

A Review of Partnership Studies in the Forest Products Value Chain: With a Focus on Developed Countries (United States, Canada, and Western Europe)

Mehdi Piltan
Taraneh Sowlati

Abstract

The forest products sector in developing countries has been losing its competitiveness due to the fast rate of change in technologies and globalization. Partnership with other companies within and outside the sector could help as a strategy to remain competitive. However, partnership is costly and has a high failure rate. Therefore, partner selection and partnership evaluation are important. This article summarizes the success factors in partnerships based on the literature and reviews the previous studies on partnership in the forest industry. Previous studies in the forest products sector have identified the potential opportunities and attributes of partnerships in different business functions, such as in marketing, procurement, and transportation. Nonetheless, the objectives of entering into partnerships and the factors contributing to successful partnerships in the forest products industry have not been investigated yet. Moreover, to our knowledge, no study has focused on the selection of partners and evaluation of partnerships in forest products value chains using analytical frameworks.

The new business environment is characterized by increased competition due to globalization, higher customer expectations, fewer natural resources, and faster rates of change in technologies and markets (Lambert et al. 1996). The forest products industry in developed countries faces challenges due to the increasing use of electronic media in place of printed materials, aging mills, introduction of new technologies in the last decade in the industry, and emergence of low-cost producers (American Forest and Paper Association [AF&PA] 2010, Hurmekoski and Hentemäki 2013). For example, just in North America, the demand for newsprint has decreased by over 65 percent since 2000 (Lucintel 2012).

As a result of these challenges, the forest products industry in the United States has lost 360,000 jobs, more than a quarter of its workforce, since 2006 (AF&PA 2010). In Canada, job losses in the forest industry account for 86,900 since 2006 (Forest Products Association of Canada [FPAC] 2012). The contribution of forest products to the gross domestic product fell from 1.5 percent in 1990 to 1.1 percent in 2000 in Europe (Lebedys 2004) and from 2.7 to 1.7 percent over the period of 2002 to 2009 in Canada (FPAC 2012).

Meanwhile, new opportunities have emerged for the forest products industry in developed countries. A potential \$200 billion global market for bioproducts is estimated by

2015 (FPAC 2011a). The global demand for paper is increasing especially in the emerging Asian economies. The global paper industry experienced stable growth over the last decade and is expected to continue its growth, reaching approximately US\$256 billion in 2017 with an average growth of 5.9 percent from 2012 to 2017 (Lucintel 2012).

One approach to seize these opportunities and remain competitive is partnership with different firms within and outside the forest products supply chain. Partnership is suggested as an approach to integrate the production of new products with traditional products using the existing facilities (FPAC 2011a). The forest products costs can be decreased by partnership and sharing different resources, for example transportation costs can be decreased by 5 to 15 percent using partnership (Frisk et al. 2010).

The authors are, respectively, PhD Candidate and Associate Professor, Industrial Engineering Research Group, Dept. of Wood Sci., Univ. of British Columbia, Vancouver, British Columbia, Canada (mehdi.piltan@gmail.com, taraneh.sowlati@ubc.ca [corresponding author]). This paper was received for publication in August 2013. Article no. 13-00076.

©Forest Products Society 2014.

Forest Prod. J. 64(1/2):4–10.

doi:10.13073/FPJ-D-13-00076

There is no strong consensus in the literature in defining partnership and differentiating it from the types of interfirm relationships. In the literature, an interfirm business relationship is defined mostly as a continuous range, from discrete transactions at one end to vertical integration on the other end, and with collaborative relationships in between these two extremes (Contractor and Lorange 1988, Webster 1992, Lambert et al. 1996). Figure 1 illustrates schematically the range of interfirm relationships between two firms based on the commitment degree and information sharing level (Webster 1992, Rinehart et al. 2004). In this article, we focus on partnership, which is shown in the middle of this continuous range of relationships.

Partnership is a collaborative relationship between two or more companies that is characterized by multiple linkages, sharing risks/rewards, sharing information, joint planning, and sharing knowledge and other resources (Mohr and Spekman 1994, Lambert et al. 1996). In a survey of 200 top managers in the car industry in 2012, partnerships and alliances were identified as a more common approach than mergers and acquisitions and outsourcing to achieve companies' strategic goals (KPMG International 2012). Partnership is an interfirm relationship that can help a firm access required resources (money, skills, technology, and knowledge) and reduce risks when implementing growth strategies (Ojala and Hallikas 2006, Arshinder et al. 2008, Mudambi and Tallman 2010).

The partnership process includes four main stages: (1) needs assessment, (2) partner selection, (3) partnership establishment, and (4) partnership maintenance (Ellram 1991, Hoffmann and Schlosser 2001, Kim et al. 2010). Partnership studies have been done focusing on one or more than one stage of vertical¹ or horizontal² partnerships in one specific business area, such as marketing, or multiple areas. In each stage of partnership, different factors contribute to a successful partnership. Partnership factors can be grouped into facilitators and components (Lambert et al. 1996). Facilitators are the factors of a firm's environment that increase the chance of achieving a partnership's objectives. Facilitators are important in partner selection. Components are activities and processes that are established and adjusted by partners in the establishment and maintenance stages to help achieve the partnership objectives. Table 1 shows the major partnership factors identified by different studies.

Partnership could be an appropriate strategy for forest products companies to increase their competitiveness by developing new value-added products and/or new technologies (Chambost et al. 2009, Hansda 2009, Sathre and Gustavsson 2009, FPAC 2011b), entering new markets (Edgington 2004, Ambus et al. 2007), diversifying product portfolio (Kozak and Maness 2005, Sathre and Gustavsson 2009), increasing the productivity/decreasing costs, and implementing more efficient business practices (DeLong et al. 2007), all of which are identified as growth strategies in the literature. Partnership becomes more important in this

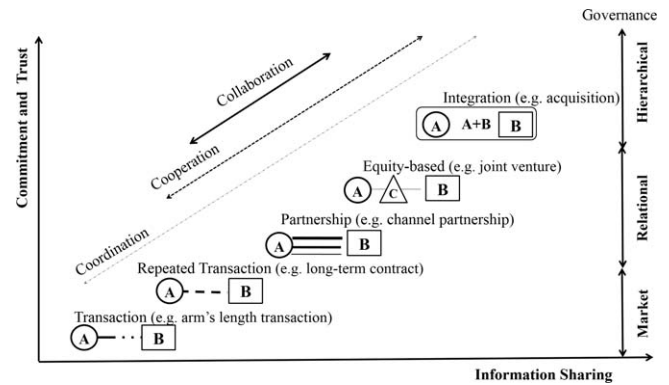


Figure 1.—The range of interfirm relationships (adopted from Webster 1992 and Rinehart et al. 2004).

sector when it is realized that the main barriers for future growth of the forest sector are related to financing, required skills and knowledge, time, and risk of projects (DeLong et al. 2007, FPAC 2011a).

Although partnership could be a good approach to implement the growth strategies in forestry, it should be taken into account that establishing a partnership is costly in terms of time and effort and can result in a significant increase in complexity, the elimination of autonomy, information asymmetry, and the possibility of opportunistic behaviors (Mohr and Spekman 1994). Therefore, it is possible that a partnership fails in achieving its objectives. Although the number of partnerships has been growing (Hughes and Weiss 2007), there is a high failure rate (between 40% and 70%) for them (Park and Ungson 1997, Das and Teng 2000). Poor partner selection, unclear objectives, and the lack of a systematic approach to evaluate potential partners and existing partnership have been identified as the main reasons for partnership failures (Hoffmann and Schlosser 2001, Holmberg and Cummings 2009).

In this article, we review the previous studies on partnerships in the forest products sector. A number of studies highlighted the opportunities for partnership in different business functions. The characteristics of partnerships compared with a typical relationship have been identified in a major study. Some studies have focused on collaboration in logistics and maximizing the benefits using mathematical modeling. However, to our knowledge, there is no study on the existing and intended partnerships and the drivers of different types of partnerships in forest products value chains. The success factors of partnerships are not evaluated in the context of this industry. Also to our knowledge, there is no study on selection of partners and evaluation of partnerships in forest products value chains using analytical frameworks.

Partnership Studies in Forestry

Several reports and articles have identified the potential opportunities for partnership in forestry. The Biopathways project stated that in order to reach the potential global market of emerging bioproducts, forest companies must look for new partnerships with companies outside the forest sector. These partnerships can bring biotechnologies to the market faster and share the risks. The report named some potential partners, including oil and gas, chemical, auto,

¹ A vertical partnership is a partnership between two companies at different levels in the same industry (e.g., a lumber supplier and a pallet manufacturer) or different industry (e.g., an adhesives supplier and a pallet manufacturer).

² A horizontal partnership is a partnership between two firms in the same level of a supply chain in the same industry (e.g., two competing manufacturers) or different industries (e.g., complementary firms).

Table 1.—Major factors underlying successful partnership identified by different studies.

Stages	Important factors	Spekman et al. (1998)	Mohr and Spekman (1994)	Lambert et al. (1996)	Maloni and Benton (1997)	Hoffmann and Schlosser (2001)	Brinkerhoff (2002)	Beach et al. (2005)	Maheshwari et al. (2006)	Sodhi and Son (2009)	Kim et al. (2010)	Chen and Wu (2010)	Verdecho et al. (2012)
Facilitators													
Selection	Compatibility		×	×	×	×	×					×	×
	Symmetry			×			×					×	×
	Mutuality			×			×		×			×	×
Components													
Establishment	Joint planning	×		×	×	×	×						×
	Joint investment			×	×	×	×				×		×
	Risk/reward sharing mechanisms			×			×	×	×	×			
Maintenance	Rights and duties definition			×	×		×	×	×	×			
	Communication						×	×	×	×			×
	Trust						×	×	×	×			×
	Information sharing						×	×	×	×			×
	Commitment						×	×	×	×			×
	Conflict resolution techniques						×						×

aerospace, and agricultural sectors (FPAC 2011b). Janssen et al. (2008) argued that partnerships for the forest industry transformation are crucial in order to meet the rapid change of market, mitigate the risk of producing new products for new markets, and secure competitive advantages in the short term. Partnership opportunities in the forest products industry could be placed into three different categories: (1) operational partnerships, such as partnerships with feedstock suppliers, and partnerships with logistics companies that improve customer service; (2) technology partnerships, such as partnerships with the technology providers that can provide the opportunity to be the first to market; and (3) financial partnerships that could help financing long-term investment projects (Chambost et al. 2009).

In addition, some researchers have studied the partnerships between forest companies, the government, and local communities. Anderson (1997) studied aboriginal businesses that had partnerships with non-First Nation corporations. The results showed that nonaboriginal corporations had an increasing intention to build partnership with aboriginal people and governments as part of their strategy for long-term corporate survival. The author indicated that the four objectives for this intention were the increasing expectations of social responsibility of the companies, increasing legal and regulatory requirements and restrictions, the growing aboriginal population, and finally, the rapidly growing pool of natural and financial resources under the control of aboriginal people.

The studies on partnerships in the forest products value chain can be divided into two groups. First, there are single/multiple cases or survey studies on existing supplier-customer (channel) relationships in order to identify the partnering activities and attitudes using mostly statistical models (e.g., Kozak and Cohen 1997, Wilson and Vlosky 1997, Karuranga et al. 2008, Dasmohapatra and Gonzalez 2010). Second, some studies focused on collaboration in logistics and information sharing mechanisms in logistics using mathematical models (e.g., Audy and D'Amours 2008, Audy et al. 2010, Frisk et al. 2010).

Studies Focusing on Partnership Characteristics

Several studies have investigated the partnering activities and characteristics in the forest products value chains by investigating one or more business relationships. Fontenot and Wilson (1997) looked at partner's business activities to examine partnership characteristics based on the literature. The authors developed a prediction matrix to test and compare the interfirm activities of typical business relationships and partnerships between manufacturers and distributors. Later on, this matrix was tested by six groups of researchers (Kozak and Cohen 1997, Lawson 1997, Lewin and Johnston 1997, Paun 1997, Simpson and Wren 1997, Smith et al. 1997) in different case studies in North America. The major findings of these six studies are briefly explained in the following paragraphs.

The relationship between a wood distributor and its two suppliers in the United States was investigated by Simpson and Wren (1997). They used Fontenot and Wilson's prediction matrix for comparing partnering activities between the distributor and its two suppliers. Their findings demonstrate that both relationships were similar in most partnering activities except in 4 of 35 activities, including trade discount, claim policies, relationship performance review, and special packing service. However, there were

different levels of outcome and dependency. Their depth interviews of the case showed that the degree of formal interactions did not define the efficiency of a relationship but that the informal norms and the level of trust developed within a relationship by managers defined the quality of the relationship and commitment.

Lawson (1997) performed an in-depth interview with a wood distributor in the United States about its relationship with its suppliers and customers. One of the interesting findings of Lawson's study was about the potential conflict of information sharing with antitrust regulation in some activities. The investigated wood distributor had a stable income regardless of the unstable market of wood products because of the long-term partnership with both its supplier and its customers based on mutual trust, frequent communication, information sharing, and joint activities.

In a qualitative study of a large wood products distributor in the United States that had partnership with one of its suppliers, dependency, relationship investment, switching costs, information exchange, and trust were found to be different between a partnership and a typical relationship (Smith et al. 1997). In a typical relationship, dependency, relationship investment, and switching costs are considered low by parties, and there is no information sharing (Smith et al. 1997).

Kozak and Cohen (1997) conducted a structured interview for assessing a relationship between a small Canadian distributor of forest products and one of its suppliers. In this case, the investigated relationship was similar to the relationship with all the suppliers. The result of their study showed that both parties were satisfied by their close relationship. The partnering activities investigated in the previously mentioned articles were based on the partnering matrix for interfirm activities developed by Fontenot and Wilson (1997) for supplier/manufacturer and customer relationships in wood industries in North America.

Wilson and Vlosky (1997) analyzed the data from multiple case studies conducted by several researchers for manufacturer–distributor relationships in the US and Canadian wood products industry and summarized these data by meta-analysis. Their analysis showed that vertical partnerships in the wood industry were mostly in marketing and planning activities rather than in logistics and information exchange. In general, compared with many other industries, such as automobile and electronics, the variety of products and the number of suppliers are low in the wood products industry. Hence, the existing suppliers and manufacturers between supply chain actors have more potential to turn into partnerships (Kozak and Cohen 1997).

Joint sales forecasting, exchange of basic information, joint planning, and joint delivery are identified as the main indicators of collaboration in the forest products industry based on a survey of 321 forest products companies in Quebec (Karuranga et al. 2008). The findings of the survey by Karuranga et al. (2008) show that joint replenishment systems and joint new products development are specifically considered by suppliers, while exchange of performance evaluation and resource sharing of logistics assets are in the interest of customers. However, it was not investigated what kind of information was shared or what activities were planned jointly. Exchange of information and joint delivery, which are identified as the collaboration determinants in the forest industry in Quebec, are contrary to the findings of the multicase studies conducted by Wilson and Vlosky (1997).

The differences in the time, geographical region, sector, and type of collaboration could be some of the reasons for the conflicting results.

In another study, the relationship of three wood products manufacturers with their customers was investigated (Lefaix-Durand and Kozak 2009). The authors categorized customer relationships into four groups based on their exchange value (high and low) and exchange orientation (transactional and relational) instead of the traditional transactional and relational classification. The results of their survey demonstrate that the four categories can be differentiated and characterized mostly based on the levels of trust, cooperation, commitment, communication, time orientation, interdependency, proximity, coordination, regulation, and structure of exchange. The authors used a 7-point scale, and the results showed that compared with transactional customers, relational customers have higher values in all of the 10 previously mentioned factors. Lefaix-Durand et al. (2010) also studied the perception of suppliers and customers about the relative weights of benefits and costs in their relationship. They asked the perceptions of both parties about the importance of different indicators in relationship dimensions, such as benefits related to delivery including due time and territory coverage. The results of their study indicate that in most dimensions, both the suppliers and the customers have the same perceptions.

A survey of 78 hardwood lumber buyers (regarding their top two suppliers) in the United States showed that a close relationship with suppliers along with product quality, overall service, and price are, respectively, the most important factors that affect the buyers' decision for selecting a supplier (Dasmohapatra and Gonzalez 2010), although many factors (such as production capacity) that were identified and tested in other studies (e.g., Monczka et al. 1998, Whipple and Frankel 2000) were not included. They evaluated the quality of buyer–supplier relationships based on six attributes: long-term view, commitment, dependency, flexibility, switching cost, and joint activities (Caniëls and Gelderman 2007).

Studies Focusing on Partnerships in Transportation

Different studies have been done to investigate partnership in logistics. Partnerships in logistics, by sharing information and resources, could help different companies in value chains to decrease the cost of logistics, improve service by reducing lead time, enter into new markets, increase the capacities, and reduce carbon emissions (Lehoux et al. 2011). Partnership in logistics is becoming more important in different industries because of globalization and environmental issues, especially in the forest industry with high-volume products and long distances between companies in the supply chain. Transportation accounts for the second-highest cost component in forest products delivery cost after harvesting (FPAC 2008), and this cost could be decreased by 5 to 15 percent using collaboration (Frisk et al. 2010).

Vertical partnerships in logistics between suppliers and customers in value chains could also reduce the negative consequences of bullwhip effects, known as the magnification of demand variation going upstream the supply chain (Moyaux et al. 2004). Two well-developed models for logistics collaboration between buyers and customers are vendor-managed inventory (VMI) and collaborative plan-

Table 2.—The studies on partnership in forest products supply chains.

Study	Region	Industry	Objectives	Type	Business function	Methods
Studies focusing on partnership characteristics						
Wilson and Vlosky (1997)	US and Canada	Structural wood	Identify partnering activities compared with typical relationships	Manufacturer–distributor	Multifunction	Multicase study–statistical test
Karuranga et al. (2008)	Canada	Forest supply chain	Identify measurement and determinants for supply chain collaboration	Buyer–supplier (channel relationship)	Multifunction	Survey–structural equation modeling
Lefaix-Durand and Kozak (2009)	Canada	Structural wood products	Prioritize customers based on their relationship values	Manufacturer–customer	Marketing	Multicase study–descriptive statistics
Dasmohapatra and Gonzalez (2010)	US	Hardwood lumber	Examine the impact of the quality of buyer–seller relationships on choosing a supplier	Supplier–distributor	Procurement	Survey–statistical test
Studies focusing on partnership in transportation						
Audy and D’Amours (2008)	Canada	Furniture companies	Investigate the impact of benefit sharing methods and the leadership in collaborative logistics	Manufacturer–manufacturer (horizontal)	Logistics	Case study–mathematical programming
Lehoux et al. (2011)	Canada	Pulp and paper	Study different collaboration models	Producer and retailer	Logistics	Case study–linear programming
Frisk et al. (2010)	Sweden	Logging	Investigate different economic models to share the savings in collaborative logistics	Supplier–supplier (horizontal)	Logistics	Case study–mathematical modeling
Audy et al. (2010)	Sweden (case)	Logging	Determine the stable form of collaborating in terms of who should lead the collaboration and how the benefits should be shared	Supplier–supplier (horizontal)	Logistics	Case study–network modeling

ning forecasting and replenishment (CPFR). In VMI, the supplier is responsible for managing the inventory of its buyers based on their demand information. CPFR is collaborative management of inventory through joint visibility and replenishment of products throughout the supply chain. Suppliers and buyers share information and plan jointly in order to satisfy customer demands.

On the other side, horizontal partnerships in logistics between different competitors or complementary companies are more complicated because of conflicting interests and the lack of equilibrium. Most companies are not willing to share their logistics information in this partnership, and the cost and time savings often are different between partners. Therefore, more complicated models based on games theories and economics models have been developed in different studies (Lehoux et al. 2011).

A study was done on collaboration of eight Swedish forest companies in order to investigate different mechanisms to share the cost savings (Frisk et al. 2010). The findings show that collaboration could provide a 14.2 percent (€8m) reduction in costs and a 20 percent reduction in CO₂ emissions (Frisk et al. 2010).

Audy and D’Amours (2008) proposed four logistics collaboration scenarios for four Canadian furniture companies that could result in a 12.9 to 21 percent reduction in

costs and delivery time. The scenarios were based on the available location of terminals and transportation systems. Then they investigated the impacts of sharing benefits and leadership of collaboration among companies to decide on a logistics scenario for the collaboration.

In another study, Lehoux et al. (2011) found a 44 percent potential saving in the inventory costs and an 18 percent saving in transportation by collaboration between a pulp and paper producer and one of its wholesalers. However, some of the previously mentioned collaboration opportunities in logistics failed to achieve their potential in the process of implementation. In the case of eight Swedish companies, only three companies agreed to collaborate, and the savings were reduced to 1 to 2 percent. The collaboration between four furniture companies failed mainly because of the opportunistic behavior of one of the partners. The final collaboration case between the pulp company and its wholesalers failed because the producer wanted to implement VMI, while the wholesaler was concerned about losing control of its operations and was not ready to collaborate in some activities (Audy et al. 2011).

In another study in logistics, Lehoux et al. (2011) developed a mixed-integer linear programming model to share the collaboration profit in transportation with respect to partners’ interests. The partnership studies in forestry

along with the type and area of partnership are summarized in Table 2.

Discussion

In forestry, although partnership has been identified as a potential way to approach growth strategies, no study has been done on partner selection and evaluation. Therefore, there is a need to bridge the gaps between these studies and develop a systematic process for choosing an appropriate partner, establishing a partnership based on the objectives, and finally, evaluating the ongoing partnerships.

In partnership studies, most surveys and decision-making models are for vertical (channel) partnerships and mainly for supplier selection (from the buyer perspective). Studies on partnership in forestry have the same pattern. Although, there are studies in horizontal collaboration in logistics (Frisk et al. 2010) that showed potential benefits through horizontal collaboration, there is room for studies focusing on horizontal collaboration in other business functions, such as collaboration in product development, marketing, and production.

The importance of partnership is highlighted in the forest industry for some business functions, such as logistics; however, no study has investigated existing and intended partnering practices, including the types and drivers of partnerships in different sectors of the forest products value chains. The findings of this type of study could help companies within and outside the industry approach new partnerships or revise their existing ones. While some studies focused on characteristics of partnerships such as those between buyers and sellers (e.g., Karuranga et al. 2008) and distributors and customers (e.g., Lefaix-Durand and Kozak 2009), the factors contributing to the successful partnership have not been comprehensively investigated. A study on this issue could reveal the factors that contribute most to the success of a partnership in the context of this industry. The impacts of demographic characteristics of the forest products companies on partnering practices, such as size of the company, position in the supply chain, and age of the company, are overlooked as well.

Conclusions

To establish new partnerships and improve collaboration in the forest products value chains, identifying the existing and intended partnering practices is essential. Despite the fact that there are some single/multiple cases or survey studies in the forest industry on their partnering practices, to our knowledge there is no study on different existing and intended partnerships (the types and drivers) in the forest industry. Analyzing the relationship between partnering practices in the industry and their demographic characteristics could help companies inside and outside the industry in approaching new partnerships.

The identified success factors in partnerships in other industries need to be investigated in the context of the forest industry. Different statistical tools, such as regression and structural equation modeling, could be used to analyze the importance of the success factors. These models have been developed in other industries, such as chain stores and the electronics and food industries.

Although the establishment of new partnerships is emphasized in the studies on the partnership in forestry, no systematic approach has been used in previous studies for

evaluating existing partnerships or new ones. There is a need to develop more comprehensive decision-making support tools based on existing conceptual models in order to build and maintain a successful partnership and seize the potential opportunities in the forest industry.

Literature Cited

- Ambus, L., D. Davis-Case, D. Mitchell, and S. Tyler. 2007. Strength in diversity: Market opportunities and benefits from small forest tenures. *BC J. Ecosyst. Manag.* 8(2):88–99.
- American Forest and Paper Association. 2010. AF&PA environment, health, and safety verification program biennial report, United States. AF&PA, Washington, D.C. 12 pp.
- Anderson, R. B. 1997. Corporate/indigenous partnerships in economic development: The first nations in Canada. *World Dev.* 25(9):1483–1503.
- Arshinder, A., A. Kanda, and S. G. Deshmukh. 2008. Supply chain coordination: Perspectives, empirical studies and research directions. *Int. J. Prod. Econ.* 115(2):316–335.
- Audy, J. F. and S. D'Amours. 2008. Impact of benefit sharing among companies in the implantation of a collaborative transportation system—An application in the furniture industry. Presented at the IFIP International Federation for Information Processing, September 7–10, 2008, Boston.
- Audy, J. F., N. Lehoux, and S. D'Amours. 2011. Why should we work together? *OR/MS Today*. pp. 48–53.
- Audy, J. F., N. Lehoux, S. D'Amours, and M. Rönnqvist. 2010. A framework for an efficient implementation of logistics collaborations. *Int. Transport. Oper. Res.* 19(5):123–137.
- Beach, R., M. Webster, and K. M. Campbell. 2005. An evaluation of partnership development in the construction industry. *Int. J. Proj. Manag.* 23(8):611–621.
- Brinkerhoff, J. 2002. Assessing and improving partnership relationships and outcomes: A proposed framework. *Eval. Program Plann.* 25(3):215–231.
- Caniëls, M. C. and C. J. Gelderman. 2007. Power and interdependence in buyer supplier relationships: A purchasing portfolio approach. *Ind. Mark. Manag.* 36(2):219–229.
- Chambost, V., J. McNutt, and P. Stuart. 2009. Partnerships for successful enterprise transformation of forest industry companies implementing the forest biorefinery. *Pulp Pap. Can.* 110(5):19–24.
- Chen, S. and W. Wu. 2010. A systematic procedure to evaluate an automobile manufacturer distributor partnership. *Eur. J. Oper. Res.* 205(3):687–698.
- Contractor, F. J. and P. Lorange. 1988. Competition vs. cooperation: A benefit/cost framework for choosing between fully-owned investments and cooperative relationships introduction. *Manag. Int. Rev. Special Issue* (4):5–18.
- Das, T. K. and B. S. Teng. 2000. Instabilities of strategic alliances: An internal tensions perspective. *Organ. Sci.* 11(1):77–101.
- Dasmohapatra, S. and R. W. Gonzalez. 2010. Hardwood lumber buyer purchase attributes and relationships with suppliers. *Forest Prod. J.* 60(3):266.
- DeLong, D., R. Kozak, and D. Cohen. 2007. Overview of the Canadian value-added wood products sector and the competitive factors that contribute to its success. *Can. J. Forest Res.* 37(11):2211–2226.
- Edgington, D. 2004. British Columbia's coastal forests, hemlock timber and the Japanese housing market. *Can. J. Reg. Sci.* 26(3):415–446.
- Ellram, L. M. 1991. Life-cycle patterns in industrial buyer-seller partnerships. *Int. J. Phys. Distrib. Logistics Manag.* 21(9):12–21.
- Fontenot, R. J. and E. J. Wilson. 1997. Relational exchange: A review of selected models for a prediction matrix of relationship activities. *J. Bus. Res.* 39(1):5–12.
- Forest Products Association of Canada (FPAC). 2008. Canada's forest industry: Recognizing the challenges and opportunities. FPAC, Ottawa. 23 pp.
- Forest Products Association of Canada (FPAC). 2011a. The way forward: Biopathways phase II. FPAC, Ottawa. pp. 25–49.
- Forest Products Association of Canada (FPAC). 2011b. The new face of the Canadian forest industry—The emerging bio-revolution. FPAC, Ottawa. pp. 3–28.

- Forest Products Association of Canada (FPAC). 2012. Industry by the numbers. FPAC, Ottawa. 1 p.
- Frisk, M., M. Göthe-Lundgren, K. Jörnsten, and M. Rönnqvist. 2010. Cost allocation in collaborative forest transportation. *Eur. J. Oper. Res.* 205(2):448–458.
- Hansda, R. 2009. The outlook for non-wood forest products in Asia and the Pacific. Asia-Pacific Forestry Sector Outlook Study II Working Paper Series. Working Paper APFSOS II/WP/2009/18. Food and Agriculture Organization, Bangkok.
- Hoffmann, W. H. and R. Schlosser. 2001. Success factors of strategic alliances in small and medium-sized enterprises—An empirical survey. *Long Range Plann.* 34(3):357–381.
- Holmberg, S. R. and J. L. Cummings. 2009. Building successful strategic alliances: Strategic process and analytical tool for selecting partner industries and firms. *Long Range Plann.* 42(2):164–193.
- Hughes, J. and J. Weiss. 2007. Simple rules for making alliances work. *Harv. Bus. Rev.* 85(11):122.
- Hurmekoski, E. and L. Hetemäki. 2013. Studying the future of the forest sector: Review and implications for long-term outlook studies. *Forest Policy Econ.* 34:17–29.
- Janssen, M., V. Chambost, and P. R. Stuart. 2008. Successful partnerships for the forest biorefinery. *Ind. Biotechnol.* 4(4):352–362.
- Karuranga, É., J. M. Frayret, and S. D'Amours. 2008. Measurement and determinants of supply chain collaboration. CIRRELT, Université de Montréal, Montréal.
- Kim, D. Y., V. Kumar, and U. Kumar. 2010. Performance assessment framework for supply chain partnership. *Supply Chain Manag. Int. J.* 15(3):187–195.
- Kozak, R. and T. C. Maness. 2005. Towards a value focused forest sector in British Columbia. BC Forum on Forest Economics and Policy, Issue Brief. pp. 1–5.
- Kozak, R. A. and D. H. Cohen. 1997. Distributor-supplier partnering relationships: A case in trust. *J. Bus. Res.* 39:33–38.
- KPMG International. 2012. Managing growth while navigating uncharted routes. KPMG International, Amstelveen, The Netherlands. 30 pp.
- Lambert, D., M. Emmelhainz, and L. Gardner. 1996. Developing and implementing supply chain partnerships. *Int. J. Logistics Manag.* 7(2):1–18.
- Lawson, D. 1997. GPI distributors: Field notes on a partnering relationship for sustainable business. *J. Bus. Res.* 39(1):53–58.
- Lebedys, A. 2004. Forest finance: Trends and current status of the contribution of the forestry sector to national economies. Food and Agriculture Organization of the United Nations, Rome. pp. 1–2.
- Lefaix-Durand, A. and R. Kozak. 2009. Integrating transactional and relational exchange into the study of exchange orientation in customer relationships. *J. Mark. Manag.* 25(9–10):1003–1025.
- Lefaix-Durand, A., R. Kozak, R. Beauregard, and D. Poulin. 2010. Extending relationship value: Observations from a case study of the Canadian structural wood products industry. *J. Bus. Mark. Manag.* 24(5):389–407.
- Lehoux, N., S. D'Amours, Y. Frein, A. Langevin, and B. Penz. 2011. Collaboration for a two-echelon supply chain in the pulp and paper industry: The use of incentives to increase profit. *J. Oper. Res. Soc.* 62(4):581–592. (Published online ahead of print January 6, 2010.) DOI:10.1057/jors.2009.167
- Lewin, J. E. and W. J. Johnston. 1997. Relationship marketing theory in practice: A case study. *J. Bus. Res.* 39(1):23–31.
- Lucintel. 2012. Global paper industry 2012–2017: Trends, profits and forecast analysis. Lucintel Co., Las Colinas, Texas. pp. 1–5.
- Maheshwari, B., V. Kumar, and U. Kumar. 2006. Optimizing success in supply chain partnerships. *J. Enterp. Inf. Manag.* 19(3):277–291.
- Maloni, M. J. and W. Benton. 1997. Supply chain partnerships: Opportunities for operations research. *Eur. J. Oper. Res.* 101(3):419–429.
- Mohr, J. and R. Spekman. 1994. Characteristics of partnership success: Partnership attributes, communication behavior, and conflict resolution techniques. *Strateg. Manag. J.* 15(2):135–152.
- Monczka, R. M., K. J. Petersen, R. B. Handfield, and G. L. Ragatz. 1998. Success factors in strategic supplier alliances: The buying company perspective. *Decis. Sci.* 29(3):553–577.
- Moyaux, T., B. Chaib-draa, and S. D'Amours. 2004. The impact of information sharing on the efficiency of an ordering approach in reducing the bullwhip effect. *IEEE Trans. Syst. Man Cybern.* 37(3):24–37.
- Mudambi, S. M. and S. Tallman. 2010. Make, buy or ally? Theoretical perspectives on knowledge process outsourcing through alliances. *J. Manag. Stud.* 47(8):1434–1456.
- Ojala, M. and J. Hallikas. 2006. Investment decision-making in supplier networks: Management of risk. *Int. J. Prod. Econ.* 104(1):201–213.
- Park, S. H. and G. R. Ungson. 1997. The effect of national culture, organizational complementarity, and economic motivation on joint venture dissolution. *Acad. Manag. J.* 40(2):279–307.
- Paun, D. A. 1997. A study of “best” versus “average” buyer-seller relationships. *J. Bus. Res.* 39(1):13–21.
- Rinehart, L. M., J. A. Eckert, R. B. Handfield, T. J. Page, Jr., and T. Atkin. 2004. An assessment of supplier–customer relationships. *J. Bus. Logistics* 25(1):25–62.
- Sathre, R. and L. Gustavsson. 2009. Process-based analysis of added value in forest product industries. *Forest Policy Econ.* 11(1):65–75.
- Simpson, J. T. and B. M. Wren. 1997. Buyer-seller relationships in the wood products industry. *J. Bus. Res.* 39(1):45–51.
- Smith, P. M., E. S. Ross, and T. Smith. 1997. A case study of distributor-supplier business relationships. *J. Bus. Res.* 39(1):39–44.
- Sodhi, M. M. S. and B. G. Son. 2009. Supply-chain partnership performance. *Transport. Res. E Logistics* 45(6):937–945.
- Spekman, R. E., Jr., J. W. Kamauff, and N. Myhr. 1998. An empirical investigation into supply chain management: A perspective on partnerships. *Supply Chain Manag. Int. J.* 3(2):53–67.
- Verdecho, M. J., J.-J. Alfaro-Saiz, R. Rodriguez-Rodriguez, and A. Ortiz-Bas. 2012. A multi-criteria approach for managing inter-enterprise collaborative relationships. *Omega* 40(3):249–263.
- Webster, F. E. 1992. The changing role of marketing in the corporation. *J. Mark.* 56(4):1–17.
- Whipple, J. M. and R. Frankel. 2000. Strategic alliance success factors. *J. Supply Chain Manag.* 36(3):21–28.
- Wilson, E. J. and R. P. Vlosky. 1997. Partnering relationship activities: Building theory from case study research. *J. Bus. Res.* 39(1):59–70.