

# Building Shared Value Park to develop sustainable business model in the Canadian forest products industry

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**Résumé** – Cet article propose un nouveau concept de parc industriel à valeur partagée basé sur la collaboration entre plusieurs intervenants, orienté vers l'innovation marché et visant la création de bénéfices sociaux. Il expose le résultat d'une première étape reliée à une méthodologie de recherche basée sur la conception comprenant une revue de la littérature décrivant divers types de parcs existants et s'adaptant au contexte de l'industrie forestière Canadienne. L'idée du Shared Value Park représente une solution répondant aux enjeux du développement durable et à la conjoncture actuelle des marchés des produits du bois en permettant aux entreprises impliquées de transformer leur modèle d'affaires et en facilitant la mise en place de stratégies de diversification. Le type de collaboration retrouvée sur le parc accélérera le développement de bioproducts, issus de la biomasse forestière, tout en permettant de résoudre les défis d'investissement, d'innovations et de développement des marchés visés. La structure du parc proposé permet la création de prospérité, d'avantage concurrentiel durable et la croissance économique recherchés. Bien qu'aucune étude de cas n'ait encore été complétée, une discussion concernant des avenues de recherches se rapportant aux outils à développer permettant de le faire termine le document.

**Abstract** – This article proposes a new concept of industrial park creating shared value based on collaboration between several stakeholders, market-oriented innovation and aiming at social benefits creation. It exposes the result of the first step of a design-based research methodology consisting in a literature review describing various types of existing parks and taking the context of the Canadian forest industry into account. The concept of Shared Value Park is a solution to meet the challenges of sustainable development and the current conditions in the forest products markets by allowing companies involved to transform their business models and facilitate the implementation of diversification strategies. The type of collaboration found in the park will speed up the development of bioproducts, from forest biomass, and help solve challenges, involving investment, innovation and markets development while creating the expected prosperity, sustainable competitive advantage for involved firms, and economic growth. While no case study has been completed on shared value parks, a discussion about research avenues related to enabling shared value parks concludes the paper.

**Mots clés** – Industrie forestière, innovation, valeur partagée, collaboration, parc industriel.

**Keywords** - Forest products industry, innovation, shared value, collaboration, industrial park.

## 1 INTRODUCTION

For several years, the Canadian forest products industry has been in crisis. The industry is losing ground in its sales, investments, innovations and jobs count, and its adaptation capabilities and market position have weakened considerably since the decline. For many companies, the emergence of

international competitors, the decline in commodity products demand as well as the focus on cost -leadership strategy have landed them in a very cost-competitive situation. To overcome this problem, forest products enterprises are ready to initiate a major change in their business model and show an interest in diversifying their product portfolio. In response to companies'

needs, the Forest Products Association of Canada (FPAC) launched, in March 2009, the Bio-Pathways Project to propose a solution allowing the Canadian forest products industry to regain a sustainable competitive advantage through new markets development. With the aim of maximizing the value of raw materials collected from the forest, FPAC has taken an interest in the production of bio-products (bio-fuel, bio-oil, bio-plastics, etc.) [FPAC, 2010]. However, without complementary competencies, sound knowledge of the new markets and massive investments, this business transformation can reach only a fraction of its full potential and obtain maximum economic, environmental and social benefits. For instance, there are industrial parks models with onsite partnership options allowing companies to meet these challenges, and scientific research has demonstrated several advantages both strategic and operational for firms. Industrial parks models implemented in the automotive and petrochemical industry are representative examples of this. However, these types of parks have been very little studied as tracks of possible solutions for the Canadian forest products industry. In this sense, there is a clear need for an extensive study of certain types of parks in order to develop a new model that meets the particular challenges and requirements of the industry.

In parallel, the activities surrounding the forest products industry plays an important role in the Canadian economy. In this sense, governments, local authorities and communities also want the industry's situation to improve. These players also seek social value creation, including the development of local economies, job creation and the satisfaction of basic needs of populations. To obtain the necessary help of these major players, companies deciding to make this shift have to take into account economic and social considerations in order to create economic value while addressing social issues. This concept is the basis of the shared value creation concept [Porter et Kramer, 2011] and when coupled with the industry's needs, led to the development of a new type of park called Shared Value Park. This paper proposes this industrial park as an evolution of existing parks models to meet innovation needs and social benefits as requested by the Canadian forest products industry. The Shared Value Park is characterized by onsite collaborations where infrastructures, resources, competencies and investments are shared between partners from different industries. When applied to the Canadian forest products industry context, we may think of a group of participants, within the same park, driven by market development innovations, including a technology provider, a pulp and paper producer and a petro-chemical company, all interested in the development of a new product made from biomass with a biorefining technology and with the aim of fulfilling unmet needs about health, cleaner energy or better housing.

The paper is organized as follows: Section 2 presents the three types of innovations and the concept of shared value creation. Section 3 summarizes the Canadian forest products context, its issues and challenges. Then, Section 4 describes the new concept of Shared Value Park and explains the general idea. In Section 5, onsite collaboration strategies are explained through the description of three parks models which are eco-industrial park, supplier park and ValuePark. A short discussion about the type of innovation found in these parks and the partners' complementarities closes the section. Finally, research

avenues concerning the development of Shared Value Park's assessing tools conclude the paper.

## 2 INNOVATION AND SHARED VALUE

To gain a competitive advantage against their rivals, companies may adopt, among other things, cost leadership or differentiation strategies [Porter, 1997]. Then, the enterprise's strategic choice will lead to a specific type of innovation. In fact, innovations related to cost reduction or new market penetration may be different and their effects on economic growth and job creation may differ as well.

A recent theory classified three types of innovation in terms of economic and social benefits. These types of innovation are: "efficiency innovation", "sustaining innovation" and "market-creation innovation" [Mezue et al., 2014]. "Efficiency innovation" enables firms to produce more for less in order to offer their product to the customers at a lower price. This type of innovation is obviously cost reduction strategy driven. From an employment perspective, as the aim is to be as efficient as possible, this type of innovation tends towards eliminating jobs [Mezue et al., 2014]. Secondly, "Sustaining innovation" proposes improved and better products to customers, replacing the ones already offered. Such innovations are important to keep the market active but rarely lead to job creation [Mezue et al., 2014]. In this sense, their effects on economic growth and employment are neutral. Finally, "market-creation innovation" helps companies develop products reaching a completely new group of customers by offering something more affordable and accessible than costly and inaccessible emerging products. Most of the time, "market-creation innovation" creates new jobs because the success of the new product pushes the company to produce, distribute and sell more [Mezue et al., 2014]. In this sense, it is through this new market development that forest products companies may reach their goals of sustainable economic growth and creating jobs again. Job creation represents a positive externality for the local economy of a region, but now, sustainable development and regulations put pressure on companies and governments to ask for more benefits. To do so, companies have to find a way to meet these challenges in an economic, environmental and social manner.

The principle of shared value, for a company, is to create economic value in a way where value is also created for society through the fulfilment of social needs as health, better housing and, environmentally-friendly products and operations [Porter et Kramer, 2011]. Creating shared value is characterized by policies and practices elaborated to improve the competitiveness of firms and, at the same time, the economic and social conditions of the region where they are located [Porter et Kramer, 2011]. In this sense, meeting those needs leads, as "market-creation innovation", to considering a larger amount of new customers and offering affordable products. The concept of creating economic value while creating social value at the same time is supposed to be the most powerful strategy to provide growth and competitive advantage [Porter et Kramer, 2011]. From a value chain perspective, shared value may be created by companies at three levels: by redesigning products and markets, improving productivity in the value chain and developing clusters to support local economy. The first level considers revenue growth, market share and profitability resulting from the economic, environmental and social benefits of company products. The second level, improving productivity within the

value chain and addressing social issues, may be expressed in terms of internal operations improvement and may be achieved by working on resource use as well as investing in employees and wellness programs. The third level focuses on improving the company's external environment by strengthening surroundings through cluster development in order to improve productivity [Porter et al., 2011]. The term cluster may be explained as a geographic concentration of companies and institutions with complementary interconnections [Porter, 2000]. Clusters are known as links facilitators for companies lacking particular competencies with others having complementary ones [Reniers, 2013]. From a shared value perspective, by building up these agreements with strategic partners, firms are able to get complementary competencies to better understand customers' unmet needs [Pfizer et al., 2013]. The productivity and innovation processes can then benefit from this proximity between firms and collaboration relation [Porter et Kramer, 2011].

Finally, for the concepts mentioned above, both "market-creation innovation" and shared value concept require substantial investments and involve high risks. In this sense, public and private collaboration are important to success. Government funding may help companies when opportunity profitability is unclear. It allows them to test it and take risks [Pfizer et al., 2013]. In addition, from a cluster perspective, such collective project may be initiated and facilitated by governmental incentives [Porter, 2000]. For example, North Carolina's Research Triangle is a case where public and private participants collaborate in a cluster development and where the region involved received continuous investment from both sectors, and employment, incomes and company performance noticed significant growth [Porter et Kramer, 2011].

### 3 CONTEXT

Most of Canada's forest products enterprises are in trouble and their competitive advantage either no longer exists or is not sustainable. In past years, many of them focused on cost leadership strategies to gain a competitive advantage and engaged in an efficiency innovation cycle. However, as companies tried to minimize their production costs, they neglected the development of new and innovative products. As the sales for some commodity products fell lower and lower, enterprises did not accumulate enough capital to invest in new profitable technologies. Even local communities and their economies have been affected by this crisis. On the one hand, it is obvious that companies have to find a way to engage in successful innovations again in order to stimulate economic growth, improve their financial situation and gain a sustainable competitive advantage. On the other hand, communities need to find a solution that creates diversified and qualified jobs leading to sustainable value creation. But, neither companies nor local governments have the capital and competencies to invest alone in such a major project. So, what are the guidelines? Which solutions have to be considered?

With the implementation of biorefinery strategy, as proposed by the FPAC, forest products companies are facing many challenges. First of all, during this transformation, a significant amount of money will need to be raised for existing plant modifications in order to position Canada as a market leader. Moreover, new market development innovations will demand various competencies, capabilities and knowledge to

achieve success. For example, working alone represents a risk, for companies, of developing a new product without a fair understanding of the new market, and resulting in an innovative replacement product without any demand. In this sense, several participants have to be involved in these innovative and transformative processes; each of them contributing their complementary knowledge. Indeed, in its Bio-Pathways Project, the Forest Products Association of Canada argues that collaboration between enterprises would allow faster biotechnologies development, better access to new markets and the mitigation of risks associated with this business transformation [FPAC, 2010]. One way to capture these complementary competencies would be to take advantage of proximity between firms in order to accelerate the processes, increase the opportunities of sharing ideas, enable communications and decrease the capital investment per business. Clusters are known to be a key element for companies facing these challenges. We may think of vertical or supply chain-oriented clusters such as eco-industrial park, supplier park and ValuePark. But some questions remain: Are existing park models interesting for forest bio-refining? Can existing park models respond adequately to the forest products industry's needs and issues?

From a government perspective, biorefineries and bio-products from woody biomass represent attractive solutions because of their contribution to the maximization of the value taken from the wood and to job creation. In addition, as the Canadian forest products industry is a major player in many local economies, public authorities want them to survive, flourish and be sustainable. To do so, governments have to propose financial incentives and adequate policies [FPAC, 2010]. At the same time, with sustainable development regulations, creating new jobs is not a sufficient social benefit to solve global issues. As explained in the literature review, shared value concept is about companies creating economic value while addressing social issues such as working conditions, products and the environmental impacts of operations on health, as well as unmet needs. Can local governments play an active role in supporting companies in this major transformation? How can shared value be created? How can governments ensure that companies fulfil their needs of creating shared value?

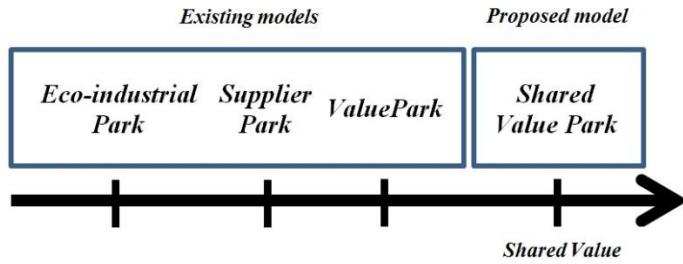
In summary, Canadian forest products companies have performed well in efficiency innovations during the past years, but they have to go a step further to reach sustainable growth and prosperity. Fortunately, companies possess part of the key elements needed to set up a diversification strategy and transform their business model. They have access to raw materials and their past works on efficiency innovations have led them to better understand and control processes and raw materials. However, three key elements are missing: capital, market-creation innovation capabilities and market knowledge. It is through onsite collaboration that enterprises will be able to gather all the ingredients required to guarantee the success of this business transformation.

### 4 SHARED VALUE PARK

The definition of a shared value park may be stated as an industrial estate, formed by a group of partners collaborating to achieve market-creation innovations through complementary knowledge and competencies synergies, and aiming at shared

value creation in order to improve their economic performances while creating social value. For the Canadian forest sector, the new park model proposed is interesting to put forward the diversification strategy that companies seek. The shared value park is in line with the FPAC proposition regarding the integration of bio-products production within the actual system, but as demonstrated in the previous sections, deep changes are required and complementary competencies are needed to increase the chances of success. At the same time, efficiency innovations and sustaining innovations are not the solutions for the economic growth targeted by every forest products company and the strategies oriented in this sense do not provide sustainable competitive advantage.

For the shared value park model, in contrast to other existing parks models where one big player owns all the infrastructures and proposes services to the other ones, infrastructures, costs and profits are shared. The mission of the park is to create value from woody biomass, diversify company products portfolio and allow all company sizes to invest in a diversification strategy and participate in market-creation innovation processes. It also includes the concept of sharing infrastructures, using waste as raw material and sharing services but the vision behind this park is different. In fact, the *raison d'être* and the base of the park are defined in accordance with the general guidelines of Porter's idea. Consequently, the level of concordance with the shared value concept and social value is higher than the other park models presented later (Figure 1).



**Figure 1 : Level of concordance with the shared value concept for every type of park.**

More precisely, a shared value park is developed by a group of investors and partners unable to set up the concept alone for multiple reasons such as limited investment capacity, competencies or market knowledge. The alliance elaborated focuses on the combination of complementary competencies and knowledge, starting from the resource itself and its properties to the new market knowledge including the system already in place permitting the distribution and the sale of the new product developed to the final clients.

Here is the framework of what a shared value park should be like in a general context, but which may be applied to the Canadian forest products industry situation.

#### 4.1 Buildings blocks

First of all, a description of what participants will provide is necessary. This section explains what a shared value park will contain, what the fundamental elements of its creation will be and what is needed as building blocks.

##### 4.1.1 Structure and infrastructures

A structure is an installation, already built or not, into which the new production processes and the new products can be

integrated and realized. The main infrastructures are water supply, roads, electricity supply, sewers, and also general services such as waste disposal, water treatment and administrative services.

#### 4.1.2 Knowledge

Different kinds of expertise have to be found in a shared value park. As the development of the park is based on market-creation innovations and multi-industries collaboration for the creation of new products, competencies regarding research and development are fundamental. In addition, without any knowledge of the new market, the R&D efforts will not reach their full potential. Market knowledge, as R&D competencies, is essential to minimize risks. Finally, adding a new product to a company's portfolio implies the integration of new production technologies into the existing system. These new operations must be developed and implemented with the collaboration of a partner having strong process competencies. In this sense, three types of knowledge are required: R&D, process and market.

#### 4.1.3 Material and human resources

It is obvious that without resources to transform and workforce to realize it, like any other production system, the shared value park does not exist.

#### 4.1.4 Needs and demand

The concept of shared value park is led by the objective of creating a completely new market fulfilling a need addressing social issues that have so far been completely or partially ignored by competitors. The need and the demand have to be well identified by the group and they have to allow economic growth for every participant.

#### 4.1.5 Financial capacities and capital

Finally, building or developing such structure and infrastructures demands major investments, so available capital is needed. In addition, the market-creation innovation process demands strong financial capacities because the return on investment for new business growth does not happen as fast as other innovations [Christensen et al., 2002].

#### 4.2 Partners, motivations and contributions

As the concept of the shared value park focuses on creating shared value and market-creation innovations, complementary competencies are required and participants involved in the partnership are from different activity sectors. In fact, from a shared value perspective, the strategy of integrating a variety of stakeholders such as governments, foundations, universities and companies in the process of co-creating is suggested [Pfitzer et al., 2013].

However, even if there are various partners, their motivations are not all different; some objectives are common. Sharing general services and major infrastructures in order to reduce the per-business expenses is a key driver for any-sized company. Sharing specific resources, such as human resources or maintenance departments, may be a good opportunity for each company to concentrate itself on its core business. In addition, many motivations related to the market-creation innovation process may be common too. As mentioned before, the process of market-creation innovation involves high financial risks. In this sense, sharing those risks with partners in order to mitigate them is an important incentive to join the group. By taking advantage of the competencies of others and by facilitating

knowledge transfer by the proximity between all partners, companies expect to accelerate the innovation process and ultimately aim to be the first to market with the new product developed.

Since being in a shared value park involves teamwork, each participant has to make contributions in its own way to reach a common goal. The success of a shared value park depends on how the complementarity of members' contributions may be sufficient to create the cluster and sustain its activities over a long period of time.

#### 4.2.1 Social driver

First of all, the social driver is the participant embracing a social cause and where social benefits are included in its raison d'être. This participant knows the actual situation of the area where the park is located and its issues. It acts as a capital provider but also as a structuring agent to ensure the social development over a long horizon of time. For example, a municipality, regional government, development capital funder or foundation may play the role of the social driver.

The principal motivations of the social driver are to revitalize or sustain the economy of communities and create and protect jobs by being an active player in projects supporting socio-economic development and wealth. From an environmental point of view, its motivations are influenced by the health of citizen and the environmental impact of the new products developed. They may be expressed by waste reductions such as greenhouse gases emissions or landfill. Finally, addressing specific needs by fulfilling living or working condition lacks in the region where the park is located is a driver for the partner too.

The social driver may act in two key elements during the development of the park. The first contribution will be at the very beginning of its creation. It is obvious that it will provide financial aid to support the construction of infrastructures and services such as roads, water and electricity supply, sewers, water treatment, waste disposal, energy production, maintenance services and so on. The other financial contribution will be continuous support with economic incentives throughout the lifespan of the park to ensure that the investors group keeps the focus on market-creation innovations and generates social and environmental benefits. The second contribution of the social driver will be its presence and support during the formulation of the partners' contracts and framework. It will play a supervisory role in order to structure the convention in a sense where the coalition's priority changes are prevented and the main objectives of the park maintained. Globally, the social driver will play a significant role in the collaboration management from the starting point.

#### 4.2.2 Partnership builder

The partnership builder is a company operating within a very competitive industry with needs to develop a diversification strategy. We may think of a company who makes decisions regarding cost strategy related to competitive advantage and where the cost reduction does not represent sustainability any longer. The player shows a deep desire to change their business model and products portfolio. It has strong competencies and knowledge about the resource to transform and its production process, and is interested by new production technologies and targeting a completely new market (inside or outside of its actual activity sector and industry).

Its motivations lie in the willingness of the partnership itself to share risks, take advantage of complementary competencies provided by others and facilitate the development of new products in order to obtain a sustainable competitive advantage. In this sense, its economic motivation is to find a solution that maximizes the utilization of its resources in the most valuable way through the market-creation innovation process. For the environmental objectives, as mentioned before, maximization of resource utilization can be directly linked to an environmental aspect such as waste and landfill minimization. The environmental impact of the new product developed may be a part of the company's concerns but the economic aspect of integrating a shared value park concept is prioritized. Finally, as economic results are the main driver of partnership builder strategic decisions, the social concerns are employee-oriented. In fact, their motivation is to keep existing jobs, keep or improve salary and working conditions and keep employees' benefits.

One of the possibilities for the location of a shared value park is to integrate it into an existing installation. As the partnership builder partner is the one supplying the raw material and having processes to transform it, its contribution is the infrastructure itself. In fact, the player may dedicate a part of its building to the park and to the integration of the new technologies and products developed by the market-creation innovation process. In addition, the partnership builder is a key player during the market-creation innovation process because of its knowledge about the raw material, its properties and the processes actually used to transform it. In this sense, the partner will integrate, into the multi-disciplinary and multi-knowledge team created, employees with specific competencies regarding processes, technologies and resources. In terms of raw material, the other contribution of the participant will be the agreement made about the availability of the stock dedicated to the park. In fact, the player commits itself to supplying a specific amount of raw material at a specific price to one or many partners in the park for the production of new products resulting from the market-creation innovation processes.

#### 4.2.3 Market champion

The large-scale company has a healthy financial situation and, with a new market to penetrate, is interested in a completely new industry without any competencies process regarding this new resource to transform. This global company has a strong competitive advantage, a wide products portfolio, a global network and knowledge about markets. In this sense, it knows customers' needs and is able, by its network, to bring the product to them.

For the market champion company, the motivations are different. First of all, we may think that the decision driver for choosing a shared value park as a business unit location is to gain a sustainable competitive advantage by a unique value proposition in comparison with rivals. The proximity of other partners combined with complementarity of competencies and knowledge is a motivation to capture the business opportunity. For the environmental concerns of the company, the economic incentives regarding emissions trading may represent an important motivation for market champion company. It may be separated into two categories. First, for a global company with a large amount of greenhouse gases emissions, it can be interesting to invest in a process with a focus on environment to balance their emissions. Second, there is growing interest regarding

environmentally-friendly products and enterprises of any size, in trying to integrate this aspect into their products. Another motivation, less tangible, is the image of the company conveyed by the new product developed regarding its desire to work for and not against the environment. Finally, with the concept of shared value creation and the idea of market-creation innovation, the social motivation of the market champion company is to make available, to a larger portion of an existing market or to a totally new market, a product that has not been supplied to them at a valuable price.

The market champion company will contribute at many levels. First of all, given the investment power of the global company, the player will be able to provide significant investments regarding infrastructure building, market-creation innovation process, technology acquisition and finally, will be able to help build up the network distribution, from the park to the market, for the new products developed.

As mentioned before, the new products developed will be proposed to completely new markets, but as the market champion company is known to be a strong player in its industry, marketing competencies will be provided by the participant. This knowledge will be shared to support the market-creation innovation process. Information and analyses concerning potential markets, customers targeted, needs, demand and growth forecasted will constitute an essential contribution and will be executed through marketing and research and development experts integrated into the team.

#### 4.2.4 Technology provider

To support the team with strong technological knowledge, a participant that facilitates market-creation innovations has to be part of the group. The technology provider player can be a university, a research centre or a start-up technology company as well.

For the research and development centre, the main motivation is related to the economic benefits resulting from its participation in the new product development through the market-creation innovation process. This driver is aligned with its mission regarding their services offer concerning research and development. According to the structure of the agreement signed between partners, another economic incentive comes with the possibilities of receiving financial benefits or royalty bearings. In addition, as the focus about innovation on the park is market-creation/innovation-oriented and as the process is continuous and dynamic, in other words the process continues with the integration of new partners and the formation of new groups of investors about new products, one of the motivations of the centre is to secure its economic future over time and balance its demand for a long planning horizon. Like other companies, technology provider is interested in the shared value park as a business location to guarantee and maintain jobs for their employees for a long period of time.

The larger contribution of the technology provider will be the knowledge brought to the multi-disciplinary team. The partner will be able to provide competencies regarding fundamentals and applied research to complete the wide range of expertise reunited in the shared value park. Finally, from a more practical point of view, the partner will contribute to the development of new products or technologies prototypes and test them with the aim of supporting the market-creation innovation process team of the park.

As mentioned before, the shared value park will be in constant evolution, not concerning the roots of its creation and the code of its organization, but about the number of participants, their size, their contributions and so on. The partners list will not be fixed over the park's lifespan and new institutions from various activity sectors will be able to join the park as long as market-creation innovations and shared value are at the heart of their objectives.

#### 4.3 Governance

First, a board will be formed to manage the collaboration. It is highly probable that the representation of members sitting on the board will be strongly influenced by the proportion of each partner's ownership. In addition, the development of this organizational structure will influence the rules and procedures of the park. Indeed, management mechanisms will be generated to structure the collaboration and to state precisely the role and the involvement of each participant. These tools will ensure better management of the entire concept from the operational level to the strategic one. It will, for example, establish rules for the raw material supplied by the partnership builder such as the price, the quantity available, the quality, and so on. In addition, the flexibility regarding the integration of new participants will be managed with these rules and selection criteria will be part of the document. It is obvious that economic sharing mechanisms and intellectual property agreement will be integrated too. The social driver will contribute to defining the guidelines to control the benefits generated by the park's creation and operations. In fact, to insure economic, environmental and social benefits for the region and to maintain the priorities on market-creation innovation processes, the social driver will formulate a shared value code that every company integrating the park will have to accept and follow.

#### 4.4 Relation strength

As presented with the different descriptions of the parks, a higher level of collaboration is proposed in a shared value park. All companies involved in the development of this cluster must act as interconnected business partners and the presence of each of them is crucial for the project's success. In fact, the multi-enterprise partnership based on competencies complementarity implies a high degree of engagement and leads to a certain level of dependency generated by the essential input of each player. Without one of its members, the whole park structure and purpose regarding the idea of doing market-creation innovations in a collaborative process does not represent the essence of shared value park any longer. In this sense, as long as the park manager searches for a substitute, the instability generated by a departure will disturb the park's mission and operations. The convention of the park implies a strong commitment from every partner over a long period of time and, once again, it reinforces the partnership's strength because companies will have to share information, data, knowledge, research results and competencies. From an operational point of view, being on a same site with other companies having same suppliers, distributors, retailers or same needs in terms of human resources and services may be seen as an opportunity to build operational collaborations to take advantage of these synergies. It is important to understand that these types of opportunities will be managed during the development phase or after, when new

participants join the group, but these are not the main influences of the shared value park governance decisions. With this kind of engagement, we may think that companies have to embrace similar or at least compatible visions, culture and values or must accept park standards elaborated by the board.

#### **4.5 Innovation**

The shared value park aims at collaborative market-creation innovation process but does not exclude efficiency innovation and sustaining innovation. In fact, it is clear that a balance has to be established. Even if the focus is on market development, the two other types of innovations have to be part of the development strategy. The goal is not just doing new things, but doing new and better things in a cost-effective way. In addition, the shared value park has to be a dynamic environment enabling simultaneously multiple market-creation innovations ensuring its future and mitigating risks. At the beginning, smaller teams will work on the development of new products, but successes may raise interests from new potential partners in becoming part of the park, enriching the park with additional capabilities and fuelling further market-creation innovation. This context will permit attracting other players and partners, keeping the park alive and sustaining its operations over a long period of time.

#### **4.6 Lifespan**

Enterprises interested in the integration of their business into a shared value park do it with a long-term investment mindset. Investing capital, time and resources in the market-creation innovation collaborative process demands a long-term vision from every partner. The lifespan of a shared value park may be influenced by certain success factors. First of all, as market-creation innovations happen and give results, and as this type of innovation is at the heart of new integrated partners' priorities, the shared value park mission still exists. Secondly, as partners involved in the agreement stay in, or as the park manager is able to replace those that leave, the cluster is still operational. Finally, as the shared value park shows economic, environmental and social results and benefits, the purpose of the park is justifiable. As is shown, there is no reason to close or plan an end-date, but mechanisms have to be included at the beginning of the park's design during the convention to try as much as possible to avoid departures.

#### **4.7 Benefits**

For the shared value park, economic, environmental and social benefits may be anticipated. For the economic aspect, like other parks, economic benefits will be generated for the companies regarding the resources and infrastructures shared, and for the directly qualified and indirect jobs created for the region. However, the distinction with the other parks will be through the economic growth caused by the successes of market-creation innovation processes. In addition, as creating shared value focuses on fortifying the local economy, economic impacts will be observed on the local supplier located in the communities surrounding shared value park.

From an environmental perspective, the proximity of each participant will reduce transportation, and consequently, greenhouse gases will be minimized for a part of the material flows. In addition, as proposed by Porter's concept, by redesigning their products and improving productivity in the

value chain, companies will offer environmentally-friendly products and minimize the environmental impact of their products and activities.

The creation of social value will allow the shared value park to differentiate itself from other parks models because social considerations will be integrated into the major design decisions. These social benefits are various and may be driven by social value objectives included in company economic performances such as being an active player in the socioeconomic development of communities, strengthening local economies by purchasing locally and leading both companies and local suppliers to a bigger slice of the revenue pie, attracting diversified and qualified value-creating jobs, improving working conditions, developing innovative products reaching a larger number of customers with the aim of improving their quality of life and health, and developing environmentally-friendly products. In comparison with corporate social responsibility, the economic and social values are integrated with profit maximization. It is not just about philanthropy and doing good [Porter et Kramer, 2011]. Finally, as the public sector is part of the investors group, its role will be to ensure that social value is considered not only at the beginning of the park development, but also, during its entire lifespan.

### **5 EXISTING PARKS DESCRIPTION**

The idea of the shared value park has been developed by doing a literature review to outline the general concept of some existing parks models and analyzing their ability to respond to the needs of the Canadian forest products industry, create shared value and carry out market-creation innovation. It was a part of the design-based research methodology consisting of an analysis of practical problems in order to develop a solution with a theoretical framework. The parks studied are the following: eco-industrial park, supplier park and ValuePark. This section describes their specificities and highlights the differences between them and the shared value park.

#### **5.1 ECO-INDUSTRIAL PARK**

##### **5.1.1 Description**

The definition of an eco-industrial park is based on geographic concentration aiming to share infrastructures and resources with economic and environmental benefits. It is constituted of multiple manufacturing and services firms building up collaborations in order to minimize their environmental impact while improving their economic performances by focusing on environmental and resources issues [Lowe et al., 1997]. The well-known Kalundborg eco-industrial park in Denmark illustrates the type of partnership that can be found. At the beginning, the collaboration was developed around partners from different sectors: an oil refinery, power station, gypsum board facility, pharmaceutical plant, and the City of Kalundborg [Chertow, 2000]. The goal of the project was to share ground, surface and waste water, steam and electricity, and also exchange a variety of residues that became feedstock for other processes [Chertow, 2000]. In this case, the common resource need was the starting point of the agreement, but it was just the beginning of a whole concept of by-products exchange. In fact, companies joined the group of partners year after year when by-products synergies emerged [Ehrenfeld et Gertler, 1997].

The development of eco-industrial parks may be initiated by various motivations such as financial considerations, the need to increase their competitive advantage and, government policies and legislation [Tudor et al., 2007]. They may be expressed as partnerships for energy, raw materials and water exchanges, but utilities, firm functions, commercial facilities and transport sharing may be taken into account by companies as well [Tudor et al., 2007]. We may think that the per-business expenses will be reduced, the amount of residues going to landfill will be minimized and the companies' raw material demand and prices will be secured with the long-term agreement signed between collaborators. In the end, even if eco-industrial park design submits environmental and social objectives into their economic model, eco-industrial parks are essentially influenced by financial considerations [Roberts, 2004].

The collaboration strength is high because of the long-term agreements and partnerships established. In fact, eco-industrial parks are designed from a rigorous selection of associated suppliers implying specific distribution mechanisms leading to a greater dependence than traditional estates [Roberts, 2004]. For the example of sharing a specific resource, companies involved in this type of collaboration will have to share information to organize and plan the best use of it. In addition, with a system based on waste exchange, a cascade effect may occur when the waste of one company of the community changes. It is possible to understand that every player in an eco-industrial park is linked not only with its partner but also with the partner of its partner upstream and downstream too. A product change will affect all players and may jeopardize the purpose of the park. In addition, an important limitation for companies comes from the fragility of the park itself that may be affected by enterprises leaving, and which then weakens the entire group [Tudor et al., 2007]. As environment is a priority for eco-industrial park model, companies installed in the park need to have a common vision and values. In this sense, parks develop code as a control instrument to assure the integrity of the park [Roberts, 2004].

Finally, eco-industrial park operations are strongly influenced by the need to achieve and drive efficiency innovation and sustaining innovation. In fact, one of the motivations of companies on site is to create more with less by optimizing the utilization of the resources and exchanging their waste or to improve existing products. The proximity between companies encourages innovation for the firms having competencies in transforming waste and by-products [Roberts, 2004].

### 5.1.2 Discussion

In the Kalundburg case, the initiative comes to fulfil the needs of private enterprises. In addition, as we can observe from the literature, there is only one motivation other than reducing the environmental impact on public health at the first phase of park creation decisions. In fact, social benefits may be observed with jobs created regarding park development and may represent a driver for its creation [Gibbs et al., 2005]. From an environmental perspective, with better utilization of resources, landfilling may be minimized. However, in comparison with the shared value idea, enterprises in an eco-industrial park do not aim to develop as a group a product fulfilling a need linked to social issues. In this sense, the innovation process is not in line with shared value concept in order to respond to a social need and companies do not necessarily think in terms of improving

lives and redefining the business around unsolved customer problems. Finally, the research of partners is based on supply, waste or by-product complementarities and not on competencies complementarities. As the selection of partners is performed from a different perspective, the design of the park is not done to facilitate market-creation innovation but efficiency innovation and sustaining innovation.

## 5.2 SUPPLIER PARK

### 5.2.1 Description

The definition of a supplier park may be expressed as a cluster integrating suppliers' plants and a final assembly plant [Sarko, 2003]. More precisely, for the automotive industry case, it is a park where suppliers are co-located in a highly dedicated cluster near the original equipment manufacturer assembly plants [Reichhart et Holweg, 2008]. For example, in Valencia, the Ford Almussafes plant is surrounded by its suppliers in a co-located area where conveyor belts deliver components [Reichhart et Holweg, 2008].

The owner and manager of the park is called the *anchor*, this company is usually surrounded by its suppliers. The anchor's objectives are multiple, such as reducing their lead time and production costs and having access to flexibility. With the integration of suppliers' production activities within the anchor's supply chain, the non-valuable activities are minimized, so the total costs are reduced. In addition, with its suppliers next door, the anchor is interested in the flexibility provided by this proximity. From the supplier's point of view, Supplier Park is a good opportunity to take advantage of the long-term agreement signed with the anchor to secure the demand of its product over a long period of time. However, as contracts are granted to the suppliers for the car model's life cycle, nothing is guaranteed for the next generation of models [Reichhart et Holweg, 2008].

The development of this park model is based on partnership opportunities regarding the production of anchor's products. The strength of collaboration is very high because of the long-term commitment coming from the two parts. Indeed, the dependence between the anchor and its suppliers is particularly high with modular supplies because suppliers have to invest in dedicated technologies to produce the specific module requested by the anchor [Reichhart et Holweg, 2008]. From an operational point of view, we may think that companies will have to share information and data to complete their production with joint planning and execution. With this kind of park, companies have a similar vision and culture but not necessarily values. In fact, anchor and suppliers may have different values, but in the site or in the anchor's plant, suppliers have to act in accordance with anchor's values. As an example, Volkswagen, in Resende, managed all the production and assembly employees, the Volkswagen staff as well as their suppliers' staffs working within their installation, on a single management system with the same wages and benefits [Sako, 2003].

Two types of innovations may be found in a supplier park. In fact, the first type is efficiency innovation. By the objectives of the park creation, it is obvious that the driver is to raise efficiency; to do more with less in order to reduce production costs, increase capacity and so on. Finally, as sustaining innovation consists of product improvement, we may think that, for the automotive industry case, the process of

innovation is led by the car model's life cycle and every model generation is an improved version of the previous one.

### 5.2.2 Discussion

The initiative regarding the creation of a supplier park seems to come, most of the time, from the anchor itself to fulfil a competitive need. As eco-industrial park, the motivations related to its creation are mainly economic. The social benefits resulting from its development are indirect and were not part of the first-phase development thinking. The case is the same for environmental benefits; they are indirect results of the park design but were not considered as drivers for companies' strategic decisions during the same phase. By being on the same site, partners minimized transportation; consequently they reduce their greenhouse gases and have positive benefits on environment and public health, but they only represent positive externalities. Supplier parks encourage sharing knowledge and complementarities regarding competencies for product development in an operational and cost effective way. The vision of the automobile company may lead to an innovation creating social shared value, but as the example showed, it is a result of the company's choice.

## 5.3 VALUEPARK

### 5.3.1 Description

The name of ValuePark has been initiated by Dow Olefinverbund GmbH. The description of this type of park may be formulated as an industrial area, dominated by an anchor, focusing on the development of market-oriented collaborations and supporting medium-sized enterprise investments. Dow's facility in central Germany is located on the same site as companies that process their raw materials into high-quality added-value products. For example, the partners on the first Dow ValuePark are plastics processors, packaging producers, speciality chemicals producers, science and technology companies, universal logistics providers and Dow Olefinverbund GmbH. [Heinze, 2010]

The main objective of the park is to integrate, within the same added-value network, suppliers, downstream investors and services providers in a cost-effective way by taking advantage of sharing services and resources [Liwarska-Bizukojc et al., 2009]. The investors in a ValuePark are varied. The first type of company involved is a specialized production firm interested in the cost-effective production site. The second type of investor is related to the service providers attracted by the group's demand and volume. From every player involved in the park, as mentioned for other park models, there is a strategic advantage regarding sharing existing infrastructures and services, and reducing fixed assets and operating capital. From the anchor point of view, it is interesting to integrate a larger part of their material flows of its supply chain and control it. Each investor is an actor of its owner's value chain. The owner and manager of the park is the anchor; the company is surrounded by its strategic partners and customers. It is in charge of the whole infrastructure organization and the management of all the connected services [Dow].

The business relationship developed is between the park manager and the company interested in installing a business unit in the park. However, companies may cooperate between each other as well [Liwarska-Bizukojc et al., 2009]. With this kind of park, we may think that companies have similar vision, culture

or values. As an example, Dow uses four criteria to select investor and two of these represent the vision that partners have to share: investors have to be interested in long-term partnerships and they have to accept the conditions on site determined by Dow [Heinze, 2010]. For the anchor's strategic partners, integrating the ValuePark represents the acceptance of Dow's standards related to environment, health and safety [Dow].

### 5.3.2 Discussion

The observations regarding motivations, innovation, and environmental and social externalities for the development of the other parks also hold for the ValuePark. In addition, given that the principal motivations of the park are about integrating material flows and logistics services, sharing infrastructures and minimizing the investment capital, the concept focuses exclusively on operational collaboration. In this sense, we may think that the collaborative innovation process is to address efficiency issues [Reniers, 2013].

Based on the four discussions realized in this section, observations can be performed regarding the three concepts of cluster and their ability to respond to the precise needs of the Canadian forest products industry situation. First of all, the project initiator of the park creation seems to be, most of the time, a company looking to respond to an economic and strategic issue. In this sense, the social driver does not play an active role in the development of park rules to insure social benefits over its lifespan. In addition, many of the innovation processes put in place are efficiency-driven innovation. The literature does not mention that partners, in these types of parks, take advantage of competencies complementarities and the investments mass generated by the group to get into a market-creation innovation process to target the economic growth required by the forest products industry. Finally, as supplier park and ValuePark, the park development is essentially financed by the anchor which demands substantial investments from one major player. It is obvious that given the financial situation of the Canadian forest products industry, capital injection from other participants is required because of this lack of investment power.

## 6 RESEARCH AVENUES

The shared value park framework is in its infancy, consequently many questions remain. It is obvious that additional work has to be done in operational research to better estimate the entire value created by the concept and to develop assessing tools assisting decision makers in this major transformation. Research will have to be conducted to address these questions: How can the conceptual idea of the shared value park be transposed into a supply chain management model? Does the tool evaluate economic, environmental and social benefits? Would it be possible to sort out park designs and business models in order to obtain the most benefits?

The collaborations elaborated for the shared value park model seem to be one of the most challenging aspects of the global concept. From a strategic point of view, as collaboration implies commitment and long-term agreements, risks of partnership failures have to be as low as possible and be managed at the very beginning of the park's development. To help prevent these situations: Would the partner selection be different for a shared value park than other park models? What would the selection criteria be? At the same time, failures do not just happen because bad partners are chosen. To minimize the

probabilities of failure, each participant has to get a fair share of benefits. In this sense, researches will have to respond to these questions: What would the mechanisms be to share economic benefits within the investors group? How could environmental and social benefits be shared?

Finally, research will have to allow decision makers to respond to the challenges related to the creation and the management of the park itself, and define the guidelines of governance, its rules and procedures. In fact, analysis will have to be conducted to answer these types of questions: Who will lead the park creation group? How will the decision processes regarding the park governance be taken? What would the tools be to better evaluate the impact of different types of governance on the future of the park? Does this step have to be framed and standardized?

## 7 CONCLUSION

It is important to mention that this conceptual model represents a framework for future research. It finds its base in the quest for solutions to issues of the Canadian forest products industry. This new model has been created using a design-based research methodology exploring different types of collaboration and cluster, and different concepts, such as market-creation innovation and shared value creation, addressing the challenges of several industries. As the paper is a reflection on emerging notions, the complexity of the framework has been limited. In fact, as examples, park governance rules and business model have not been exposed.

In summary, the new concept of shared value park proposes a way for the Canadian forest products industry to achieve economic growth and regain a sustainable competitive advantage in today's global economy. Forest products companies have to focus on their core capabilities and take advantage of those brought by their partners to find the missing ingredients (capital, market-creation innovation competencies and market knowledge) required for their major transformation to bioeconomy, and ultimately create social value.

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