



SWST - International
Society of Wood
Science and Technology

Business Transformation in the British Columbia Forest Industry



Alvaro Madero^a, Alice M. J. Palmer^{b*},
John L. Innes^c, David H. Cohen^b

Abstract

This study aims to define the emerging concept of firm-level business transformation from the perspective of British Columbia-based forest sector executives, and to investigate its drivers, enablers, and barriers. The ten executives interviewed for the study generally defined transformation as the execution of different business strategies with the purpose of delivering significant performance improvement to the firm. Both strategic and operational changes could be considered transformational, depending on their impact over time. However, the executives stressed that operational efficiency should be used in combination with one of six other strategies, such as diversification of the product mix, entry into the bio-economy, sustained growth, market diversification, diversification of the geographic base of operations or adoption of a customer-driven focus. Transformational changes were initiated both to respond to market challenges, such as volatility and competition, and to take advantage of emerging opportunities. Several factors could serve as either enablers of or barriers to change: access to financial resources (or lack thereof), leadership, managers' and employees' attitudes toward change, and government policy. The risks associated with large capital outlays could be mitigated through benchmarking, collaboration, and careful timing. Drawing upon the scholarly business management, applied business management, and forest products business literatures, this study provides new insight into the emerging concept of business transformation.

Keywords: Forest industry, business transformation, strategy, executive perceptions

1. Introduction

The competitiveness and financial health of Northern Hemisphere forest sector producers have been under pressure in recent years due to changes in their business environment. Pulp and paper manufacturers have been hit by a dual challenge of declining demand for

printing and writing grades of paper and increasing competition from new mills in emerging producing regions (Bogdanski 2014; Jonsson 2011; Hetemäki & Hurmekoski 2016; Zhang, Toppinen, & Uusivuori 2014). For solid wood manufacturers, an unprecedented housing downturn in the United States in 2008 and the subsequent global financial crisis led to a major drop in demand followed by a decade-long recovery in wood products markets, particularly in North America (Hansen 2014; Panwar, Vlosky, & Hansen 2012). Other changes, such as shifting currency exchange rates, international trade regulations and changing climatic conditions, are ongoing and also impact the competitiveness of one country vis-à-vis another.

This analysis focuses on forest sector firms that operate in British Columbia (BC). British Columbian mills produce about half of Canada's softwood lumber and roughly one quarter of Canada's pulp and paper prod-

^a Natural-Trade Ltd., 309-1277 Lynn Valley Rd, North Vancouver, BC

^b Department of Wood Science, Faculty of Forestry, University of British Columbia, 2424 Main Mall, Vancouver, BC V6T 1Z4

^c Department of Forest Resources Management, Faculty of Forestry, University of British Columbia, 2424 Main Mall, Vancouver, BC V6T 1Z4

* Corresponding author. Email: alice.palmer@alumni.ubc.ca; Tel: 604-833-3596

Acknowledgements: The authors would like to thank the interview participants for graciously sharing their time with us, and Dr. Shannon Hagerman for her insights regarding the design of the interview schedule. We would also like to thank the three anonymous reviewers of this article for their extensive comments and suggestions.

ucts by value (Statistics Canada 2018). Historically, the BC forest sector has provided a significant number of jobs for forest-dependent communities (MFLNRO 2009). BC has therefore been affected by the forces of change impacting the rest of the continent. For example, as over half of BC's softwood lumber production is exported to the United States (US), the long downturn in US housing wood products markets resulted in greatly reduced demand for BC forest products (BC Lumber Trade Council 2017). Closer to home, a mountain pine beetle outbreak has infected an area of 18.3 million ha – roughly half the size of Germany – resulting in an approximate 16% reduction of the province's merchantable timber supply and multiple mill closures in the most heavily impacted communities (Government of British Columbia 2015). The combined impacts of recent shifts in the business environment have uncovered an urgency to initiate transformative change in BC forest sector firms.

Multiple stakeholders within the Canadian forest sector recognize the competitive pressures caused by changing business environments and the need to find new ways to adapt to this change (Natural Resources Canada 2014; Palma, Bull, Goodison, & Northway 2010). Over the past decade, the term *transformation* has emerged as an all-inclusive phrase to describe the broad-ranging changes that may be required to improve industry profitability. For example, starting in 2009, Canadian federal government programs such as the "Pulp and Paper Green Transformation Program" and "Investments in Forest Industry Transformation Program" have provided funding incentives to forest sector firms to invest in green products and/or technologies; and from 2007-2011 the "Transformative Technologies Program" provided research funding (Natural Resources Canada, 2016 and 2018). Such terminology is also popular among industry associations such as the Forest Products Association of Canada (FPAC) and its constituent corporate members (FPAC 2015). Following the trend, consulting companies have published white papers on the sector's transformation, such as Berg & Lingvist's (2017) study entitled "*Pulp, Paper and Packaging in the Next Decade: Transformational Change*."

With multiple organizations and stakeholders discussing transformational change, one might expect there to be a shared understanding about what it means to be "transformational." Improved financial performance appears to be a near-universal goal, and a reduced environmental footprint is mentioned frequently. However,

the forest sector literature offers few explicit descriptions of what types of activities constitute a transformative change at the firm level. In other words, "transformation" is a commonly used buzzword, but the various organizations discussing it may or may not be using a common terminology.

Recognizing that different organizations may define firm-level transformations in different ways, our study aims to improve the understanding of how decision makers of forest sector firms define transformative initiatives in their companies. This study aims to describe which alternatives are considered transformative by senior executives of resources, commodities, and value-added forest products businesses in BC. Furthermore, it examines the factors shaping firm-level transformations: the drivers, barriers, and enablers of change.

1.1 Theoretical Background: Defining Transformation

While the phrase "business transformation" is rapidly entering the lexicon among Canadian forest sector industries, it is relatively uncommon within the scholarly literature. This study draws upon a variety of sources to illustrate the concept of transformation, including both the scholarly literature, which does not frequently use the term "transformation" to describe organizational change, and the applied business literature, which does. The scholarly literature about forest products is also considered.

The scholarly business literature offers a variety of definitions and descriptors for the sort of major organizational change discussed in this paper. For example, Barnett & Carroll (1995), quoting Hannan & Freeman (1984), submit that a "core structural change" is one in which a firm makes major changes to its mission, its organizational structure, its technology, or its marketing strategy. Similarly, a case study by Pettigrew (1987) highlights strategic changes intended to improve a multi-national firm's competitive position. These papers consider both *what* types of changes could be considered important (or transformative) as well as *why* the firms are making them (adaptation and/or improvement). Fast-forwarding to 2017, Coleman & Thomas discuss how the change management literature has broadened to include many different types of change, ranging from the developmental (gradual culture and process changes) to the transformational (radical and potentially high-risk).

Furthermore, firms may have a portfolio of several different types of change initiative simultaneously.

The term “transformation” is more common in the applied business literature (i.e., literature written primarily for a practitioner audience). For example, Kotter (1995) describes the goal of a corporate transformation effort as being “to make fundamental changes to how a business is conducted in order to help cope with a new, more challenging market environment.” Several other studies (Butner 2014; Day & Jung 2000; Dewar et al. 2011; Isern, Meaney, & Wilson 2009) describe firm transformations as a process of accelerated change to improve overall performance (productivity and shareholder returns) and create unprecedented competitive advantages. Davidson (1993) defines transformation as a three-phase process, progressing from improving internal processes, to enhancing customer relationships through additional products and services, to transitioning the enhanced products and services into stand-alone businesses.

In the forest products literature, Chambost, McNutt, & Stuart (2008) describe *enterprise transformation* as a two-dimensional “continuum of opportunities” including “inside-out” transformations that are mostly operational in nature and strategic “outside-in” transformations that change “the core mission, vision, as well as the goods and services that are delivered in the marketplace.” (p.20). Similarly, Novotny & Laestadius (2014) describe transformation as a change to a firm’s product portfolio, production technology, and cognitive processes. Work by Cohen & Nikolakis (2013) focuses primarily on strategic change, defining firm-level transformation as a “fundamental shift in a firm’s business model to better compete in an ever-changing business environment.” A change to a firm’s business model could include one or more of four components: a change in organizational structure, operations, products and/or markets, or type of business. The goal of such transformation is “a shift to sustainable profitability” (Cohen & Nikolakis 2013). It must be noted that although all of the executives in the Cohen & Nikolakis studies (2012, 2013) indicated that they were transforming their companies, many offered examples of transformation that did not match the authors’ definition of firm-level transformation as a fundamental shift in business model. Indeed, several described incremental, operational improvements as examples of transformation, suggesting that the term does not share a universal definition.

Like Kotter (1995), Cohen & Nikolakis’s (2013) definitions incorporate an aspect of *why* the change is happening: namely, to adapt to a changing external environment. Chambost et al. (2008) also clearly state, “there is little argument over whether the North American forest products industry is in deep distress.” Although neither paper’s definition of transformation explicitly indicates that firms undergoing transformation are doing so to escape hardship, both introduce the transformation concept within the context of widespread industry change, particularly in the pulp and paper sector.

For an alternative concept to business transformation, one could examine the scholarly literature on business turnaround. Once defined more narrowly as the study of the “decline and recovery in firm performance” (Schendel, Patton, & Riggs 1976) or “how firms reverse firm-threatening performance declines” (Barker & Duhaime 1997), the turnaround literature has grown in scope to include proactive changes in strategy firms may take after the immediate threat to their existence has been avoided (Pearce & Robbins 2008; Braun & Latham 2012; Trahms, Ndofor, & Sirmon 2013). Pearce & Robbins (2008) point out that the term “turnaround” has taken on a pejorative label within the applied management literature, associated with cost-cutting and asset reductions. However, this unpopular cost-cutting component, often referred to as “retrenchment” in the scholarly literature (Robbins & Pearce 1992; Barker & Mone 1994; Barbero, Martínez & Moreno 2018), is described by Braun & Latham (2012) as just one of the “twin engines of turnaround.” The second half of a turnaround effort, according to the authors, should be a repositioning phase. Within the applied literature, “transformation” is a very palatable way of describing this second half of a turnaround effort.

In summary, the scholarly business, applied business, and forest products business literatures provide a broad assortment of viewpoints on business transformation; there is no universal criteria for defining transformation. Given that different players within the forest sector also appear to define industry transformation differently, there is a need for additional exploratory research into how forest sector executives perceive this concept.

1.1.1 Factors that Shape Firm-Level Transformations

Both the scholarly and the applied business management literature provide insights into the factors that shape firm-level transformations. For example, Pettigrew

(1987) ascertains that studies of change in businesses often use three different guiding inquiries. The first seeks to identify the “transformation content,” or answer the question of *what* has changed within the firm. The second line of inquiry centers on identifying the factors triggering major changes across firms (the *why* of the transformation). Third, studies targeted at managers and senior executives often focused on examining the processes and tactics implicit in driving these changes (the *who* and *how* of transformation).

Studies focused on answering *why* firms’ transformations occur have distinguished between the external and internal factors triggering or driving major changes in organizations (Barnett & Carroll 1995; Isern et al. 2009; Kotter 1995; Pätäri, Tuppura, Toppinen, & Korhonen 2016; Pettigrew 1987; Trahms et al. 2013). External factors refer to the social, economic, political, and competitive conditions that activate transformational processes in organizations and in firms. Internal factors include aspects such as the company’s vision, the capacities and skills of the workforce and staff, leadership style and the culture of the organization. The opposite question, *why not*, is also important. For example, Näyhä & Pesonen (2014) describe several cultural barriers to change in forest sector companies. Although each of the above internal and external factors can stimulate change to different degrees, the presence of a visionary leadership and loss of a company’s competitiveness are both factors that are consistently highlighted as major influences for initiating transformations (Butner 2014, Cohen & Nikolakis 2012, Isern et al. 2009, Kotter 1995, Pettigrew 1987, Tice & Evans 2014).

Regarding the *who* and *how* of transformation, much literature emphasizes the role of senior leadership in the design and implementation of transformative initiatives (Kotter 1995, Pettigrew 1987). Pettigrew (1987), for instance, placed senior leadership as a central element in choosing, justifying, and implementing transformational initiatives. Studies in the business management literature underscore the role of corporate leaders and senior executives in deciding the viability of new initiatives (Kaplan & Norton 2008, Mintzberg & Quinn 2002). This high level decision-making process takes place within a firm through both formal and informal strategic planning. Transformative initiatives figure among the new strategies assessed by decision makers.

In summary, in addition to the defining features and content of business transformation, this paper also

examines the drivers, barriers and enablers of change. Although it does not explain the change-planning process in detail, it does discuss the role that leadership plays in enabling change.

2. Methods

2.1 Methodological Approach

The exploratory nature of the specific research objectives (see Section 1) led to the adoption of an inductive type of inquiry to facilitate the discovery and explanations of patterns across the views of different senior executives. The grounded theory method provides a ‘logic framework’ for linking data collection to the formulation of general explanations about executives’ views on forest sector business transformations (Babbie 2004, Charmaz 2006).

This study used semi-structured interviews to elicit the views of industry executives about transformational change in their businesses. As per Flick, von Kardoff, and Steinke (2004), the use of semi-structured interviews enabled the interviewer to balance the dual needs for flexibility and specificity, combining exploratory open-ended questions with confirmatory questions drawn from previous research.

The individual was adopted as the unit of analysis in this study. Although the primary focus of this research was to examine organizations’ transformation, the means to achieve that goal consisted of analyzing the views of individuals (senior executives) who belonged to these organizations. As insiders of forest sector businesses, senior executives can provide an in-depth view of the processes and outcomes of firm-level transformations.

2.2 Selection of Interviewees

The study used purposive sampling to identify individuals who were directly involved in the strategic planning processes of forest sector businesses. The research team recruited senior executives from established British Columbia-based forestry and forest products firms producing a range of different products. These executives’ roles fell into roughly two categories: those executives who prepared detailed proposals for transformation initiatives, and those who initiated, analyzed, and/or decided upon which initiatives to adopt.

The companies in this study included resource producers, such as timberland companies; commodity producers, such as lumber or pulp producers; and value-added producers, such as engineered wood products

and pre-fabricated house producers. Selected companies were in the marketplace for a minimum of 20 years. The rationale for this criterion is that the longer a company has stayed in the marketplace, the higher the probability it has passed through transformational processes in the past. Moreover, the firms and organizations analyzed in the comparable applied business literature often have long trajectories (Butner 2014).

In an effort to broaden the diversity of opinions, the researcher attempted to interview two executives from each firm. The goal in testing the methodology of this exploratory research was to interview between 10 and 15 senior executives or to stop the interviewing process when saturation of new concepts was reached. According to Charmaz (2006), this saturation point is attained when no new descriptive codes or themes are emerging from the analysis of data.

2.3 Data Collection

Ten interviews were conducted in the two-month period between December 2013 and January 2014.¹ Nine of these were conducted in-person and one was done remotely. Of the nine interviews undertaken in-person, seven were held in the offices of the executives and the remaining two were conducted on campus. A web-conferencing service with video streaming was used for the remotely conducted interview. Interviews ranged in duration from 28.4 to 56.1 minutes, with an average length of 37.2 minutes. Each of the ten interviews was recorded and transcribed for analysis.

Data collection was concluded after the tenth interview, for two reasons: the first was the difficulty in scheduling additional interviews with high-level executives; the second was the apparent saturation of concepts after the seventh interview conducted. Although the data obtained from the 10 interviews was sufficient to address the objectives of this exploratory research, it is possible that having a more diverse sample would have revealed additional themes.

2.4 Coding and Analysis

Verbatim transcriptions of each interview were coded line-by-line using the logic of open coding (Coffey & Atkinson 1996). Parallel to the coding exercise, demographic and firm-specific information about the

executives was compiled in an attribute table and cross-indexed with the coded text in order to facilitate the indirect identification of patterns. For example, the type of ownership structure of executives' firms (public or private) and the type of producer they belonged to (resources, commodity or value added) were compared to the coded themes, to see if executives from different types of companies displayed different coding trends. The thematic content analysis tools of the NVivo 10 computer software were used for both the coding and cross-indexing activities.

3. Results

3.1 Research Participants

Ten senior executives from six companies were interviewed for this study. This sample size, although small, facilitated the exploration of a diverse range of views on forest sector business transformation. Table 1 provides a breakdown of the number of executives and details about their positions.

The executives represented three general categories of company: resource (i.e., timberland) management, primary products producers (i.e., lumber and/or pulp/paper manufacturers), and secondary producers (i.e., engineered wood products, secondary manufacturers, etc.) (Table 2). Note that the number of research informants from resource management companies was limited by the number of firms of this type that operate in British

Table 1. Number of executives by position.

Generic position title	Number of executives
Chief Executive Officer-President	2
Chief Financial Officer	1
Senior Vice President	3
Vice President	3
Director	1
Total	10

Table 2. Number of executives interviewed per type of producer (n = 10).

Type of producer	Number of companies	Number of executives
Resource management	1	1
Commodity producer	3	6
Value-added manufacturer	2	3
Total	6	10

¹ In addition to the questions discussed in this paper, interviewees were asked to select their firms' current and potential future products from among a list. This product selection will be summarized in a forthcoming article.

Columbia, due to the high proportion of publicly owned forest land.

All executives provided information about the sector and professional domain of their work experience, as well as the duration of such experience. The executives interviewed were a well-seasoned group: they averaged a total of 29 years of work experience, 24 years of which occurred within the forest sector and 5 years of which occurred in other sectors. The following sections report on the views of senior executives on the topic of forest sector business transformation.²

3.2 What Makes a Change “Transformative?”

A common theme among the executives’ various definitions of firm-level transformation was *the execution of different business strategies that have the objective of delivering significant performance improvement to the firm*. Activities categorized as “transformational” were generally described in relative terms over four dimensions: they were radical in magnitude, had a long-term impact, employed novel or innovative strategies, and were generally triggered by forces external to the company.

For example, all but one of the executives interviewed mentioned that transformation implies producing major changes, large-scale shifts that positively affect the firm’s performance.

(1) We’re always trying to do things better, but we’re also looking for that transformative change, the change that’s really going to make a difference, like a step change.

(5) We’ve added a whole new revenue stream to our organization... We’ve been able to successfully transform, grow, develop, radically change our organization and how it’s perceived in the marketplace. It is a complete change in production.

However, three of the executives who linked transformation with producing major changes also linked transformation to executing minor changes in the structure of the firm. To these executives, transforming can be “a little or a big thing” (7).

(10) So for us it [transformation] comes in many different forms. So it’s little innovations or transformations that happen on the shop floor trying to get all of our team members engaged in what they can do differently and how can we be slightly more efficient or slightly more productive. So those are minor transformations, minor innovations.

3.2.1 Strategies for Transformation

Although all executives described transformative change as having significant impact, the means of achieving it could be either strategic or operational in nature. Analysis of the interview transcripts classified responses into seven different business strategies for forest sector firms to radically improve their competitiveness. In order of frequency of mention, they were:

- Improve operational efficiency (mentioned by 9 out of 10 executives);
- Diversify the product mix (8 executives);
- Enter the bio-economy (5 executives);
- Expand into new markets (4 executives);
- Diversify the geographic base of operations (3 executives);
- Implement a more customer-driven focus (3 executives); and
- Grow the size of the firm (3 executives).

The most frequently mentioned means of transforming a business was to increase operational efficiency, for example, through manufacturing, energy use, or supply chain improvements. However, although nine of the ten³ executives highlighted improving efficiency and reducing costs as important to business transformation, eight of the nine also highlighted that this path is *only one component* of delivering performance improvements. For these executives, in order to create sustained competitive advantages, it is necessary to combine operational efficiency focuses with other transformational paths, such as diversifying the mix of products or penetrating new markets.⁴

² These views are reported anonymously; however, each executive was randomly assigned a number from 1 to 10 in order to facilitate the data analysis. The numbers in parentheses at the beginning of the excerpted interview quotes indicate the response of a specific senior executive.

³ Interestingly, the one executive who did say operational efficiency was a means to achieve transformation specifically mentioned that it was not transformational.

⁴ Within the forest sector, “new markets” could mean either new geographic markets or new market segments. For example, a softwood lumber producer could begin supplying the unique grades of lumber and specific logistics required by the do-it-yourself home center segment.

The second most commonly mentioned strategy carried a greater degree of risk. The transformational path “diversifying the product mix of the company” was one of the more dramatic strategic changes mentioned. As explained by the executives, this consisted of adding new revenue streams to the company by producing and commercializing new products. The examples provided by executives include the adoption of products already being traded by other forest sector businesses in BC, as well as some products that were traditionally outside the forest products sector (i.e., new engineered products or bio-chemicals). Executives’ interests in adopting new products varied from one company to another, but were similar between executives from the same company.

The third most commonly mentioned strategy for transformation was “enter the bio-economy.” Executives saw this transformation happening in their firms on two fronts. Firstly, the changes could focus on the production of forest-based energy, including bio-energy products such as biomass-fueled electrical power or wood-based biofuels, and renewable energy initiatives such as solar panels, windmills, or geothermal stations. The second front of this transformational path relates to the production of various emerging bio-products and bio-materials. Executives highlighted the relevance of upgrading the kraft pulp model in order to further refine pulp byproducts into new materials.

There was considerable variation in opinion across the sample of executives, depending on which types of products their firms manufactured (resources, commodities or value added). For instance, the transformational paths “customer-driven focus” and “market diversification” were mentioned almost solely by executives in value-added and commodity producers, respectively. On the other hand, the transformational paths “operational efficiency” and “diversifying product mix” were the only two paths mentioned by all types of executives.

3.3 Factors Shaping Transformation

The executives were asked the following questions regarding the factors influencing firm-level transformation:

- In your company, what (if any) are the major factors **driving** business transformation?
- What **risks** or **barriers** do you see in the way of transforming your company?
- What would **facilitate (or enable)** business transformation in your view?

The change drivers could be grouped into two general themes, depending on the type of change resulting from them. Just as the executives indicated that transformation could be either a radical change or a series of gradual improvements, the change drivers included those that prompted strategic or disruptive changes, and others that nudged more incremental changes. Firms undertook strategic changes to address changes in their external business environment; meanwhile, they made frequent operational improvements in order to retain everyday competitiveness.

An interesting pattern emerged when organizing the barriers and enablers into themes: over half of the themes either were mentioned in more than one category, or had a corresponding opposite theme. For example, government regulation could be seen as either a barrier or an enabler of transformation efforts, depending on its effectiveness. Similarly, although executives frequently

Table 3. Summary of factors shaping firm-level transformation.

Factors Shaping Firm-Level Transformation	
Drivers	
Strategic Change	
<ul style="list-style-type: none"> • New business opportunities • • Product substitution • 	
Continuous Improvement	
<ul style="list-style-type: none"> • Competition • • Market volatility • • Capital-intensive production • 	
Barriers	Enablers
Risk-related	
<ul style="list-style-type: none"> • Hard to forecast new products • • Large project scale • 	<ul style="list-style-type: none"> • Running pilot trials • • Benchmarking • • Collaboration • • Identification of right timing • • Long-term perspective •
Resources	
<ul style="list-style-type: none"> • Capital • • Trained personnel • • Infrastructure • 	
Leadership	
<ul style="list-style-type: none"> • Values, principles and culture • • Flexibility • • Risk tolerance • • Support of corporate board • 	
Attitudes Toward Change	
<ul style="list-style-type: none"> • Negative attitudes 	<ul style="list-style-type: none"> • Entrepreneurial mindset •
Government Policy	
<ul style="list-style-type: none"> • Legislation • • Incentive programs • 	

expressed frustration over their employees' or managers' resistance to change, several indicated that a change-welcoming or entrepreneurial mindset could be change enabler. Because the same themes often emerged twice, the results have been organized not into barriers and enablers (which would be repetitive) but rather into the themes risk, access to resources, leadership, attitudes toward change, and government policy (Table 3).

Much of the variation of responses between executives from different firms could be attributed to whether the firms were publicly or privately owned. Both goals and challenges tended to differ: what is seen as an issue in a public firm may not be seen as such in a private firm, and vice versa. For example, three barriers (difficulties making projections, limited risk tolerance, and constrained resources) were referred to exclusively by the six executives representing public firms. In contrast, three different barriers were mentioned solely by the four executives representing private companies: skills and training, lack of a research and development culture, and ineffective collaboration.

3.3.1 Drivers of Strategic Change

When firms made strategic changes, such as changes to product offerings, it was most commonly in response to changes in their external business environments. Such change drivers could be interpreted not just as threats, but also as opportunities; indeed, the emergence of new business opportunities was the most commonly cited driver of business transformation, mentioned by all ten executives interviewed. Forest products firms often initiate transformative processes to take advantage of rapidly emerging products and markets. The use of wood residuals and pulp byproducts to produce energy were examples given by executives of growing business applications triggering major changes in their firms.

(9) Talking about that waste that you have in the log that maybe ten years ago was considered waste and was actually a bit of an irritant, is now an opportunity. There is a developing business for that, rapidly developing business for that around the world. So really, we're in a business now where 100% of that log could be utilized in a commercial way.

Likewise, product substitution is another driving force of forest business transformation. In particular, the rise of electronic media has resulted in a decline of traditional print media, which has in turn reduced the demand for certain types of printing and writing paper.

On the other hand, the possibility of using wood products as a substitute of non-wood materials is also triggering a pro-wood transformation. Executives mentioned examples that illustrate the potential for using wood products as a replacement of other materials, such as glulam replacing concrete.

3.3.2 Drivers of Continuous Improvement

A common characteristic of many mature industries is an ever-challenging business environment. Tight competition, market volatility, and capital-intensive production all pressure forest sector businesses to find better ways of delivering value.

Eight executives emphasized the high level of competition that characterizes the forest products sector in British Columbia as a major driver of continuous operational improvement. For example, the solid wood subsector can have lower barriers to entry compared to other manufacturing industries. Also, competitors can quickly adopt the processes and technologies of the leading firms. As a result, these leading firms often need to find alternative ways of delivering value.

Nine executives perceived volatility as an important driver of operational change. Forest sector companies can be exposed to global economic cycles, changing climatic conditions, currency fluctuations, geopolitical risks and many other factors that are beyond their control. The presence of these factors can affect the competitive position of a firm, eventually forcing the senior leadership to initiate transformative processes in the firm.

(8) Take a look at the volatility of a commodity business, which lumber and pulp both are ... We have had exposure in the past to economic cycles and we want to minimize that exposure going forward or at least have it, so that in the bottom troughs of cycles that we still continue to generate positive cash flow, versus depleting our cash reserves.

Eluding stagnant returns is another driver of transformation. Seven executives referred to this driver as the need to deliver outstanding performance in order to continue attracting investment into their companies. This particular driver was of particular relevance to publicly traded companies.

3.3.3 Risk-Related Barriers and Mitigating Enablers

Planning and implementing a successful transformational change initiative can be a challenging proposition, especially if the change is rapid rather than incremental.

Executives indicated that they face constraints in developing forecasts for the execution of transformative initiatives. For example, the difficulties associated with creating future scenarios are attributed to highly unpredictable business environments and to the absence of historical trends of entrant products.

(4) The model doesn't compute because it is new. It's not like, for example, putting in a new power generation. You understand the variables and you know the standard deviations in sort of the risk. Something transformative, you can estimate it but....

Two executives highlighted the large project scale that characterizes many transformational initiatives. The risks that accompany transformations (in terms of the size of the investment) can leave little margin of error when adjusting for deviations. This condition often impedes initiating transformational processes in forest products firms.

(8) When you move from lab to a pilot plant, to a demo plant, to a full-scale operation, those full-scale operations will take hundreds of millions of dollars. So, you can't afford to make too many mistakes around those.

Nevertheless, firms have multiple tools for easing the risk inherent in making a transformational change: running pilot trials, benchmarking, collaboration, identifying the right timing for the change, and taking a long-term perspective. Executives underscored the importance of piloting⁵ new products and/or technologies prior to scaling up transformative projects, enabling them to select only those potential projects that have attractive risk-reward relationships. The practice of benchmarking competitors' products and technologies can help a team leading a transformation effort accelerate the design stage by focusing on technologies and products already tested by their competitors in other jurisdictions. The creation of a collaborative support network can help companies identify new business solutions and assess new technologies (R&D networking). Moreover, executives underscored that business partnerships can help reduce the risks associated with moving into unfamiliar commercial areas.

Inherent in adapting to a changing marketplace was the need to identify the right timing for transformation initiatives. The executives described being an 'early

mover' as an instrumental factor in transforming their companies. This is particularly relevant in transformations that involve asset purchases or the adoption of new technologies.

(7) You can transform a company, taking advantage of an expectation that things will get better and the sooner you can anticipate both directions going down the wave or going up the wave, the sooner you can anticipate those things, the better you are prepared to take advantage.

The challenges inherent to implementing transformative change initiatives can be lessened in part by adopting a long-term perspective according to executives. When senior managers and the board of directors adopt a long-term view, it can become easier to prioritize transformative initiatives. In addition, having a long-term view can foster the discipline to continue implementing transformational projects up to their final stage, despite not achieving attractive performance improvements in the short-term.

3.3.4 Access to Resources

Another barrier to transformation was the limited resources that companies often had available for driving transformation efforts. The most frequently mentioned resource was capital. Executives underscored that although not all the transformative changes are capital-intensive, the absence of an appropriate capital structure for financing transformative initiatives can limit transformation efforts. Some executives even commented that not having the right capital had been a decisive factor in halting transformational processes in the past.

(7) In transformation in terms of growing the company, capital is always a constraint. So capital is precious. It's something that you don't stumble upon. It's something you have to earn. To be able to borrow from a bank and to be able to have your shareholders invest in the company, you have to earn that right.

Personnel and infrastructure are also required for executing transformative initiatives. Executives mentioned existing technological limitations (i.e., for biomass densification or catalytic/thermal conversion of biomass), as well as the need to upgrade their IT support infrastructure. Similarly, the skillset and training of the workforce (including the senior management) can sometimes inhibit transformation efforts, especially when the transformative initiatives deal with unexplored commercial areas.

⁵ Here, a pilot is defined as a small-scale test of the production process in an environment that closely mimics the actual business situation.

According to senior executives, attracting the right people to the organization can make a difference to achieving successful transformations. When firms embark on transformative processes, they need people with the specific skills and expertise necessary to deliver the changes. Some executives emphasized that the risks of not keeping up to the pace of changes are higher if companies are unable to hire personnel with new skills.

Providing the proper equipment and training to the company's workforce is also a factor contributing to successful transformations according to five of the executives. One commented that a well-designed transformational plan could become ineffective without the personnel who can "extract value of the equipment ... and [who] can make it run."

3.3.5 The Role of Effective Leadership in Enabling Change

Aspects of company leadership were cited as one of the most critical factors shaping firm-level transformation. In particular, the values or principles imparted by the senior leadership were seen as a fundamental aspect defining the organizational culture of a forest products firm. The executives referred to such values as influential behavioral factors as well as guiding principles in the decision-making process.

(7) The skills are important, yes, but it's more about the culture of the company and having your core values rooted and everybody knowing what the vision of the company is. The company has an absolute clear vision and with that vision, we have our core values and everybody in the company knows what the company is all about.

Two major dimensions of executives' leadership style were the leaders' flexibility (willingness to modify their strategy), and their risk tolerance in decision-making. Corporate leaders must balance the need for strategic consistency with the need to be open to proposals that may not match the current strategy. Similarly, the interviewees' project risk tolerance varied. For instance, five executives expressed concerns at not being able to recover the capital required for transformative projects within the projected timelines.

For senior executives, having the support of the board of directors for proposing and implementing transformative initiatives was an important transformation enabler. A supportive board of directors and CEO of the company can not only facilitate the startup of transformational

projects but can also clear the path to reach the final stage of these projects.

3.3.6 Attitudes Toward Change

A frequently-mentioned barrier to transformation was employees' attitudes towards change. According to the executives, the different mentalities and individual objectives of the people working in a company sometimes are incompatible with the transformational goals. One executive underscored that the resistance to change among senior managers and technical staff can represent significant barriers to transformation. Another executive stated that the real challenge of executing transformation consists of stepping people out of their "comfort zone."

(1) It has so much to do with people. Imagine [an executive] who is just sort of "okay." [He is] making his paycheck, [he] is five years from retirement. Everything is good. Are you going to stick your neck on the line and go merge your company with somebody else or take on a major initiative?

Conversely, all but one executive acknowledged the role of encouraging an entrepreneurial mindset in the company as an essential factor facilitating transformational change. The executives described this transformation enabler as allowing the employees from all levels of the organization to constantly search for new initiatives and business solutions. New ideas could be spotted from almost any source, including from within the company (i.e., other divisions), competitors, suppliers, distributors of end products, previous and research work, among many other sources.

(6) You have to constantly look. What are people doing? What are people doing better than us? What's an opportunity that's out there that we can take advantage [of] with our equipment and our expertise? And you got to have that mindset, of always scanning the horizon for those opportunities.

3.3.7 Government Policy

Legislation and government support have the potential to either enable or inhibit transformation, particularly in the areas of building codes, immigration programs for hiring skilled workers, tenure and stumpage systems, and transportation perimeters in forestlands, among others.

On the enabling side, executives acknowledged the suitability of recent government programs, some of them designed exclusively to stimulate transformation

of the forest sector. For example, the federal “Green Transformation Program” provided cash contributions and government grants to forest products firms. Executives indicated that these grants helped firms undergoing transformation to reduce the risks associated with large capital expenditures. Other supportive policies included the Canadian government’s efforts to establish free trade agreements with Asian countries as a means of fostering market diversification.

Conversely, some executives considered that there is a substantial gap between the resources committed by the government and the needs/potential for assistance. The gap was mostly identified at the provincial rather than at the federal level.

- (4) The province should be investing in transformation and innovation on a scale that is commensurate with the size of their resource. And you know, they’re not even in the solar system in terms [of support].

3.4 Results Summary

The emerging definition of firm-level transformation as *“the execution of different business strategies that have the objective of delivering significant performance improvement to the firm”* reflects the executives’ relative agreement on the “why” of transformation versus their variety of ideas as to the “how”. A transformative change can be large or small, all-at-once or incremental, and strategic or operational. Indeed, of the seven different strategies that executives identified for transforming their firms, the most referred to, “improve operational efficiency”, was incremental and operational in nature, whereas the next two, “diversify the product mix” and “enter the bioeconomy”, were more strategic in focus. Furthermore, executives stressed that transformational initiatives often contained multiple strategies at once.

Just as transformations can be either rapid or incremental, the drivers of transformation identified by the executives can be classified as either major external events triggering strategic changes, or as on-going challenges driving the need for continuous, operational improvement. Barriers and enablers to transformation often represented two sides of the same coin: risks vs. mitigation strategies, access (or lack of access) to resources, positive or negative attitudes, and government policies that either help or hinder. Leadership in particular stands out as an enabler, because it can create a culture for change.

4. Discussion

The following section discusses how executives’ definitions of transformation, and their views about its drivers, barriers, and enablers, reflect the extant business and forestry literature.

4.1 A Broad Definition of “Transformation”

This study showed that although many organizations are talking about transformation, they do not all define it the same way. The executives interviewed in this study expressed divergent views about the nature of forest business transformations in BC: while most of them agreed that a change ought to have a significant long-term impact on firm performance in order to be qualified as “transformational”, the actual content of such a change could include a very broad range of activities. This trend mirrors the findings of Cohen & Nikolakis’s (2013) study of forest sector firms in North America and northern Europe, in which executives considered a much broader range of activities to be “transformational” than a contrasting sample of forest sector experts consisting of former executives, government official and researchers did. The business literature displays a similar diversity of opinion about change activities: while several organizational change studies have identified activities that are frequently considered to be “core structural changes” (Amburgey, Kelly, & Barnett 1993; Barnett 1994; Hannan 2005; Hannan & Freeman 1984), Barnett & Carroll (1995) pointed out that such studies should be carefully interpreted, given that the changes that were deemed as core in some of these studies are assessed as peripheral or minor in others.

In the context of this study, “firm performance” primarily refers to financial performance. However, the executives also occasionally touched on aspects of performance that could lead to improved financial results, such as company culture and reputation. For example, an executive quoted in Section 3.2 commented that their company’s new revenue stream would “...radically change our organization and how it’s perceived in the marketplace...” There were few references to changes to other types of performance, such as environmental performance. This focus on financial improvement over other types of change does not necessarily mean that culture or the environment are unimportant to executives; instead, it is more likely indicative of the pressure on firms’ financial results at the time the survey was conducted.

4.1.1 Identifying the Boundaries of a Transformational Change

The results of this study reflect a relatively recent shift in the scholarly literature regarding the observable boundaries of transformational change initiatives. Whereas organizational change studies from the 1980s and 1990s often adopted a linear approach to defining and measuring the impacts of firm-level transformations, more recent studies tend to recognize that firms may work on several overlapping change activities simultaneously (Coleman & Thomas 2017). When following a linear approach, the transformation content is identified by comparing the structure of the firm at two points in time: a pre-transformation moment (t_0) and a post-transformation (t_1) (Barnett & Carroll 1995, Barnett 1994, Pettigrew 1987). In contrast, senior executives in this study referred to the transforming process as cyclical and iterative rather than linear, a definition more aligned to Coleman & Thomas (2017).

To most executives in our study, the outset and completion of transformational processes are elements that cannot always be directly identified. Senior managers sometimes initiate a business initiative without having the certainty that it will produce transformative changes in the firm; such initiatives may be labeled as “transformational” only post-intervention. Similarly, most executives had difficulties identifying the completion of transforming processes, given that the implementation of a single transformational strategy often triggers additional changes in the firm. Furthermore, having two or more simultaneous transformational strategies can make identifying the overall conclusion of a transforming process quite complex.

4.1.2 A Hierarchy of Transformational Strategies

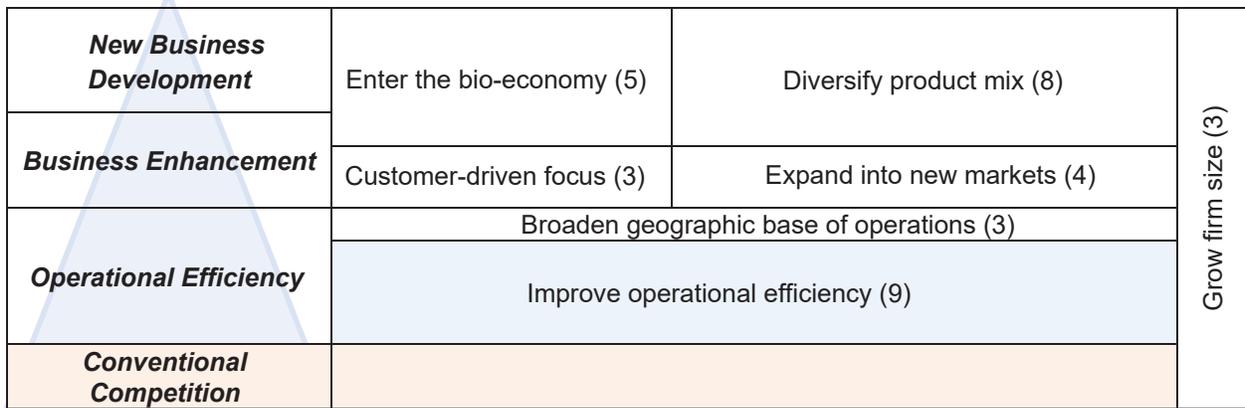
Studies on business transformation suggest that the transformation initiatives can be categorized according to their impact on the business. Cohen & Nikolakis (2013) have adapted a model by Davidson (1993) to illustrate the hierarchy of transformational strategies employed by forest sector firms (Figure 1). Davidson (1993) describes three phases of transformation, moving along a continuum from inward-facing, low-risk change to more outward-facing, high-risk change. Cohen & Nikolakis (2013) add a base to the pyramid: the “conventional competition” phase describes the day-to-day improvements made to remain competitive in an ever-changing business environment. The first step upwards,



Figure 1. Four phases of firm-level transformation (from Cohen & Nikolakis 2013).

as the firm strives for operational excellence within its internal operations, is termed “operational efficiency.” Next, a firm may look for additional customers or suppliers to expand its business, and/or sell related products or services within its existing supply chain. This step is called “business enhancement.” The third and riskiest step is to make the leap to selling different products, to a different clientele. This step is referred to as “new business development.”

The seven transformational strategies highlighted in our study roughly correspond to the different levels of Cohen & Nikolakis’s model (Figure 2), suggesting that this model may indeed be a useful tool for describing transformational initiatives in this context. Nevertheless, the pyramidal shape of the model should be interpreted cautiously: although the relative size and position of the layers on the pyramid suggest a hierarchy among the phases of transformation, the actual frequency and/or importance of the different phases may vary. For example, the most frequently mentioned strategy, “improve operational efficiency”, corresponds with the “operational efficiency” layer on the Cohen & Nikolakis (2013) pyramid – what might be expected, given its place at the base of the pyramid. However, the next most commonly-mentioned strategies, “diversify the product mix” and “enter the bio-economy” straddle the upper two levels of the pyramid. A strict interpretation of the model might suggest that these two strategies should occur less frequently. Still, findings of this study reflect that the frequency of mention of the various transformational strategies is not necessarily a definitive indicator of their relative importance.



New Business Development	Enter the bio-economy (5)	Diversify product mix (8)	Grow firm size (3)
Business Enhancement	Customer-driven focus (3)	Expand into new markets (4)	
Operational Efficiency	Broaden geographic base of operations (3)		
	Improve operational efficiency (9)		
Conventional Competition			

Figure 2. Seven transformational strategies visualized.

The key ideas resulting from this discussion are two-fold. First, according to the executives, a change does not necessarily need to be a strategic “core structural change” (as per Hannan & Freeman 1984) or “fundamental shift in a firm’s business model” (as per Cohen & Nikolakis 2013) in order to have a transformational impact on the business. Instead, Chambost et al.’s (2008) concept of transformation as either “inside-out” or “outside-in” may be more relevant in a forest sector context, as may Novotny & Laestadius’s (2014) description of transformation as a change to a firm’s product portfolio, production technology, or cognitive process. Indeed, operational improvement is essential for maintaining competitiveness, especially in a mature industry such as the forest sector.

The second important take-away is that executives stress the importance of exploring more than one strategy simultaneously. Applying this realization to the pyramid model, “higher-level” (i.e., new business development or business enhancement) would typically occur at the same time as operational efficiency improvements, and vice versa.

4.2 Influential Forces Triggering Transformation Initiatives

The results of this study revealed a number of factors triggering transformation initiatives in BC forest sector businesses. The factors or drivers of transformations identified in this study lend support to the findings of previous research in the fields of business transformation and organizational change. For example, Barnett & Carroll (1995) distinguished between external and internal forces driving changes in firms. All but one of

the transformation drivers identified in our study qualify as external forces (see Section 3.2). This predominance of external forces triggering transformations in BC forest sector businesses concurs with the prevalence of external drivers of change identified in previous studies of firm-level transformation (Cohen & Nikolakis 2013, Isern et al. 2009, Kotter 1995). Moreover, the business turnaround literature also clearly delineates between external and internal causes of business decline (Pearce & Robbins 1993, Trahms et al. 2013). The internal driver “eluding stagnant returns” described in this paper could be interpreted as another way of saying, “enabling a financial turnaround.” In the particular context of the forest sector, Cohen & Nikolakis (2013) identified that all executives from their sample of 33 forest products firms associated the emergence of transformative initiatives with responses to external pressures.

4.3 Barriers to and Enablers of Transformational Change

Several of the risk/barrier themes in this study matched themes identified in the literature. For example, access to capital, employee recruitment and training, and attitudes toward change were also discussed by Davidson (1993) and Cohen & Nikolakis (2013). Likewise, Grace, Nelson, & Kozak (2018) stressed the need for management skills training for BC-based small- and medium-sized forest products businesses. Enablers related to leadership (such as the importance of defining and communicating a firm’s values and gaining the support of the board of directors) and risk mitigation (such as collaboration, timing, and a long-term perspective) were reflected in several

examples of the applied literature (Blackburn, Wood, Ryerson, Weiss, & Wilson 2011; Day & Jung 2000; Kotter & Schlesinger 2008; Kotter 1995). This is not surprising, as due to its practitioner-oriented focus, the applied literature tends to focus on themes such as change leadership. The central role of the organizational culture in the execution of successful corporate transformations was another theme common to both the executives' responses and several applied studies (Day & Jung 2000, Kotter & Schlesinger 2008, Kotter 1995).

The results of this research suggest the presence of patterns between the different types of barriers and the characteristics of firms. For example, the firms' size, ownership structure (private versus public), and product offerings all tended to influence which barriers their respective executives highlighted as most important. Executives representing firms that were relatively larger, publicly owned, or selling commodity products tended to be more concerned about capital availability and risk than those that represented smaller, privately held, or value-added firms. With a small and geographically limited sample, this exploratory research was limited in its ability to determine if these trends are indicative of the forest sector as a whole. Additional research with a larger sample could confirm the patterns identified in this study, as well as formulating a set of policy recommendations to address common barriers to transformation.

4.4 Unanswered Questions for Future Research

This study has shown that BC-based forest sector firms are responding to a variety of different external and internal forces in a variety of different ways – some of which are operational, and others of which involve changes to products, markets, and business lines. This is in line with how Davidson (1993) and Cohen & Nikolakis (2013) suggest firms should transform their businesses. Indeed, the insights gained from this qualitative study of BC-based executives have much in common with the insights gleaned from Cohen & Nikolakis's (2013) primarily quantitative study of executives in North American and northern Europe. A complementary study examining a different source of information (such as forest sector literature) and/or using a different methodology (such as content analysis or a survey) would be useful for further triangulating the results.

A second question concerns whether the responses received are indicative of the BC forest products sector as

it would normally operate, or if they instead represented an atypical snapshot in time during a period of change. Future studies could include a longitudinal component or ask respondents to reflect on changes over time.

Further empirical studies could strengthen and expand upon the conclusions of this exploratory paper by including a larger and more diverse sample of participants. Involving participants from a broader geographic area would clarify whether the results of this study are regional in nature, or whether they represent a wider global trend. Including a broader range of stakeholders (i.e., other than forest sector executives) might more accurately reflect the diversity of opinion regarding the meaning of firm-level transformations.

The interviews upon which this paper is based were completed in early 2014. While the authors do not believe the respondents' overall concept of transformation will have changed between then and 2019, it is possible that the respondents' priorities may have shifted. One of the interview questions asked the respondents to identify which products they might make in the future. The authors plan to do follow-up interviews before publishing this information in a future study.

4.5 Study Limitations

The nature of this study is exploratory and qualitative; therefore, its findings cannot be generalized to explain transformational changes of companies beyond the ones analyzed here. The small and geographically limited sample further limits the degree to which the results of this study can be used to infer trends in the forest sector globally. However, the results of this study open new research avenues to continue analyzing firm-level transformations with larger and more geographically diverse samples.

Additionally, most of the questions and topics covered in the interviews dealt with commercially sensitive information about the executives' firms. This information was treated with extreme caution, which in many occasions limited how the findings and patterns could be presented.

5. Conclusions

Business transformation has emerged as a popular catchphrase among forest sector practitioners, the applied business literature, and the scholarly business management and forest products literatures. This study sought to identify how forest sector executives define and describe

the concept of business transformation. It found that the executives' perception of this frequently discussed topic differed from both the implicit definitions of government and industry associations and many of the explicit definitions in the literature.

In aggregate, the BC-based executives interviewed in this study defined firm-level transformation as the execution of different business strategies that have the objective of delivering significant performance improvement to the firm. In other words, what made a change "transformative" was not the type of actions taken, but rather the long-term results. Although change activities generally needed to be innovative in nature and radical in scale to be considered transformative, there was no one specific path to transformation. Indeed, changes could fall anywhere on a spectrum between incremental, operational improvements and large-scale strategic initiatives. Often, firms undertook more than one type of change at once.

The fact that the executives interviewed in this study had a broad definition of transformational change has implications for different groups of people. For forest sector practitioners, the awareness that there may be subtle differences between employment sectors (i.e., industry, industry associations, government, etc.) regarding the concept of transformation could help enable clearer cross-sectoral communication. For researchers, the discovery that practitioners in the forest sector often consider operational (as opposed to strategic) changes to be transformative may challenge the current orthodoxy about transformative change and stimulate new research. Future studies with a larger and geographically broader sample could further explore the relative occurrence and importance of the different strategies and challenges identified in this paper.

6. References

- Amburgey, T.L., Kelly, D., & Barnett, W.P. (1993). Resetting the clock: The dynamics of organizational change and failure. *Administrative Science Quarterly* 38(1), 51–73.
- Babbie, E.R. (2004). *The Practice of Social Research* (10th ed., p. 640). Belmont, CA: Tomson/Wadsworth.
- Barbero, J.L., Martínez, J.A., & Moreno, A.M. (2018). Should declining firms be aggressive during the retrenchment process? *Journal of Management* XX(X), 1–32. <https://doi.org/10.1177/0149206318811563>
- Barker, V.L.L., & Duhaimé, I.M. (1997). Strategic change in the turnaround process: Theory and empirical evidence. *Strategic Management Journal* 18(1), 13–38. Retrieved from <http://www.jstor.org/stable/3088193>.
- Barker, V.L., & Mone, M.A. (1994). Retrenchment: Cause of turnaround or consequence of decline? *Strategic Management Journal*, 15(5), 395–405. <http://doi.org/10.1002/smj.4250150506>
- Barnett, W.P. (1994). The liability of collective action: growth and change among early telephone companies. *Community Evolution* 337–354.
- Barnett, W.P., & Carroll, G.R. (1995). Modeling internal organizational change. *Annual Review of Sociology* 21(1995), 217–236.
- BC Lumber Trade Council (2017). *Industry Facts*. Retrieved from <https://bclumbertrade.com/facts>
- Berg, P., & Lingqvist, O. (2017). *Pulp, Paper, and packaging in the next decade: Transformational change*. Retrieved June 26, 2018, from <https://www.mckinsey.com/industries/paper-and-forest-products/our-insights/pulp-paper-and-packaging-in-the-next-decade-transformational-change>
- Blackburn, S., Wood, C., Ryerson, S., Weiss, L., & Wilson, S. (2011). How do I implement complex change at scale? *McKinsey and Company* (Insights into organization), 12.
- Bogdanski, B.E.C. (2014). The rise and fall of the Canadian pulp and paper sector. *The Forestry Chronicle* 90(December), 785–793.
- Braun, M., & Latham, S. (2012). Pulling off the comeback: shrink, expand, neither, both? *Journal of Business Strategy* 33(3), 13–21. <http://doi.org/10.1108/02756661211224960>
- Butner, K. (2014). Creating a smarter enterprise: The science of transformation. *IBM Global Business Services* (Executive Report March), 24.
- Chambost, V., McNutt, J., & Stuart, P.R. (2008). Guided tour: Implementing the forest biorefinery (FBR) at existing pulp and paper mills. *Pulp and Paper Canada* 109(7–8), 19–27.
- Charmaz, K. (2006). *Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis*. California: Sage Publications Ltd., Thousand Oaks.
- Coffey, A., & Atkinson, P. (1996). *Making sense of qualitative data: Complementary research strategies* (1 edition, p. 216). SAGE Publications, Inc.
- Cohen, D., & Nikolakis, W. (2012). *Business Transformation for the Canadian Forest Sector*. Working paper prepared for the Canadian Forest Service, Economics Branch. (p. 15).
- Cohen, D., & Nikolakis, W. (2013). *Changing Gears: Insight on Transformation in the North American and European Forest Sector* (Webinar). Vancouver. Retrieved from <http://mediasitemob1.mediagroup.ubc.ca/Mediasite/Play/f4869f807e-4840d1a602c9c1d43dcc641d>
- Coleman, S., and Thomas, B. (2017). Introduction. In S. Coleman and B. Thomas (eds.) *Organizational Change Explained* (pp. 1–28). London: Kogan Page.
- Davidson, W. H. (1993). Beyond re-engineering : The three phases of business transformation. *IBM Systems Journal* 32(1), 65–79.
- Day, J.D., & Jung, M. (2000). Transformation Without a Crisis. *McKinsey and Company* (McKinsey Quarterly Number 4), 11.
- Dewar, C., Blackburn, S., Nielsen, A.B., Irons, E., Scott, K., Meaney, M., ... Wood, C. (2011). How do I transform my organization's performance? *McKinsey and Company* (Organization Practice June), 15.
- Flick, U., von Kardoff, E., & Steinke, I. (2004). *A Companion to Qualitative Research* (p. 432). SAGE.
- Forest Products Association of Canada (2015). *Forest Industry Applauds Committee Report on Transformation of Sector*. Retrieved from <http://www.fpac.ca/forest-industry-applauds-committee-report-on-transformation-of-sector/>.
- Given, L.M. (Ed.). (2008). *The SAGE encyclopedia of qualitative re-*

- search methods. Thousand Oaks, CA: SAGE Publications, Inc. Retrieved from SAGE knowledge. Web. 13 Mar. 2014.
- Government of British Columbia. (2015). *Responding to the Impacts of the 1999-2015 Mountain Pine Beetle Outbreak*. Retrieved from <https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/forest-health/forest-pests/bark-beetles/mountain-pine-beetle/responding-to-the-1999-2015-outbreak>
- Grace, P., Nelson, H., & Kozak, R. (2018). Understanding SME success in the value-added forest products sector: Insights from British Columbia. *Bioproducts Business* 3(9), 107–117.
- Hannan, M. (2005). Ecologies of organizations: Diversity and identity. *Journal of Economic Perspectives* 19(1), 51–70. doi:10.1257/0895330053147985
- Hannan, M., & Freeman, J. (1984). Structural inertia and organizational change. *American Sociological Review* 49(2), 149–164.
- Hansen, E. (2014). Innovativeness in the face of decline: Performance implications. *International Journal of Innovation Management* 18(05), 1450039. <http://doi.org/10.1142/S136391961450039X>.
- Hetemäki, L., & Hurmekoski, E. (2016). Forest products markets under change: Review and research implications. *Current Forestry Reports* 2(3), 177–188. <http://doi.org/10.1007/s40725-016-0042-z>
- Isern, J., Meaney, M.C., & Wilson, S. (2009). Corporate Transformation Under Pressure. *McKinsey and Company* (Voices of Transformation 3), 10.
- Jonsson, R. (2011). Trends and possible future developments in global forest-product markets-implications for the Swedish forest sector. *Forests* 2(1), 147–167. <http://doi.org/10.3390/f2010147>.
- Kaplan, R.S., & Norton, D.P. (2008). *The Execution Premium: Linking Strategy to Operations for Competitive Advantage* (1st ed., p. 336). Harvard Business Review Press.
- Kotter, J.P. (1995). Leading change: Why transformation efforts fail. *Harvard Business Review* (March-April), 59–67.
- Kotter, J.P., & Schlesinger, L.A. (2008). Choosing strategies for change. *Harvard Business Review* 86(7/8)(July-August), 130–139.
- MFLNRO. (2009). *Moving Toward a High Value, Globally Competitive, Sustainable Forest Industry* (p. 54). Retrieved from http://www.for.gov.bc.ca/mof/forestry_roundtable/
- Mintzberg, H., & Quinn, J.B. (2002). *The Strategy Process: Concepts, Context and Cases* (4 edition, p. 489). Prentice Hall.
- Natural Resources Canada. (2014). Innovation: Squeezing more value from trees (March, 2014). *Canadian Forest Sector web site*. Retrieved May 12, 2014, from <http://www.nrcan.gc.ca/forests/innovation/13331>
- Natural Resources Canada. (2016). *Pulp and Paper Green Transformation Program: Mission accomplished*. Retrieved from <https://www.nrcan.gc.ca/forests/federal-programs/13141>.
- Natural Resources Canada. (2018). Investments in Forest Industry Transformation (IFIT). Retrieved from <https://www.nrcan.gc.ca/forests/federal-programs/13139>.
- Näyhä, A., & Pesonen, H.-L. (2014). Strategic change in the forest industry towards the biorefining business. *Technological Forecasting and Social Change* 81, 259–271. <http://doi.org/10.1016/j.techfore.2013.04.014>
- Novotny, M., & Laestadius, S. (2014). Beyond papermaking: technology and market shifts for wood-based biomass industries - management implications for large-scale industries. *Technology Analysis and Strategic Management* 26(8), 875–891. <http://doi.org/10.1080/09537325.2014.912789>
- Palma, C., Bull, G., Goodison, A., & Northway, S. (2010). Scenario Analysis: The Traditional and Emerging Canadian Forest Industry. *FPAC Website* (White paper (November 2010)), 29. Retrieved from http://www.fpac.ca/publications/Biopathways_WhitePaper-Scenario-Analysis_FINAL_Palma_et_al.pdf
- Panwar, R., Vlosky, R., & Hansen, E. (2012). Gaining competitive advantage in the new normal. *Forest Products Journal* 62(6), 420–428.
- Pätäri, S., Tuppura, A., Toppinen, A., & Korhonen, J. (2016). Global sustainability megaforges in shaping the future of the European pulp and paper industry towards a bioeconomy. *Forest Policy and Economics* 66, 38–46. <http://doi.org/10.1016/j.forpol.2015.10.009>
- Pearce, J.A., & Robbins, K. (1993). Toward improve theory and research on business turnaround. *Journal of Management* 19(3), 613–636.
- Pearce, J.A., & Robbins, D.K. (2008). Strategic transformation as the essential last step in the process of business turnaround. *Business Horizons* 51(2), 121–130. <http://doi.org/10.1016/j.bushor.2007.11.003>
- Pettigrew, A.M. (1987). Context and action in the transformation of the firm. *Journal of Management Studies* 24(November), 649–670.
- Robbins, D.K., & Pearce, J.A. (1992). Turnaround: Retrenchment and recovery. *Strategic Management Journal* 13(4), 287–309.
- Schendel, D., Patton, G.R., & Riggs, J. (1976). Corporate turnaround strategies: A study of profit decline and recovery. *Journal of General Management* 3(3), 3–12.
- Statistics Canada. (2018). *Canadian Industry Statistics*. Retrieved from <https://www.ic.gc.ca/app/scr/app/cis/search-recherche#brwseinds>
- Tice, M., & Evans, J. (2014). Leadership for the Execution of Strategy. *Palladium Group White Papers* (White paper), 21.
- Trahms, C.A., Ndofo, H.A., & Sirmon, D.G. (2013). Organizational decline and turnaround: A review and agenda for future research. *Journal of Management* 39(5), 1277–1307. <http://doi.org/10.1177/0149206312471390>
- Zhang, Y., Toppinen, A., & Uusivuori, J. (2014). Internationalization of the forest products industry: A synthesis of literature and implications for future research. *Forest Policy and Economics* 38, 8–16. <http://doi.org/10.1016/j.forpol.2013.06.017>