain to them. They know it is all part of upper management and whatever it takes to keep it productive and keep things going.*" The third quotation by industry connects the impact that honesty has on stakeholder perception of operations: "*They*

are curious and looking for an explanation. The public has never changed anything

we have done. We are going to do our thing that we figure is the best way and I don't

think it has ever really been challenged. They have never tried to shut us down. They

just question why are they cutting this way or cutting that way." These three comments

show how industry participants develop trust with community members. Table 4

displays the percentage of comments made by community participants that suggest

industry was successful or unsuccessful in building trust in their organization.

Table 4. Social license achieved through trust in organizations.

Community classification	Industry Successful in Building Trust	Industry Unsuccessful in Building Trust
Community (aggregate n-6)	67%	33%
Developer (n-1)	88%	13%
City Official (n-1)	77%	23%
Media (n-1)	98%	2%
Conservationist (n-2)	37%	63%
Environ. Activist (n-1)	50%	50%

The left column of Table 4 shows the stakeholder's identification. The middle column

shows the percent of comments related to *trust*, made by the community, indicating

the forest products industry was *successful* in building trust in their organization. The

right column shows the percent of comments, made by the community, indicating that

the forest products industry *failed* to build trust or created distrust for their

organization. The developer, city official and media participants indicated a high level

of trust in the forest products industry possibly relating to familiarity with individuals,

affinity groups that share goals with the industry, or differing expectations from the conservationists and environmental activist. A community member is quoted as saying this about the industry, "*I think that our forest industry people are stewards of our forest, stewards of our earth of which all of us actually should be, but especially in that industry and I think that they are.*" This quotation is an example of a comment made about trust that would indicate social license.

5.2.2 Engaging Stakeholders

The capacity of organizations to engage stakeholders was considered by Dare (2014) to be an integral part of community engagement. Community engagement was not a theme that would have been identified from the responses to interviews conducted in Houghton County. If community engagement was not an essential part of developing social license in Houghton County, then perhaps the industry relied on another method to maintain its approval. Relationships between the industry and stakeholders, not necessarily sponsored by the corporation, may have served to create social license. Table 5 displays the percentage of comments from the aggregate forest products industry that engage stakeholders.

Table 5. Engaging stakeholders.

Engaging Stakeholders- FPI Aggregate (n-14)					
Organizational Themes as Related to Engaging Stakeholders			Operational Themes as Related to Engaging Stakeholders		
Relationships	Ethics	Responsibilities	Specialization	Sustainability	Resource management
57%	30%	23%	24%	16%	17%

Table 5 shows that relationships were the most commonly cited as the avenue by which members of the forest product industry thought that their organizations engaged stakeholders. Most of the relationships described by industry members were personal or involved other members of the industry. This is supported by a community member saying, "*I know many of the consulting foresters, timber managers. We catch up at community events and sessions*." Industry members were oftentimes also community members and could serve to inform others, through relationships, about the operations of the industry. Outside of several specific instances, engaging stakeholders was not a part of the practice of corporations within the industry. Portions of their resource management or specialization (such as design) could have been used to develop conversations with the local community, but were largely absent. The forest products industry seemed to withdraw from many activities that would engage stakeholders because of negative responses that they have been receiving. This industry member suggest that the industry should have been more involved in engagement activities, saying, "*We can be blamed for some of that for not protecting our turf long long ago. Or for some of our bad behavior as an industry maybe long long ago. We haven't tooted our horn on what's changed, instead we try to stay out of that limelight*." The industry retained a minor and safe set of interactions with the community.

Of the interactions that the community had with the industry, the community

responded positively. Overall, 66% of the comments, judged to be about industry

engagement, supported that the industry had been successful in those interactions.

Table 6 displays the percentage of comments made by community participants that

suggest industry was successful or unsuccessful in engaging stakeholders.

Table 6. Social license achieved through engagement.

Community Classification	Successful Industry Engagement	Unsuccessful Industry Engagement
Community (agg. n-6)	66%	34%
Developer (n-1)	80%	20%
City Official (n-1)	78%	22%
Media (n-1)	71%	29%
Conservationist (n-2)	50%	50%
Environ. Activist (n-1)	50%	50%

In Table 6, the left column shows the stakeholder's identification. The middle column

shows the percentage of comments related to *engagement* made by the community.

The Developer, City Official and Media person have relatively high percentages

indicating that the forest products industry was *successful* in engagement. The right

column shows the percentage of comments made by the community indicating that the

forest products industry *unsuccessful* to engage stakeholders. Comments that included

contradictory ideas or were in the middle ground had the potential to be double

counted as successful and unsuccessful. Communication and engagement could be

instigated by industry or the community. Any comments made about engagement were included in the creation of Table 5 and Table 6.

5.2.3 Direct Engagement

There were a few responses made by community members regarding direct engagement with the forest products industry. Only two direct engagement efforts were initiated by the forest products industry, both having been far enough in the past where community members were unable to recall details. One community member stated, "*I do remember TV commercials educating people on the industry and what it means to your economy and your environment, but I can't recall anything particular*." Even these limited engagement efforts may have been in response to negative feedback that industry was receiving from stakeholder as suggested in this community member's quotation, "*That program where they put the signs out and the kids can go out and learn about different types of forest cover. That was started when there was a real strong backlash against the industry.*" These quotations suggests that industry engages in direct communication with local stakeholders only when needed. All of the references made by community interviewees about engagement from the industry were judged to have been positive.

Within the data, a trend emerged where certain community members were using very similar talking points as certain members of industry. Categorizing the responses of these community members took special care and lead to the development of Table 6. If community members utilized language that showed psychological identification with

40

the industry, then their response was tallied to show the industry had *successfully engaged* them. Often, community members spoke through the perspective of other affiliate groups with which they were involved such as hunting, fishing or recreational vehicle groups. It is likely that these groups share values or goals with the forest products industry, which allows them to communicate and disseminate information more freely than with the others outside of relationship networks that include members of the industry.

Of the three responses below, one is from industry and two are from community members. The anecdote, language and use as a justification for harvesting could indicate that these quotations originated from media coverage or conversation about large scale forestry issues. The industry member states, "*Out West, the foresters have stopped harvesting timber significantly 25 years ago, they basically allowed all of this forest to grow up and those forests that have been uncut, now they are getting beetle kill and burning up and stuff. If you go and look these forests are starting to get mature. Lodgepole pine is like Jack pine. If you leave it long enough eventually it is going to die and it is going to burn. And partly we did it to ourselves, the industry has gone away, and there is no one out there to manage it.*" A community member talks about the same issues and attributes the problem to environmentalists rather than the tradition of fire suppression in this quotation, "*The hardcore environmental movement has been able to close the federal forest down through the legal processes. And that is unfortunate because that is a resource that needs to be managed as well. The results*

41

of the poor management out West: we are seeing damage to our environment with forest fires, all that particulate matter. We are seeing resources that are used to fight fires and save towns that should be used for other things." The final quotation from a community member also suggest that harvesting timber is the best way to prevent certain environmental disasters: "*I feel that over any of our natural resources, wood is the best that we have. Because it is continually renewable and you need to harvest it, you have to harvest it. Because if you don't harvest it, now you are talking about different issues, you are talking about forest fires, you are talking about things like that. It actually created a larger problem that at some time we are going to have to deal with and millions of dollars will be spent to fight that next fire."* Large infestations and landscape scale wildfires, seem to be raising awareness about how the industry manages forest resources.

The industry participants all said that they were good communicators, and they all felt that time was the largest factor limiting their communication with community stakeholders. As one industry member said, "*Time. You wish you could do more, communicate better, but you are limited in time.*" These interview participants, arguably referred to participate in the study through the sampling methodology because of their communication skills, represent a group of potential ambassadors for the industry. An industry member indicates that corporations are prepared to communicate saying, "*We have all of the tools, we have social media we use. We have phone calls, direct contact."* And is supported by another industry member, "*You have all these tools [for communication]. Many of the barriers are gone, the company*

makes sure we have the tools we need." However it appears that the corporate norms have not changed.

Certain community members felt that individuals in the industry had strong relationships with the community and could gain support from their corporation for community fundraisers. A supporting quotation from a community member says, "*The city has a great relationship, with personal relationships and donations.*" Yet not all of the community stakeholder participants were satisfied with community driven relations. As one said, *"The interaction between the forest products industry and the community is reactive, not proactive."* The quotation from an industry member below, shows the risks of reacting to disturbances in the absence of continual community engagement:

Industry- If we have a call from anybody that's local or has an issue, we have to deal with it directly. Luckily, I bet I haven't had more than 5 or 10 phone calls in the last 30 years from people in the area that had an issue. We were plowing late at night; or we used to have a steam whistle going off at 9:00 at 12:00 and at 3:30. Finally, I got my first call that someone was offended by that and I said, "Well the days were numbered. And that day has come. We're going to have to shut that down." It was tradition, it was a part of our history, but you're not going to fight that battle and win it, so we shut that [steam whistle] off. ...We had more people calling after, about "why did it stop," because they're missing their lunch or they relied on our whistle for an awful lot: they got their kids out of bed to go to school… but you just have to, anytime you get communication from somebody you have to deal with it, and deal with it fairly quickly, don't dawdle on it.

This suggests that there are varying perspectives on what direct engagement actually involves, the extent to which it is happening in Houghton County, and how important it is for achieving social license.

5.2.3 Relationships within the Industry

The questions about relationships in the interview protocol were not exclusively about industry-community relationships. Industry members are themselves often members of the community. Industry members can act as key influencers in relationships with other stakeholders because of their up-to-date understanding of industry operations. In rural, natural resource dependent communities, industry members could have important roles in the development and maintenance of social licenses.

Industry participants were encouraged with interview questions to talk about relationships within the supply chain. An emerging theme from that line of questioning was that industry members retained their jobs even if their company was bought out or consolidated. This lead to a high level of familiarity among individuals working in the industry, even though the industry itself has undergone significant changes. An industry member's quotation was echoed by many industry members, "*[How long do relationships within the industry last?] A long long time. The names [of companies] have changed but the people haven't.*" The majority of industry participants expressed something similar to this comment above about people remaining in the industry. Participants had gone to school together, been coworkers,

had similar hobbies, and were members of the same trade organizations. These parallel career pathways, however, did not necessarily lead to better communication or collaboration between industry stakeholders. However, each participant that prioritized communication with other industry members seemed to indicate that this was outside the norm for the industry. When goals align, industry sectors had the opportunity to reintegrate as this industry member says, "*We try to understand the whole chain all the way until the final users. There can be opportunities. That is how we started collaborating with [another forest products industry organization]. We sat down, looked at the numbers and focused on strengths. We will split up tasks to drive down costs. And then we became part, then full owners of the company.*" Another industry member supports collaboration and talks about the potential gains of corporations becoming closer, *"We think the industry is way too fragmented. There are opportunities to collaborate that will give us all competitive advantages. Most companies will only operate in themselves with their secrets. We have been taken advantage of, but we learn and move on."* Throughout the course of the interview process, there were consolidations of corporations within Houghton County, which supports claims that collaboration or integration could be beneficial for the industry.

There are two primary factors explaining the lack of communication within the industry, as expressed by participants. The first is simply the limitations of time, energy and money. A community member expresses that the outreach of corporations has limitations, "*Education is a cost. They do it when there is a direct return. They*

45

will engage in it one link above and below in the supply chain. 2-3 links removed, then
the FSC/SFI certs come in…" There was an expectation that the third party
sustainability certifications were responsible for some level of engagement to
stakeholders. The second factor is related to existing power and communication
structures within the industry that do not allow for an open dialogue. The following
three quotations come from the extraction classification. Their sector of the supply
chain was most vocal about issues of communication with mills. Recognizing that two
decades ago, the industry was almost completely vertically integrated, these operators
remember a time when volume contracts were dependable. The issues with
communication and trust can create instability in the supply chain, which can
negatively affect all sectors. The following comments could also be related to why the
forest products industry has a shortage of skilled extractors entering the market:

Industry- Today we got a phone call from one of the, the largest company we sell wood to, and they are having an emergency procurement meeting tomorrow. I guess something happened with their company where they might not be able to buy any wood at all. That's a huge deal. They are having a meeting tomorrow. Friday we will know what our fall is going to be like. All of a sudden the largest customer you deal with calls you and says we have cash flow problems and we got too much wood and too much paper and too much pulp. The quickest way to shut off money going out is to stop buying wood.

Industry- They have a tendency to let you ride really high and then pull the chair out from underneath you. They don't hesitate when they have wood to cut everybody off. It's tough when you don't have that production chain where you just move the wood and keep everything.

Industry- The mills play that up and down, feast and famine. It has always been that way. My dad says the same for 30-40 years before that. They always say they (mills) are going to make it more consistent and easier, the moment they have got enough wood they just close the doors, cut the prices. It is hard to stabilize the workforce because of the volatility, the ups and downs of the price of the product delivered.

The negative experiences detailed in the three quotations above could impact the

social license of the overall industry. Landowners and primary processors suggest that

they try to communicate as openly and honestly as they can with the extraction sector.

Accommodations can be made for extenuating circumstances that help support

extractors. Yet the dynamics of supply and demand, profit margins, and production

goals certainly strain relationships. A participant that represents a landowning

corporation talks about the relationships with the extraction sector, "*A simple one*

would be a logger that is working for us right now, is logging a particularly difficult

ground, has a steep, hilly ground. He comes to us and says: the skids are long, the

hills are steep, production is cut in half, it's costing more than I am making. Either

give me an increase in my logging rate or put me on another job. At times in the past,

where we just said 'See ya. We will find somebody else.' That doesn't happen

anymore. We say 'what does it take?' We can't give them the world but when a logger

or trucker or some business that has legitimate issues that's impacting their business

you have to take action. Usually money out-of-pocket, but not always." On the other

side of the extraction sector, a participant from primary processing says their

corporation tries to work with individuals in extraction to help create stability, "*Our*

customers, listening to what they have to say, we negotiate the sale of logs, the sale of

pulpwood, and all products. It is usually a six month contract. If for whatever reason

the market goes bad, for our customer, for hard maple for example, is really in the

tank. And it started tanking around halfway through our contract period. So we had

customers coming to us saying we need some relief on log pricing because we're

losing money on the saw logs that you are selling us. So you renegotiate but we really

don't like to do that. They are another piece of the supply-chain we have to treat

well." The comments about collaborations within the industry were few and far

between. It was not clear that the data would support integration over separation of the

industry sectors. However, making sure that each essential part of the supply chain

shared equitable treatment would certainly affect the community's social license that

would be informed by industry stakeholders.

5.3 Adaptation

This section addresses the third component of community engagement, how the

industry adapts to changes in expectations from stakeholders (M. Dare, Schirmer, J.,

Vanclay, F, 2014). Because of the many groups that can be considered stakeholders

(economic, industrial, local), the forest products industry has been involved with a variety of practices that could be considered adaptations. The trends listed in the table appear to reflect the evolution of the local industry. From what has already been discussed, we know that relationships have been almost a constant in the industry. We would not necessarily expect to see major shifts in ethics to accommodate new expectations.

Table 7. Response to changing expectations.

Response to changing expectation FPI Aggregate (n-14)					
Organizational Themes as Related to a Response to Changing Expectations			Operational Themes as Related to a Response to Changing Expectations		
Relationships	Ethics	Responsibilities	Specialization	Sustainability	Resource management
15%	17%	21%	60%	35%	27%

The participants interviewed from the industry were among those who were still employed or operating within the industry, suggesting that these participants are individuals in the industry who have been able to adapt well enough to survive. The methods of responding to changing expectations differed for each individual and corporation. Table 7 shows that the industry considered most of its responses to changing expectations to have taken place in the specialization of their operations. The specialization category often refereed to finding new markets, upgrading equipment and implementing more efficient processes. One way that the industry specialized was through consolidations, acquisitions and disposals. Of 14 participants, six identified as having operations that involved more than one sector of the supply chain (Table9). This form of specialization helped to bring more control over the economic cycles that

affected the supply chain. The county is left with corporations that are involved in multiple operations at multiple locations. A community member states that this affects the public's understanding of the industry, "*There is no visible base [here] that you can point to like you can with a mining company for example. They get it out, get it going and park probably near their homes. The public doesn't know much besides that they haul*." This factor contributed to difficulties in testing the initial research hypothesis of social license differing by industry sectors.

Table 8. Vertical integration observed in the forest products industry.

Tally of operations	Industry sector
4	Landowner
2	Manager
2	Extraction
1	Specialty Procurement
1	Primary Processing
2	Secondary Man.
2	Woodwork

In regards to specialization, it was rare that community members had direct interaction with the improvement in product that could be delivered by industrialization. One community member commented on this improvement saying, "*The quality control from the mills, over the last decades has improved. Their product going out has been a lot better. That goes back to the graders*." This supports the idea that local community members are not significant consumers of local products. However, local community members would be better positioned to evaluate adaptations that affect worker safety and the environment that most end consumers. Table 7 displays the percentage of

comments from the aggregate forest products industry that would indicate a response

to changing expectations. There were many comments about needing to wait for

employee turnover (cohort effect) before being able to implement large scale changes.

There certainly have been major changes in the industry within the last several

decades, but the details on how or why those changes took place may have never been

shared with the local public. An industry member infers that the industry will adapt to

the changing expectations of the local community based upon the needs that are

brought forward, "If someone needs attention, we can provide it in the right

proportion." This suggest a willingness to adapt, but does not suggest that the industry

is continuously seeking approval.

Table 8 displays the percentage of comments made by community participants that

suggest industry was successful or unsuccessful in responding to changing

expectations. This is relevant because we know that existing business have to be able

to meet changing expectations of economic stakeholders and end consumers to stay

operations. Table 8 shows not only the community's social license for the industry, but

also how the local community's license might differ from that of other stakeholder

groups.

Table 9. Social license achieved through response to changing expectations.

Community Classification	Industry Successful in Response	Industry Unsuccessful in Response
Community (agg. n-6)	66%	34%
Developer (n-1)	83%	17%
City Official (n-1)	77%	23%
Media (n-1)	83%	17%
Conservationist (n-2)	37%	63%
Environ. Activist (n-1)	86%	14%

The community aggregate from Table 8 shows that 66% of comments made by community members indicate that the industry has *successfully* responded to changing expectations, while 34% of the comments indicate that the industry *failed* to adapt. The difference of success rate, based upon community class, were attributable to major interactions that individuals recently had with the industry or perceptions of changes in management practices. A community member states, "These huge companies, [one corporation] was just bought by [another large corporation], they tend to want to maintain good relations with the communities that they are in. There tends to be a certain amount of philanthropy, to keep that relationship. And they don't do the wholesale clear cutting that was done in the past, so it is not as noticeable anymore." This shows that both strategic and operational engagement is being utilized in the county to some extent, which has brought corporations the license to operate.

The adoption of third party sustainability certifications (e.g. Sustainable Forestry Initiative, Forest Steward Council) championed by non-local stakeholders played a large role in the community's perception of the willingness of the industry to change.

This community member refers to the adoption of sustainability measures as the market, "*The market is generating a need to take care of things better. You get the ancillary result that things are taken care of better*." The separation of local stakeholders, from the market, reduces the power that they exert over the industry. Another community member attributes these changes to a different group, "*Issues of sustainability did not exist 100 years ago. Nobody had that concept, there were no environmental protections, and there were not economic development agencies. It was driven by a few wealthy investors. So we have come a long way*." The detachment between the adaptation of industry operations to sustainability measures and the suppressed values of community members continues with this community member saying, "*No news was good news many years ago when they could run rampant and do what they wanted to do. But then they have changed. Forest management and foresters have changed. They are tending to our environment*." Perhaps if community members had collaborated with industry as sustainability certifications were being assessed for adoption, the community would have more ownership of the change in operations. Interestingly, the industry did not prioritize sustainability as a form of local community engagement (Table 8). There was some indication that industry felt sustainability had been pushed down through the supply chain and was not an expectation of the local community.

5.3.1 Invisible Industry

This section is devoted to comments that referred to the forest products industry as invisible. Industry members sometimes attributed the lack of communication with the public as a company norm. One industry member states, "*The company I work for is one that likes to kind of fly under the radar*." Others invite communication from the public, but are not soliciting direct stakeholder engagement. It did not appear that communication methods and strategies between the industry and community had evolved along with technology and sustainability focused practices.

Several industry members referenced open forum or public events that they had attended where the forest products industry was persecuted. An industry member is quoted, "*I have been to enough events where it doesn't matter what the truth is.*" Negative interactions such as these could have resulted in members of the forest products industry withdrawing from conversations with the community. Perceived persecution from environmentalists drove many members of the industry away from public forums; in reference to public meetings, one interviewee from industry said, "*When you do raise your head, it's gunna get whacked off.*" The responses from the environmental activist that was interviewed did not suggest that a locally coordinated effort to persecute the forest products industry was underway. Yet an industry participant indicates hostility in this quotation, "*But locally, no. You can't even go to a Houghton County meeting and try to affect change, you are demonized if you are try. You are almost best to stay out of the limelight*." This situation may occur within the

county, however it was not quantifiable based upon the responses gathered. It is possible that external stakeholders could have gathered around the power structures of politics, policy and economic centers to advocate for Houghton County's resources. Previous or current external pressures, rather than local groups or individual environmental advocates, could have fueled the alluded to conflicts.

Despite the perceived possibility of persecution, industry members reflect that working harder on developing avenues for communication with the public would be valuable. This statement by an industry member below suggest a desire from some industry participants to be able to openly share information about the positive aspects of their work. "*It is not a waste of your time, because it is not a waste of your time to pursue what you believe in, but it just became painfully obvious that we could not affect or change any outcome. It was almost like you are trying to fight a forest of fire with a bucket of water. And you just can't make an impact*." Based upon the responses from community participants, much of the community would be receptive to engagement. Outlying stakeholders that do not represent the local community may have presented the confrontations described By silencing the industry in public forums that failed to alter the operations of the industry, but rather reduced the chances of constructive conversation. An industry member suggests that it would be valuable to have more open communication saying, "*The other thing is that you don't always know what the public is thinking. There are some people that are pretty vocal about that and there are others that are not. So you may have somebody that doesn't like the fact you clear cut a place, but unless they tell you and communicate who they are, you*

don't know." Without knowing how stakeholders perceive operations, it can be difficult for industry members to self-assess their social license.

Of the community members, all six participants indicated that they had at least a mid-level understanding of the forest products industry. This is despite the lack of coordinated education by the industry. This community member says that personal familiarity with the industry helps to inform individual opinions saying, "*I think unless you are related, you don't really know loggers.*" Beyond that, community members were at a loss on who to communicate with, "*I would bet that 9/10 if people have a complaint they are not going to know where to go,*" where to communicate, "*they are almost invisible to me,*" and what to communicate about "*The public doesn't really know what needs to be communicated. We don't know what questions to ask.*" A community member adds that a standard form of outreach in the region is being overlooked by the industry, "*I don't see any news coverage usually.*" Even with social media, it is hard to target messages to local communities in a way that local news can. Only one community member suggested that education and outreach by the industry had increased saying, "*they are doing a better job and that was pretty much forced upon them by the environmentalists and the politicians. But I don't think that it is a bad thing, the more information that people have on forest management and what the benefits are, the better of it is for the industry.*" Despite the limited communication, community members described previous interactions with the industry as positive.

This could indicate that the six community participants would be receptive to community engagement efforts by the industry.

5.3.2 Outreach by the State

Many participants indicated that they relied on the Michigan Department of Natural Resources (DNR) and Michigan Technological University (MTU) for information as well as a venue for industry and community to come together. One community member indicated that MTU was a location where community members could learn about the industry, "*There is nobody that I can really talk to outside of MTU.*" The university hosts many stakeholder groups, and could be a resource for those who have not been present in the community long enough to develop personal connections with the industry. The DNR was also expected to act as a bridge between community and industry as one member states, "*DNR and the state should be helping with education. Economic, social, sustainability- they have the scope and longevity.*" Community members expect that the DNR will maintain relations with individual corporations and operations that take place or exist in the county. A community member is quoted about how the industry helps to connect people who have questions, "*They are going to go to the DNR. They don't have all of the answers but they do know where to send you. If I had a complaint I would go to the DNR because I know they could direct me.*" A participant from a state agency responded positively to the charge of representing the industry to the public. The agency was already considered an authority on forest resources and is utilized by the public on a wide range of forest health and industry issues.

We have a very good relationship with the public. We hold an open house every year where public can see all of the activities.

The employees enjoy it, it is why you take the job.

We are not economically driven so we don't have an "angle" when we work with the public. So we can give our best assessment of what is going on.

A lot of people don't know we do what we do. We are an underutilized resource as far as public and relations are concerned.

The public's utilization of state government and university expertise was not part of the direct line of questioning in the interviews, but this potentially provides another perspective on community industry relations. Although the DNR was seen as an asset to the industry and community, there were responses that indicated that community engagement on behalf of the forest products industry was not the DNR's primary role. Community members recognized the tensions faced by the DNR, saying: "*Our DNR is underfunded. We are ranked top 3 in natural resources but we are in the bottom 3 in state investment.*" And, "*DNR is funded largely on deer and fishing, that is no way to fund an agency that is supposed to manage diverse resources.*" These comments support the idea that the industry needs to strengthen its community engagement, perhaps in tandem with MTU and DNR efforts.

5.3.3 Technology

Technology has hastened the evolution of equipment used by many parts of the industry. Productivity and specialization have to be balanced against the financial risk

of change described by an industry member, "*Anybody that builds anything has to weigh this in terms of how much infrastructure is required to execute a certain job. How many jobs do you need to validate having brought that equipment in? So do you save money and not have a certain piece of equipment and still get the job done reliably... The answer's yes if it's short term. If you are going to be in a production environment then you need all those corners cut as best you can, and have as little, few man hours in it as possible at the volume that can pay for the equipment.*" Retraining personnel or placing new workers all have their costs. Companies that were unable to judge when and where to grow are no longer operating within the industry. Below are two reflections from industry members about how technology is adopted by corporations.

Industry- I don't know where the industry can go next. I get a new harvester — each one of them lasts three years. But, each one I have bought has had 10-20% more productivity than the model before. When you pencil it out it is hard not to keep making that investment because it is paying for itself in productivity, not to mention the men running them are happy. I can't believe the speed, productivity and durability. Every year they get better.

Industry- Technology has changed the way we do work. Less time in the field for inventory. Understanding of the land base has improved on all fronts. Smartphones-apps that can pull up an arc map georeferenced pdf that allows you to see exactly where you are in the woods to a timber sale that you have never been to before. To know that I am going to get there.

The advancements in technology require industry members to be able to specialize as well as learn new skills. The improvements in technology point toward optimization, efficiency and reduced impact on the operator and environment. With technology and

the modernization of harvesting equipment, it is possible that the industry may be able to optimize the value of specific harvests (Sharma, 2005). This would allow the industry to adapt to environmental and economic seasons more effectively. An industry member describes the speed of change brought on by technology, "*Fewer people are doing the work we are doing today. The sheer numbers of men involved and the productivity of the equipment. We are doing today with 4 people what we did with 8 people 7-8 years ago. That is how fast the technology and the durability of machines have come.*" Unfortunately, this adds pressure to those remaining in the industry and makes it difficult to find skilled labor; those two consequences will likely affect the social license of the industry.

Technology has also opened the global market for small corporations. The community and industry understand their local resources have value and may even play a pivotal role in sustainable development. An industry member describes and emerging market, "*Cross laminated timber, called CLT, developed over in Europe, and is a newer technology for building which could enable us to compete with high rise buildings they make out of cement and steel today*." And the community is supportive of industrial growth into new sectors as stated by this participant, "*I think there is the potential for there to be value added startups. I am not the one to be the champion for it but I would encourage it and speak highly of it*." Community and industry participants were generally optimistic about the future. However, when asked what the future looked like and how we would arrive there, there was generally reservation from industry members that the future is not under their control. Community members

60

recognize industry member's ability to affect change as one says, "*The local people understand the local community because they live here, grew up here, went to school here. They are not power brokers, they are just people like anybody else. They have to do what their bosses say.*" This lack of empowerment could be caused by the macro economic factors that drive the market place. Per the responses, the next ten years could hold changes in government, regulation, trade, demand for paper, and investment in biofuels, all of which seemed to be out of their hands. These changes have the potential to disrupt the operations of the industry which could be either buffered by or intensified by current social license dynamics.

5.3.4 Sustainability

Sustainability was a prominent theme discussed by many of the interview participants. The global movement to replace the economically driven bottom line with a sustainability focused "triple bottom line" (Elkington, 2004), conceptualized in concert with sustainably development and corporate social responsibility, allows for many groups of themes to fall under one heading. The triple bottom line requires companies to take social, economic, and environmental issues into consideration when doing business. Just as certain terms in the discourse surrounding social license and sustainability favor one of the three pillars of sustainability, certifications can also cater to one primary area such as labor, environment or end product safety concerns. In addition to certification schemes largely focused on environmental aspects of resource management, there have been advances in government regulations dictating

how companies should operate in regards to social, economic, and environmental issues as well. The three pillars of sustainability, have been supported by the results, to increase the social licenses of industry with community members and economic stakeholders. How the industry has adapted to these certifications and regulations is relevant for understanding the current status of social license for the industry.

5.3.4.1 Social

The social pillar of sustainability is centered on how the industry treats *people* including workers, neighbors and minority groups. Some of these changes were in response to regulations, technological advances, and market forces. Some of these improvements were voluntary, but some were required by law (new regulations on off-road equipment emissions, stream crossing permits, etc.) or as a way to maintain economic viability (market demands, 3rd party certification).

The facilities, equipment and operations of the forest products industry have been steadily improving for the health and safety of employees as several industry members relate: "*Before it was a very hands on labor intensive and dangerous,*" "*I think the accident rate and the safety records are much better,*" "*We have all learned a lot about repetitive motion. And a lot of what we do is production line so it is very repetitive so we have all learned a lot about that. So the working conditions are a heck of a lot better.*" "*Our dust extraction and the return air is 5 to 10 times cleaner than it was back in the 70's and 80's*." The focus on risk management and safety protect skilled workers and prevent litigation against the corporation. Much of the equipment

has been improved to remove workers from direct hazards. The industry certainly benefits from prioritization of safe labor conditions, which is why the changes have been widespread through the industry. "*The working conditions on the production side have really changed,*" is a statement that summarizes the industries changes over the recent decades in regards to safety.

Even with improved safety, there are labor shortages within certain sectors of the industry. An industry member says, "*The biggest challenge we have is the lack of logging and trucking contractors*." Factors that impact the extraction sector are detailed by several other industry member quotations:

You got payments, insurance, you got things you have to pay, whether you cut a tree or whether you don't cut a tree. And so if you sit back and you are not going to do that job because you are not going to make much money on it, then your production levels go down. Then when you do start working, you have to make up for all of that lost production. Then the next job that you cut, you are not going to make much money either because you have got to recover what you lost in the last 6 months or 6 weeks.

They are not going to get enough wood to keep their people working the next two months. Could be really bad depending on the supply agreement you have. The guys that don't have the agreements might not be here at the start of the year. A lot of people thought we were going to go for a good 3-4 year run here, but it was only a year

I feel sorry for those guys who are on the edge, trying to dig themselves out of the last whole and the rug is pulled out because they can't get rid of their wood. And they are done. I know guys who were able to bring a load a day, and they are talking 3 to 4 loads a month now. That's in a one month's time turn around. That is a huge cut back.

You can pencil out the math part of it and say what can you get by on, what is the minimum you have to have to survive in this industry, then I say cut it in half again. If you make a five year investment, I guarantee that at least two times in that five years you are not going to cover your costs.

The last two quotations represent the difficulty in attracting new labor and business owners. An industry member points out, "*This equipment is getting more high tech. You can't just hire anybody to run it*." Which when paired with competition for those same skill sets makes it difficult to revitalize the labor pool as one industry member states, "those good employees are in high demand for the mining industry in Marquette, from the oil out in North Dakota, they can pay a lot more than we can." This again draws upon the complications of having a supply chain that has certain sectors in fixed locations, while others are able to move.

The variables in the equation are constantly changing (weather, mill quotas and land harvesting contracts) and the profit margin is slim as one industry member points out, "*You have got to love what you are doing because you're not going to make a heck of a lot of money at it, and the equipment is expensive*." For the loggers and equipment operators interviewed, there was an intergenerational perspective taken as their fathers and potentially their sons would be employed in the forest. There was suggestion that family was the only way to become employed in the extraction sector.

Despite the current difficulties of labor shortages and financial risk, there appears to be hope. Community members share the sentiment with one saying, "*The last time I looked, the forestry jobs tend to be higher than average wages. Again mills employ people from general labor. All the way on up. Mechanics, skilled labor, and moving boards*." By considering their history of the lands, the improvements in technology, and the expectation for stewardship towards the diverse natural resources of the region, we can begin to understand the optimistic answers to questions about the best time to be in the industry, "*Now*" was the most common answer from the industry.

The forest products industry is proud to be one of the top employers in the county and region. The community approves of the jobs provided by the industry as well as the employees filling those positions. A community member says, "Forest products are an important component in the local economy." Houghton County contains a variety of companies that need specialized labor, which is recognized as being beneficial.

Below, one community member recalls how the forest products industry provided more than just direct employment. In this recollection, we see that the industry's harvesting operations provided, whether incidental or intentional, an avenue for social license to develop. Clearly at that time, there were benefits for the community in having access to subsidized local energy and expanded infrastructure.

Community- In the 70's I was a kid, and everyone was heating with wood. The way the woods were left, all you had to do was go get tops. It was all left there at the landings. Kids would be bucking stuff out, you cut it up. It was always a mess. The overly litigious society we live in, you can't just go and cut tops. It used to be like a party when I was a kid, four or five families would go out over the weekend. Everybody would make each other's wood. Fill up four trucks and two trailers. Kids would roast hot dogs and run around, of course you had to carry the wood. One of the more vivid memories was when they widened a road, for the entire summer, every other night, everybody when out there. Dads would cut wood, because they cut it and left it. We would roll big pieces of maple up. We still had coal around here, other cheap fuel. Now when they cut something they take it back and burn it. But between logging and roads, there was a lot of fuel left out there in the woods. And people would use that.

There are other benefits that the community receives from access to residuals of harvesting, which are more difficult to quantify. The memory of collecting firewood with family was a fond one for the participant quoted at length above. The forest products industry has been able to provide not only a place in which to recreate but also harvestable items as an incentive for individuals of low socioeconomic class to be able to partake in the bounty of the land.

Community and industry members refer to public being able to enter privately owned forest as *access*, which is a requirement for landowners enrolled in a tax incentive

66

program. This access has allowed for a boom in tourism in Houghton County and neighboring Keweenaw County. In recent years, the expansion of multi-use trail systems, which often run through private land, allow users to travel through a wide variety of ecosystems on foot, by bicycle, recreational vehicle, cross-country ski and snowmobile. Without *access,* the quality of life in Houghton County would be substantially diminished as well as the income of local corporations who rely on seasonal tourism to operate.

The access to forested land has an influence on the social pillar of sustainability as well as the social license of the industry. Community members recognize the value of this permission to visit private land saying, "*Forests are part of the fabric of the community, recreation, hunting, hiking, biking, skiing, aesthetic, and environment.*" And "*The biggest benefit has been that the industry has provided access to the public. They go in and log and we have access to the areas.*" Again the ideas of multiple use, and what can the land be used for between harvests are important to the community stakeholders.

The forest products industry also recognizes the influence that access has over the public's perception of the industry. The industry has certain reservations about how the land is treated by the public which we can see in this statement, "*We like public use. We are legally obligated to allow some public use, because we are under commercial forest. So you have got to allow hunting, fishing and trapping, but we*

don't have to allow vehicle use on the property and that's where we get sideways with some of these user groups that think they get they can go where please. There is a true cost to our company to allow that." Here is where affinity groups, such as hunting, sporting and recreational vehicle groups are able to engage with the industry. As affinity groups grow in popularity, they develop organizations that can advocate for their interests. The recreational organizations are much easier for industry to communicate with and are essential for policing the private lands. An industry member is conflicted about how to provide access without it affecting operational legitimacy of the industry, "*That is the biggest thing when the community gets mad. Something was open to them forever and then access becomes an issue somewhere. It is usually due to erosion where somebody makes a mess. The land company has been called at times because there is a problem somewhere. Well we didn't cause it, they didn't cause it, someone else came in and made a mess of everything and it washed out and they have got to pay for it.*" In many cases issues with the abuse of forest land may be attributed to the wrong sector of the industry. The social importance and the liability of providing access to the public make this a key issue for social license in Houghton County.

5.3.4.2 Economic

Macroeconomics and consumer trends drive activities of the forest products supply chain in Houghton County. The types of paper being consumed, where products are shipped to, and what U.S. trade agreements stipulate can be factors in deciding which areas should be harvested at what time and the price that can be paid for timber.

Several participants were keenly aware of how their business had fluctuated in the past due to large policies or trade deals that had been negotiated on the international level.

Even though technology has not reshaped how the industry communicates with the local public, it has influenced many of the interactions with suppliers and customers. The ability to negotiate modern distribution has opened new markets and challenged local producers. As one industry interviewee said, *"That changed about 1983/84. I call it the Walmartization of the industry where somebody said, "Hey I've got an 800 number and if you want to bypass the distributer and buy direct, we'll sell to you."* Another said that they've experienced changes so that *"Instead of a small band of customers of 20 for the country, you end up with 200-300.*" A third industry interviewee said, *"Changes in the market have elevated the amount of risk that we as a manufacturer had to hold onto."* Industry participants and community members expressed concern about the level of risk that the local region bears. This is most strongly voiced among industry participants in responses about the cost of equipment and the cost of doing business. An industry member talks through the recent economic cycles, "*These downturns tend to be cyclical in nature, only this one [2008-2013] has been a lot stronger of a downturn than anybody would have predicted*." These cycles come with real consequences for corporations as an industry member states, "*There were a lot more of the old time players available in '06 and we saw a ton of them disappear in '08, '09, '10*." Many of the risks are attributed to the cyclical nature of the industry, but the instability in the supply chain certainly exacerbates these issues.

"The lumber prices were up, they kind of skyrocketed, I don't know if there were more housing starts on that end. And then there seemed to be a shortage of pulpwood because I believe everybody was cutting sawlogs because the lumber prices were good but now the lumber prices have softened. Now there is an abundance of pulpwood because everyone switched back to that. So one minute people are talking there are not enough loggers. The pulp mills are low, but now the pulp mills are full of wood. So it's hard to know, it's just a shift in what people are producing." The instability in the supply chain is both bottom up (based upon weather, resource availability and labor) and top down (from economic investors and consumer trends).

Global trade agreements and the cost of doing business in other countries were voiced as a concern by the processers and manufacturers who said, *"They don't have jobs [another county that is championing American Made Products], they sold them overseas and they realize the only way to bring them buy is to buy American made."* And is met with the adaptation of the industry, *"We are less competitive in the international markets so we try to innovate to make our products better."* Depending on the region used for comparison, Houghton County may have much higher operating costs, "Especially competing against a labor market that is 1/10th of our cost. We are cautious with our labor costs," which can influence viability as an industry member states.

Several of the upcoming trends that would affect development and operations of local companies are reliant upon government policies over climate change. Industry

members would like a commitment from regulators on what can be expected in the next decade as stated by two industry comments, "*When they keep changing their mind and not coming out with consistent policy and it's been this way for 10 or 15 years, then it's hard for companies to invest in bioenergy.*" And "*I think if the government would stick with what they want and if bioenergy would go through...that is going to be huge for the forest products industry in Michigan.*" Regulations and incentives that could benefit the industry are not yet a sure thing, which has led to several companies who have tried and failed at green startups across the state.

Value added products were mentioned in several interviews. The local industry has only minor involvement with value added products but could benefit from the profits associated with those industries. A community member suggest that an expansion of local industry to included value added processing would be welcomed, "You see a lot of big logs on trucks going south. And that is unfortunate because maybe you could see more value added processing happening here, and keep more of that money in the local economy." However, depending on the type of value added processing, such companies would be more exposed to the factors that influence social license because a lack of reputation with community stakeholders.

5.3.4.3 Environmental

Environmental concerns of community stakeholders are common drivers of conflict with industry. Remember that participants were not explicitly asked about sustainability certifications, BMP's, or any particular policies, yet many industry

participants included sustainability in their responses. Of those responses, 55% were favorable to sustainability and 45% were not. A distinction should be drawn here on the difference between top-down initiatives to improve sustainability, including policies external to the organization, of which participants were generally skeptical. As one industry interviewee said, *"Has it [being sustainable] paid any social or economic dividends? No."* These more skeptical attitudes could be a result of pressure from economic stakeholders up or down the supply chain, for which local industry may not benefit from adopting sustainability (Sharma, 2005). As another industry participant said, "*There are a lot of other benefits outside of financial, but those could be done without certifications."* An alternative to the top-down initiatives would be voluntary, self-regulated sustainability. This may be preferred by industry with a member saying, "*For us there are a lot of extra steps, a lot is just a paper trail of things we always did, but now we document it and file it away. It adds a lot of administration time. It increases our transparency and it increases our prices but that is not felt through the whole supply chain."* Along with other comments that suggest that the industry is capable of protecting the environmental resources of the region: *"We were always the leader in BMP's and forest operation, just not as well documented."* The conflict between the top-down and bottom-up sustainability measures comes when the individuals in the industry are left at the mercy of the market. Community members, despite having a high approval of local members of the forest products industry, feared that they did not have the power to meet their expectations for sustainability. Industry members may be unable to prioritize the

environment when compared to other needs as an industry member states, "FSC certified. It is a good thing, holds us to a higher standard." Industry members may share concern for the environment or certain operations but are not able to advocate for their view within the industry. One community member commented on the lack of power local operators have by saying, "*The headquarters, the money people. I don't think most local people have much authority*." A participant from the industry also expressed this concern when they said:

Sometimes you question some of the management practices of the land company, sometimes you think you are cutting to heavy, there are so many ways of interpreting different stands. It is probably the toughest part of my job. When you take what has been a mixed hardwood stand and it is not doing very well and you go in and remove just about everything and try for a fresh start. It is a pretty dramatic first impression when you see it. We have never clear cut a hardwood stand of any type, no matter how bad it was or whatever the conditions were, except for maybe the last three years, so it is a pretty drastic impression. (Economics?) Probably a combination, trying to get a bigger return on the land investment, and whether they are pushing the boundaries of that for a monetary instant return versus long range, it is so far out to say where the next return is. I probably won't see it in my lifetime. You might come back in ten years and see some growth or change in the forest floor. It is hard when you start wrapping the science around the aesthetics of what you see right away. It's hard to go that route. The trucker hears it first, the logger hears it next. You are right there on the visible part of it. To take something that had trees on it, someone else's interpretation of what you are doing. I have had to explain that to people when they question "why did you do that?" Or "did you do that over here?" And it was someone else and you are still trying to justify the industry as a whole. It's tough because sometimes you wonder if they are just playing the financial side of it. That's the hardest part of what I've seen in the last 3-4 years. Until then it was you either didn't cut that stand or avoided it. And with the change in equipment with harvesters and processors, some of those stands are cut-able when you remove more. It becomes economically feasible to cut them. You sometimes wonder the prescription versus the financial returns, what is feasible for the stand. You have to look at that, because I can't pay my bills on it either. I don't know if they are trying to hurry Mother Nature along or help her out. There are so many ways to interpret different stands and different theories on why they are cutting things the way they are.

73

The community appears to recognize that in certain cases, local operators are typically not in a position to prioritize the environment. Community members recognize sustainability certifications may help industry prioritize the environment, "*You get an altruistic benefit from people fulfilling a personal need. The initial thought is not about the environment, but if I want to keep my job, I need to take care of the environment.*" Although the factors surrounding poor performance are acknowledged to be multifaceted by a community member, "*We have had enough direct experience to see poor practices, it may be out of ignorance, and it may be out of economic pressure. It is not like bad logger or bad forester, it is much more complicated than that.*" Potentially, integrating environmental sustainability as a cost of doing business is why the community responds in a very positive way to the top-down sustainability measures, "*My expectation is that they have signed up for sustainability certs and that they adhere to them.*" Certifications can provide accountability while evenly raising the playing field for local industry which is seen as important by two community comments, "*So long as someone is watching them. As long as they are under contracts. There are still some old school guys,*" and, "*It is good to keep everybody accountable.*" This theme is analyzed in greater detail in the following two quotations from community members that focus on economic bottom lines, insulated stakeholder groups and competitiveness of local industry in the global market.

Community- Basically, they are in business and they need to make a profit. They see any regulation as an impediment to that profit. That is the general attitude of big business usually. But the small guys, because of that reflexive antigovernment rhetoric that comes up, I think that is all tied together these days. If you are a blue collared guy, [whispers] you have got suspicions that something is happening [laughs]. If you talk with other guys who are in the business or your neighbors who probably think the same way, you are self-reinforcing the rhetoric. You are seeing government as the enemy again, which is not a good thing but it is part of that whole culture I guess.

Community- I am sure there are people and companies that want to do the right thing. Unfortunately, doing the right thing is often more expensive. An extreme example: how much of our manufacturing has gone to China where there is no real environmental regulation. We are basically externalizing pollution and labor issues etc. We are getting cheap products from China but at the expense of destroying their environment and ultimately it will affect the globe. If everybody had environmental protection laws so that it was a level playing field then the companies here could do the right things and still be reasonable profitable, but as long as places like China, India and Vietnam. The manufacturing is going to go to places that are not going to have to pay for that. That pours over into every sector of the economy.

These quotation supports that community members are aware of a variety of pressures on the forest products industry including how regulation limits the options on how corporations operate, competing against countries with fewer regulations, and the outsourcing of manufacturing. The internal conflicts of industry members, when recognized by community members, may positively influence the level of social license given to them.

In contrast, several members of the industry voiced that and local expansion of sustainability requirements would be unnecessary or unwelcome, although global expansion of sustainability requirements might help improve viability of local operations. An industry member says this about the idea of expanding local regulations to protect the environment, "*I know there is a lot of people that I think feel*

that there should be more done but I think it gets to a point where it's unrealistic." Uncertainty of whether the policies to promote sustainability are directly protecting the environment or if corporations even have the capacity to meet stricter requirements barriers to increased sustainability touched on by two quotations from industry: "*We can't possibly comply with some of the newer rules,*" as well as *"I think they are good. If they got stricter, I would question the value added to the environment."* These sentiments would make it appear that the industry is unable to increase environmental sustainability without external pressure from stakeholders. This comment from industry supports idea that certification has been decided for them and that the benefits of certification are not forthcoming, "*So forest certification has not allowed us to survive. It may have provided us a little bit of social license. The willingness to get the certification. Customers come to us and say: 'Our customers are seeking FSC certified wood, what can you do to help us out.' We did it, but it is not giving us anything, it is not covering the cost of certification.*" Unfortunately, this attitude many not be well received by stakeholders who hope industry members can be trusted to manage the forests for multiple uses.

Several industry and community members in Houghton County expressed their satisfaction with the improvements in sustainable management and hope for the industry to become more sustainable in the future saying: "*I think our environmental record in this country, in the last 20 years, is by far better than many places, not all but many. It doesn't mean we are perfect either. There are always improvements and*

sustainability SFI and FSC have been the ones to help bring us along there." And "*FSC and SFI approvals assure the soundness of forest management. MI BMP's, point to low enforcement. A lot of abuse of BMP's at small scales. Some organizations fall short, but I will not name names.*" Community members were not afraid to say that they perceived forest resources were being mishandled by industry members. There was obvious backlash to greenwashing that may occur through the certification processes as one community member says, "*I also think it would be good to have stricter rules so that the so called plans are more truly sustainable, not just whatever they decide on that particular day. "Oh yeah, this is a shelterwood. Oh yeah, this is top dieback. We really have to gut this one.*'" This issue can be well addressed by industry members that also identify as community stakeholders. This allows them to make decisions about how to police the supply chain internally as this quotation states, "*We try to make sure that we support people in our procurement. That we are not buying lumber from people that are whacking.*" If discussions of detailed opinions and concerns about how to best safeguard the forest resource were initiated between industry and community members in Houghton County there would be an opportunity for social license to develop based on specific operational methods.

The sustainability certificates may be a factor that allows the forest products industry to retain a social license without engaging in community engagement. Due to the variety of perspectives and conflicts over sustainability, if industry decides to become involved in community engagement, it could be beneficial for industry to begin

77

communications with statements like the following about: personal professional

responsibility,

Industry- I feel we have an obligation in the way we operate to make sure that we comply with all the laws that we can comply with.

Industry- My role as the manager is to ensure the foresters who are really doing the on the ground management that will really impact stuff in the woods

Industry- So we feel responsible, if someone comes up and says we are concerned about what you are going to do to this stream. We need to be sure that we are following the rules and address those issues.

Industry- Well I'm the overseer on what's going on, on every job, so if the foresters have questions on job and I see some issues, then it is my job to make sure they get corrected.

Industry- Everybody is doing it correctly and doing consistently. And that we are obeying the law and FSC standards.

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compliance to regulations and certifications,

Industry- Ensuring we are getting all the permits for culverts and our bridges that there are installed correctly, that harvesting adjacent streams and lakes and wetlands is done correctly so that we are not impacting, we are not breaking the law, we are not breaking the Clean Water Act

Industry- Most of the companies that we deal with are ISO9001 certified and so they have third party audited, and we have had tracts of land selected for the third party audit. To check for BMP issues, if it is FSC land, we have to make sure the harvest was compliant with the certification.

Industry- In terms of the environment now is best, 3rd party monitoring. Environmental awareness and expectation. 20 years ago, people driving a skidder through a trout stream, that doesn't happen anymore. I think that came about from social pressure via certification, education. Our knowledge of the consequences of poor practices has helped raise the bar.

And the importance of environmental protection to the industry.

Industry- Certification has helped us turn the corner on expectations. There is a greater comfort level with the folks that invest with us. There is an assurance of the quality of work from certification.

Industry- Certification has given us an edge. Not in value added, but it has allowed us to have market share, we can sell the product.

These statements all reflect things that the community participants said they cared about, and that they also identified as industry expectations, goals, and practices. As one said, *"We have been using wood a lot more effectively now, than we used to."* Another said it was important for the industry to communicate that, saying, *"I think they (the FPI) need to find a way to let more people know that they are and how they are being stewards. And what does that mean to me as a user and consumer."* These

kinds of things industry interviewees said, as quoted above, could help build cooperation for environment issues. The industry needs the public to respect lands that they have access to, and the public wants to ensure that the industry is acting as stewards of the local resources.

The statements above, although not directly referring to social license, show that the industry is able to reflect on its actions and values, which can help establish trust with the community. Table 3 shows that the forest products industry recognizes that trust can be built by utilizing sustainability, as seen by the aggregated 59% of industry respondents who indicated a positive relationship between sustainability in organizational practice and community trust. However, it appears that most organizations are not communicating the sustainability certifications, BMP's and policies, based on the low responses in Engagement and responses to Changing Expectations (16% and 35% respectively). This could represent an opportunity for the forest products industry to reach out to community members and discuss the current role that sustainability plays in their organization, focusing on their organization's relationships, ethics and responsibilities. Although it appears the industry has social license without community engagement, it may be beneficial to develop stronger communication pathways with community stakeholders to help fortify the industry against disturbances and make it more competitive in the global market. Then perhaps community stakeholders could genuinely advocate for the industry with other stakeholder groups on the value of Houghton County's forest products.

80

5.4 License

One original hypothesis in this research is that social license differs for certain sectors
of the supply chain. It was anticipated that loggers and truckers would bear the brunt
of negative perception that the public had for the industry because of their high
visibility within the forest and on the roads. Clear cuts, pressures on local ecosystems
and the degradation of infrastructure were expected to be perceived by the local
community as damaging to the social license and attributed to the *extraction*
classification. In turn, it was hypothesized that jobs that favored value added products
and design elements seen with woodworking and specialty procurement would receive
the highest approval and social license from the community. The original hypothesis
was not supported by the data collected in these interviews. A different theme
emerged with the responses from community members in Houghton County that
provides evidence to support a new hypothesis: social license is higher for all local
corporations, regardless of their place on the supply chain, than for non-local industry
sectors.

5.4.1 Local License

This phenomenon is being named here as *local license* and fits the concept that
stakeholders and communities give social license to an industry's operations that
reflect their values, expectations and societal norms (Dare 2014). Local license is the
bond that is shared exclusively between local community and local industry. It
demonstrates that social license can be given differently across different aspects of the

same industry. This supports part of the original hypothesis, but instead of being about sectors it's about scale. An industry member describes how local license functions in their interactions, "*There is no question there is a social responsibility and it really comes down to not so much the macro piece of the social responsibility, the holistic for society, it really comes down what you do with your neighbor. That's where we have the greatest amount of interaction particularly in the Upper Peninsula. We're not really a hotbed of environmental activism and we are certainly not under the microscope as in parts of West, maybe in the Northeast. So on the microsite- dealing with your neighbors honestly, answering their questions, contacting them before you harvest. You share a lot of roads. You share property boundaries. So really that social responsibility is more one-on-one with neighbors.*" Community members also describe the local relationships, "*I think those interactions have all been good. With local foresters and local loggers, my experiences have been good*." Social license requires two-way communication and it appears that in Houghton County that functions most successfully on the local level.

One contributing factor of the local license observed in Houghton County is the aligned values of community and industry members. A community member says that trust has a role, "*One of the reasons there is not a lot of discourse is because we trust them to manage our forests. That is a big responsibility*." As local industry members also populate the community and overlap in a number of values with other community members, they may be able to attain a high level social license more readily than non-

local industry. As described by the interviewees, these values include hard work, independence, and ingenuity.

As described above, having trust in multiple areas of a relationship helps create resilience for the industry (Stern, 2015). Even when mistakes are made by local operators, their reputation and high approval rating allow them to survive conflicts that could shut down other operations. "*There was a time where they cut down 4-5 Estivant pines. Somebody missed a corner and somebody was sawing into the pines when they realized, I shouldn't be cutting these. These are really big trees. But it didn't take many to make a load.*" It seems that community members are able to empathize with local industry members as supported by two quotations, "*I think most people are basically just slaves to their jobs. They have to do what pays the rent and keeps their family safe.*" And, "*The logger, he is thinking "this is cutting too hard." "I really don't like to do this," and yet that is what his employer or his contract is telling him he has to do. He has to maintain his equipment, he has to feed his family and pay his mortgage. So he has got to do what he is being paid to do.*" These quotations do not paint local industry members in the best light. They do indicate that social license can be maintained by organizational legitimacy (ie. relationships, ethics, and responsibilities) perhaps even in the presence of shortcomings of operational legitimacy.

5.4.2 Nonlocal License Dynamics

In keeping with language describing social license by Parsons (2014), large corporate organizations are arguably accepted by the local industry and community in Houghton County but are not always given approval. A community member states, "*The big companies don't care because they are not here.*" This is despite the willingness of larger industry organizations to adopt sustainability certifications. The non-local industry members to not benefit from the organizational legitimacy that exists in the local license. This community members says, "*The corporate is so far removed from that local contact. I remember trying to contact someone to try to get an easement. You had to talk to somebody in Mississippi and the lawyer was in North Carolina and yet they own a significant percentage of the land in Houghton County that is held by a forest products company.*" These communications may lack empathy from both participants. Many of the interview participants voiced what could be described as a withholding of social license for certain operations of macro corporations. Local industry members recognize this saying, "*5-10 year land investment has killed quality and public perception.*" Part of the negative perspective of the large corporations is that their economic stakeholders are generally not local as one community member states, "*I think people here should realize that that benefit isn't here. That benefit is going away.*" Non-local corporations are not aware of the sensitivities of local ecosystems which allows them to utilize management practices that are not optimum for long term value. One community member suggests that short rotation harvests

could be devastating to regional forests that are made to produce timber to meet

economic quotas:

Community- The dynamic buying and selling of the TIMOs and REITs, on large holdings of land on short 5-10 year windows, I don't get it. It cannot be sustainable. When a company buys high and tries to sell when it is low, they have to harvest more heavily. It is chipping away at the resource. Death by a thousand cuts, we are at a hundred cuts. Up in the Keweenaw, it is even more dramatic, thinner soils.

The local stakeholders expressed a fear of short term vision and management goals

that may exist in non-local corporations:

Community- When these corporate lands are in funds that might be a ten year investment, a ten year management window does not align with the 20, 30, 40 year management period that the forests really need. None of these corporate owners have that kind of time horizon, which means the forest is getting squeezed. Each ownership wants to get something out of it, some harvest and then flip it and sell it.

In addition to the issues of location and remote management, there were concerns

about non-local investors' limited experiences with forest resources.

Community- It is all investment. The owners of the land are all investment firms, not really forestry firms anymore.

Community- Our biggest landowner is a hedge fund consortium.

Community- Now I think the owners are investors. They don't know about this land or care about this community. It is just about money and the turnover is becoming faster and faster. The way they set up their financial structures, they have to roll it faster.

Community- Because these investment vehicles have a short lifespan, they are not managing the lands for the long haul.

Community- There are other TIMOs and REITs that are more profit driven and not so concerned about the forest management or the long term. They are looking at how many profit centers that they have. Forestry, real estate, corporate positioning, flipping properties between each other to show profit. They don't have a connection to the community, the only way that you can get their attention: doing something that is troublesome for their forest management like trespassing- liability concerns.

The non-local corporations are not afforded the same leniency from community

stakeholders for poor management of local resources. Perhaps because there have been

no personal relationships to build reputation and trust. This community member states

that the organizational legitimacy of non-local corporations is tied exclusively to

money:

Community- Well, they are businesses, so they are there to make money. They are beholden to whoever pays them, their investors or their shareholders or their contractor. It is all about money, so that is the first thing I think of. Who they think they are responsible to, and how they behave is mostly about money.

One community member was able to give a detailed account of how TIMO's and

REITS entered the forest products industry in Houghton County.

Community- Back 10-12 years ago [a study was done] on how to maximize shareholder value and what they determined was the best thing to do was to divest all of their land. And using stuff that they could procure, their financial model suggested that it was better to break the supply chain, focus on one part of the supply chain and divest all of the landholding and the actual procurement from their corporation. That was purely a financial move. When that happened, that is when the snowball started moving faster. Who jumped in next, it was investment firm. It got flipped a couple times, now we have got an investment firm and they are at the end of their timber supply agreement [and] they are cutting to beat the band right now. They only have a couple of years before they flip it to another investor group. And maybe an investor group with different motivation. Whatever their financial goals were, they needed some kind of cash flow that is coming most likely from an appreciation goal and a cash flow goal. The cash flow goal comes from what they are paying. The appreciation goal comes from when they are selling. But who they sell it to next, it is probably somebody who does not have that cash flow goal, it is a different pot of investors, it is people who need to park money. So what does that say? You have a bunch of land now that you cut really hard. All of the people who used to work on the land when it rotated every 20 or 25 years. Now they don't have work for another 30 years because there is nothing to cut for a long time.

This statement refers to how economic stakeholders manipulated the supply chain to extract greater returns while shifting risk to local members of the forest products industry. When these new corporations entered Houghton County, in a position of power on the supply chain, it had effects on how the industry stakeholders developed social license. Few community members know the details of how non-local corporations may differ from local corporations, yet there were suggestions that key influencers within the industry were aware of the operational variances. Even though TIMO's and REIT's voluntarily subscribe to sustainability certifications, there is distrust from the community and industry stakeholders that the tenants of the certifications are being upheld. The emergence of new non-local corporations, who did not engage with the community has had a negative impact on the social license of the forest products industry.

87

6. Discussion

6.1 Results Applied to Conceptual Frameworks

Recognizing that the framework put forth by Dare (2014) regarding the nature of how social license exists on a continuum, this research considers where Houghton County falls on the spectrum of a social license for the forest products industry and seeks to provide explanatory insight regarding why the social license exists as it does. Dare (2014) describes the three areas that have been identified as vital aspects of "Community Engagement." These include trust in organizations, capacity to engage stakeholders and the ability of organizations to respond to changing expectations. However, when these themes are evaluated in the context of Houghton County, it could be argued that the forest products industry is not engaged in the "Community Engagement" segment of the social license continuum. Although responses could be categorized under the three main parts of community engagement, trust in organizations, the capacity to engage stakeholders, and ability to respond to changing expectations of stakeholders, there was little evidence of the industry intentionally working toward active lines of communication with community stakeholders. Taking into account the longstanding presence of forest industry activities in the community, the region's history of resource extraction, and the adoption of sustainability certifications by much of the industry helps to explain why the forest products industry Houghton County has passed or perhaps skipped the outlined themes for "Community Engagement" identified in previous work. Dare (2014) described an observation that "low participation in operational community engagement activities may occur for

many reasons and under some circumstances may actually indicate that social licenses have been granted - if stakeholders trust managers they may not feel a need to engage" (pg.193). This would again relate to the reputational capitol of the local industry.

To place the forest products industry on Boutiller's (2011) social license pyramid first requires dividing the industry into local and non-local parts, as this research as demonstrated not only the importance of spatially contextualizing research via boundary conditions (such as identification of a community as operationally synonymous with county boundaries) but also the importance of considering how social license can change for industry actors operating at different scales, local to non-local. The local component of the industry is arguably in the *approval* region, even with conservation and environmental stakeholders. With other local stakeholders, such as the media, city official and economic developer, we saw local members of the industry ascending paste the *trust boundary* into *psychological identification*. Non-local companies, specifically those practicing short rotation harvests, would only receive a grade of *acceptance* from the collective community.

The final framework that informed analysis of the data, Morrison's (2014) discourse on organizational and operational legitimacy, offers the last pieces available for understanding the complex social license relationships. The organizational legitimacy attributed to local members of the industry allowed for acceptance from the community for almost any operations. With improvements in regulations and

sustainability certifications, local members of the industry are able to manage the forest resource in closer keeping with their community's values, which may change the reliance on organizational legitimacy and allow operations to be evaluated without bias.

6.2 Increasing Social License in Houghton County

The forest products industry in Houghton County, although not currently involved with direct community engagement, might be well poised to become involved in conversation with the public. Assets for developing a strong social license exist with the research and educational facilities at Michigan Technological University, the presence of many regional offices for State and Federal agencies, proximity to Keweenaw Bay Indian Community, and conservation groups open to harvesting and dialogue on forest management. The industry in Houghton County currently contains well-established companies and new startups, from 1-person operations to 150-person operations. In particular, there are many issues that could be discussed regarding each part of social, economic, and environmental sustainability that could build reputational capital and resilience.

Every corporation that participated in the interview process either had a mechanism by which to engage with stakeholders and respond to changing expectations, or they were open to communication about such subjects. Yet active examples of vital community dialogues were few and far between, which may have been the consequence of the

complexity of attempting community engagement. Tools for effective communication may be available to local industry members, but corporate norms may not have been superseded by the need to engage. Although community engagement is not well observed in Houghton County, it does not mean that social license is absent.

One large local corporation in Houghton County talked about the recent expansion of their operations to a new region. In the process of expanding, they went to great lengths to acquire a social license. The corporation believed they were successful in developing a relationship with the local community that would allow them to operate without disturbance in the new location. This method should be considered by other large corporations invested in Houghton County to improve their reputation.

Waiting for a disturbance such as new governmental policies or the closure of a paper mill before actively becoming involved with community engagement could serve to destabilize the industry's supply chain and damage the relationship with local stakeholders. Based on the responses from industry participants on this "being a good time to be in the industry," perhaps there is reason that the details of this should be shared with the public: the improvements in health, safety, ecosystem science, efficiency, and communication can help tell a new story about the forest products industry that many participants were proud to represent. The strengthening of relationships within the industry and community might also bring about essential collaborations in this time of transition. There is a high level of approval for the local

industry members with no apparent opposition from stakeholders seeking to disrupt operation.

Other novel approaches for industry to develop social license in this area include a suggestion by Sharma (2005) to categorize the forest itself as a stakeholder in order to allow for the greatest value and resilience of the land to be expressed. To help stakeholder groups understand operations, reward industry leadership, and punish the members of the industry that fall behind, Gunningham (2004) recommends implementing comparative information standards. Industry could publicly report their emissions levels for example, and then communities could form opinions based upon those standards.

Returning to Parsons (2014) analysis of industry discourse, it showed corporations visualized acquiring, maintaining and diminishing pathways in social license. Corporations believed they were in the maintenance process, because they had already established their operations and had already received legal license. Reflecting on the concept could shed some light on the quotations above regarding investment firms, hedge funds, Timber Investment Management Organization (TIMO) and Real Estate Investment Trust (REIT). It is possible that when TIMOs and REITs entered the local forest products industry in Houghton County, they did not inherit the social license that had been passed down from previous landowners. There is no indication from the interview participants that TIMOs and REITs worked to achieve social license within

the local community. Several industry members suggested that it was the job of sustainability certifications to engage stakeholders, however it appears that SFC and FSI are primarily focused on educating consumers not local communities.

As forest products, in this case wood, changes hands and travels through the supply chain, ecolabels travel with the wood to describe how it was grown, harvested, transported and how laborers were treated. This information follows the wood through the supply chain. Because Houghton County is distant from the end consumer both geographically and through the supply chain, it can be difficult for the local industry members to realize how certifications shape trends in individual niche markets, that in turn affect the demand for their product.

The primary conflicts over industry operations appear to stem from short rotation harvests. This is allegedly being driven by the investment models of the non-local TIMOs and REITs. If informed parties would engage stakeholders to discuss values and vision in a public setting, perhaps steps to ensure transparency and accountability for the high risk management areas could be agreed upon. Other potential courses of social license outside of engaging stakeholders on operational plans may not do not fulfill the optimal corporate-community partnership model and could again result in reputational loss.

6.3 Application of Results to Other Locations

Industry members stated that their positions and responsibilities within the forest

products industry were standard. This may suggest that certain results of this research

could be applied to other organizations outside of Houghton County. First, it is

important to state some of the things that make Houghton County unique in

comparison to other regions that might be assessing social license. The forest resource

in Houghton County is self-regenerating and the diversity in species, age and

composition of the forest vegetation is diverse. This is a crucial factor when compared

with areas where forest management may equate to land use change and jeopardize

local biodiversity. Secondly, Houghton County is primarily rural and has a long

history of natural resource extraction. This has shaped the economic dependence of the

region to the forest products industry. The system boundaries of this research may

make it hard to use the results for describing a national forest products industry social

license dynamic, but they may be suitable for rural forested communities in the

Midwest and New England.

The initial hypothesis about different levels of license for different sectors was not

supported by the data. However, the hypothesis might have been better tested if a

wider sample of non-local stakeholder groups had been included in the interviews. The

new hypothesis that emerged involved local license, a term that describes the

relationships that exists between local industry members and local community

members. Shared values, empathy, and an understanding of individual limitations for

decisions made about the larger industry are unique characteristics of local license.

Local license was not observed to be generalizable to other scales of the industry. The interview responses suggest that it does not extend for local community to non-local industry or local industry to non-local stakeholder groups. If the social license from a non-local group of stakeholders was assessed for Houghton County's forest products industry, it would most likely differ in the values place on elements of the license, or the social license may be entirely absent (Lacey, 2012). The term *community license* was coined by Parsons (2014) to depict the relationships that were developed by industries and communities to address local needs and issues such as pollution. In contrast, local license is describing approval for an individual corporation or operator based upon their geographic and social location. These results may not have empirical generalizability, but are there points that are potentially conceptually generalizable (like how local context matters, and how scale of consideration matters).

7. Future Work

Future work enabled by this research would include investigating how non local corporations could increase their social license, or whether that are interested in doing so. Would there be an economic justification for improving operations from acceptance to approval? With modern social media and the ability for stakeholders to communicate their values with others more effectively, are operational strategies developing in tandem. Are these efforts met with success or seen as greenwashing campaigns? The local industry is driven by investment money from outside the County. It might be valuable to compare and contrast with other rural, forest

dependent communities who are experiencing similar transitions in economic stakeholders.

A second area that would be valuable to understand better is how emerging leaders inside and outside the industry can shape social license. The interview participants noted a lack of "leadership" in Houghton County, even though other participants recognized those same people as leaders themselves. Depending on where new leadership emerged it could prove to be a great asset or liability for the industry or community. Mapping affiliate groups and their key influencers in Houghton County might provide better insight into existing perceptions of industry. A leader might reshape the local perspective on the paternalistic industry dependence and create disturbance through comments like the following community members, "*I think our region has suffered for a lack of vision and lack of community leadership. There have been good managers and good elected officials,*" which express a disconnect between stakeholders and their influence over local issues.

8. Conclusion

This framework for understanding social license for the forest products industry indicates that legitimacy granted to the organizations can differ from that of the operations. This case study indicates that the local industry and community in Houghton County, Michigan approve of local corporations and have noted that their operations have improved over the last several decades thanks in part to modern equipment, BMP's and sustainability initiatives. Sustainability certifications do not,

however, automatically provide operational legitimacy in the opinions of the local people particularly when they aren't communicated via direct engagement.

The results reflect the global paradigm shift in the way the public and local communities expect corporations to behave. Whether the term social license is utilized in conversation between communities and industry is arguably a moot point when diverse stakeholders around the globe are championing the primary theme of a triple bottom line. The data supports that stakeholders expect corporations to do more than meet existing regulations and pay taxes. If industry is willing to meet with communities and develop relationships that lead to partnerships on local topics, then terms like social license may persist in their current form, an unregulated continuum that provides diverse stakeholder the platform to engage industry with their concerns. If industry avoids direct engagement with stakeholders, then it is possible that social license will become a part of government controlled regulations. The final option for social license would be that discourse would continue to evolve beyond social license, where new terms would be developed to meet the needs of industry or community.

Evaluating social license for the forest products industry in Houghton County was effective for being able to describe the relationship dynamics that allow industrial operations to exist. Even with the approval of community stakeholders, the industry has the opportunity to improve its social license. The data gathered was not able to predict the cost or value of improving social license for the industry, although there

were a variety of suggestions for industry on where direct community engagement

efforts could be focused such as collaborating with the Michigan DNR and MTU to

host small discussions with key influencers about the developing sustainability

measures that the forest products industry is adopting.

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10. Appendix

Appendix 1. Data Tables

Table 10. Trust in organizations (Full).

The percentage of comments that were made by the Aggregate group (Agg.) and segments of the Forest Products Industry about dimensions of community engagement seen in the first row (i.e. relationships) that would build trust in their respective organizations.

Trust in Organizations												
	Organizational Themes						Operational Themes					
Forest products industry	Relationships	n=	Ethics	n=	Responsibilities	n=	Specialization	n=	Sustainability	n=	Resource management	n=
Agg. (n-14)	46%	351	89%	84	46%	277	22%	160	59%	158	43%	157
Land (n-4)	39%	138	87%	23	38%	93	23%	22	51%	53	34%	59
Managers (n-2)	29%	35	83%	6	41%	37	20%	15	44%	18	41%	22
Extraction (n-2)	44%	45	71%	14	43%	30	14%	35	46%	28	45%	31
Procure. (n-1)	44%	9	100%	3	53%	15	20%	5	100%	8	100%	3
Processing (n-1)	57%	28	83%	6	40%	30	29%	7	67%	15	47%	19
Sec. Man. (n-2)	50%	56	100%	23	63%	52	26%	38	78%	32	65%	17
Woodwork (n-2)	73%	40	100%	9	60%	20	24%	38	75%	4	33%	6

Table 11. Engaging Stakeholders (Full).

The percentage of comments that were made by the Aggregate group (Agg.) and segments of the Forest Products Industry about dimensions of community engagement seen in the first row (i.e. relationships) that would engage stakeholders for their respective organizations.

Engaging Stakeholders												
	Organizational Themes						Operational Themes					
Forest products industry	Relationships	n=	Ethics	n=	Responsibilities	n=	Specialization	n=	Sustainability	n=	Resource management	n=
Agg. (n-14)	57%	351	30%	84	23%	277	24%	160	16%	158	17%	157
Land (n-4)	48%	138	22%	23	18%	93	18%	22	11%	53	14%	59
Managers (n-2)	49%	35	17%	6	22%	37	7%	15	6%	18	14%	22
Extraction (n-2)	62%	45	29%	14	30%	30	26%	35	25%	28	32%	31
Procure. (n-1)	56%	9	0%	3	0%	15	40%	5	0%	8	0%	3
Processing (n-1)	82%	28	33%	6	17%	30	29%	7	7%	15	11%	19
Sec. Man. (n-2)	54%	56	48%	23	35%	52	16%	38	28%	32	18%	17
Woodwork (n-2)	75%	40	22%	9	35%	20	37%	38	25%	4	0%	6

Table 12. Engaging Stakeholders (Full).

The percentage of comments that were made by the Aggregate group (Agg.) and segments of the Forest Products Industry about dimensions of community engagement seen in the first row (i.e. relationships) that would show a response to changing expectations of stakeholders for their respective organizations.

| | Response to changing expectation | | | | | | | | | | | | |
| Forest products industry | Organizational Themes | | | | | | Operational Themes | | | | | | |
	Relationships	n=	Ethics	n=	Responsibilities	n=	Specialization	n=	Sustainability	n=	Resource management	n=
Agg. (n-14)	15%	351	17%	84	21%	277	60%	160	35%	158	27%	157
Land (n-4)	13%	138	13%	23	15%	93	64%	22	30%	53	24%	59
Managers (n-2)	6%	35	17%	6	16%	37	27%	15	39%	18	18%	22
Extraction (n-2)	20%	45	14%	14	37%	30	51%	35	36%	28	35%	31
Procure. (n-1)	22%	9	0%	3	0%	15	60%	5	0%	8	0%	3
Processing (n-1)	4%	28	0%	6	13%	30	57%	7	33%	15	26%	19
Sec. Man. (n-2)	23%	56	35%	23	37%	52	68%	38	50%	32	24%	17
Woodwork (n-2)	20%	40	0%	9	20%	20	71%	38	25%	4	67%	6

Table 13. Social license achieved through community engagement (Full).

Community participants' responses that indicate how the organizations and operations within the Forest Products Industry positively or negatively influence the Social license created through three groups of community engagement - Trust in Organizations, Engaging Stakeholders and Response to Changing Expectations.
"(n-)" indicates the size of the sample used in the observations within the table.

Social License Achieved Through Community Engagement									
	Trust in Organizations			Engaging Stakeholders			Response to Expectations		
	Successful		Unsuccessful	Successful		Unsuccessful	Successful		Unsuccessful
Community (agg. n-6)	67%	(n-189)	33%	66%	(n-180)	34%	66%	(n-169)	34%
Developer (n-1)	88%	24	13%	80%	25	20%	83%	23	17%
City Official (n-1)	77%	44	23%	78%	41	22%	77%	43	23%
Media (n-1)	98%	42	2%	71%	42	29%	83%	30	17%
Conservationist (n-2)	37%	67	63%	50%	52	50%	37%	59	63%
Environ. Activist (n-1)	50%	12	50%	50%	20	50%	86%	14	14%

Appendix 2. Interview Protocol

Interview for Industry
Q1.1: *Could you tell me your job title and describe to me what your job entails?*
Q1.2: *How long have you worked in this industry, and how long have you worked with this company?*
Q1.3: *Are there any parts of your job that you especially enjoy?*
Q1.4: *What makes your job (or your industry) unique?*
Q2.1: *The next set of questions are related to the responsibility that you feel to different areas associated with your work. What sorts of responsibilities are placed on you by the company?*
P2.1.1: *Are those expectations stated or implied?*
P2.1.2: *Who else has responsibilities?*
Q2.2: *If you feel comfortable in sharing, how responsible do you feel for bringing home a paycheck?*
Q2.3: *Do you feel that you have social responsibilities or obligations?*
P2.3.1: *To what parts of society?*
P2.3.2: *How do you act upon those feelings?*
Q2.4: *What level of responsibility do you feel to the environment?*
P2.4.1: *How does that affect your actions?*
Q3.1: *Could you tell me about relationships with landowners/clients?*
P3.1.1: *How much do you know about them?*
P3.1.2: *How long do these relationships usually last?*
P3.1.3: *Do they understand what you do?*
Q4.1: *Could you tell me about relationships with the public/community?*
P4.1.1: *What kinds of interactions do you have with them?*
P4.1.2: *Who are you thinking of?*
P4.1.3: *Who do you perceive, has more influence over the outcomes of these interactions?*
P4.1.4: *Can you help me understand that better?*
Q5.1: *Do you feel that you have the ability to communicate effectively with landowners and the public?*
P5.1.1: *What are the factors that limit your communication?*
Q6.1: *The forest products industry seems to be very complex. What strategies have you developed to help you survive?*
P6.1.1: Repeat answer back. *Is there anything I missed or you would like to add?*
Q7.1: *What was your industry like 10 years ago?*
Q8.1: *When was the best time to be in your industry?*
P8.1.1: *Why do you think that is?*
Q9.1: *Has there been a major external change- cultural, technological, social, economic- that has affected your clients or the public's satisfaction with your products or services?*

Q9.2: *Are there segments of your company that have had trouble dealing with these changes? i.e. equipment, personnel, facilities, R+D*
Q10.1: *Where do you see your industry in 10 years?*
P10.1.1: *Is that a future you look forward to being a part of?*
P10.1.2: *How will we arrive there?*
Q11: *Is there anyone else that you can suggest that I communicate with about these topics?*

Interview for Community
Q1: *Could you tell me your job title and describe what your job entails?*
Q2: *How long have you lived/worked in Houghton County?*
P2.1: *What do you like about forests in this area?*
Q3*: Do you own land?*
- *How many acres?*
- *Permanent residence?*
- *What is your purpose for owning it?*
- *How did you acquire your land?*
- *Is the land forested?*
- *Does it have a home is the land*
- *Have you ever harvested trees either commercially or for personal use?*
- *Do you have a forest management plan?*
- *Do you consult with a professional forester?*

Q4: *When I use the term forest products industry, who do you think of?*
P4.1: *Why is that?*
P4.2: *How would you define the forest products industry for Houghton Co.?*
P4.3: *Would you say that you have a high, medium or low understanding of the forest products industry*?
Q5: *What types of responsibilities, do you feel, are placed on the forest products industry*?
P5.1: *How do you expect the actions of businesses in the industry to reflect these responsibilities?*
P5.2: *Do you trust local members of the forest products industry to be stewards of our resources?*
Q6: *Could you tell me about the relationships the forest products industry has with the public/community?*
P6.1: *What kinds of interactions do you have with the industry?*
P6.2: *Who do you perceive, has more influence on the outcomes of these interactions?*
P6.3: *Do you feel the industry understands the community's needs?*
Q7: *Has there been a major change that has affected your satisfaction or dissatisfaction with the forest products industry?*
P7.1: *How does the forest products industry accommodate or address complaints?*
Q8: *Do you feel that the forest products industry communicates effectively*?
P8.1: *How does the industry show that*?
P8.2: *What are the factors that limit their communication*?

Q9: *What are the difficulties associated with running a business in Houghton County*?
P9.1: *Do the strategies of the forest products industry help them survive in your opinion?*
P9.2: *Repeat answer back. Is there anything I missed or you would like to add*?
Q10: *What was your community like 10 years ago*?
Q11: *When was the best time to be in your community*?
P11.1: *Why do you think that is*?
Q12: *Where do you see your community in 10 years?*
P12.1: *Is that a future you look forward to being a part of?*
P12.2: *How will we arrive there?*
Q13: *Is there anyone else that you can suggest that I communicate with about how the forest products industry relates to the community in Houghton County?*

Appendix 3. Permissions

Institutional Review Board

On July 7th, 2015 the IRB at Michigan Technological University sent this email regarding *Interview of the Forest Products Industry in Houghton Co.*

Thank you for your submission. I have reviewed the materials and have determined it qualifies for an exemption from further review.

Federal Regulations state that Exempt status studies do not require further review unless changes have been made. In the case of ANY changes made to the approved protocol of a study you are conducting, both for procedural or personnel changes. You must submit a request to continue with change and it will be the determination of the IRB Office whether the Exempt status is still appropriate.

If for any reason you make ANY changes, or complete the study, you are asked to notify our office. ANY changes in a protocol which affects the human subjects must be approved by the IRB prior to implementation except where an immediate change is necessary to eliminate a hazard to the subjects. Changes submitted will be reviewed and a determination made by the Compliance Office whether the Exempt status is still appropriate.

The memo you receive for approval will have no expiration date; therefore, you will not receive expiration alerts because there is no end date listed, and no further review is required as long as the study is conducted according to the original submission. Approval memos can be found in IRBNet by clicking on the Reviews button, and the board document is located on the next page.
If you have any questions, feel free to contact me.

Regards,
Cheryl Ghern