

**One link in the chain:
Vancouver's independent bicycle dealers in the
context of the globalized bicycle production
network**

by

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Abstract

In this research project I explore the role of Vancouver's independent bicycle dealers (IBDs) in the context of a globalized bicycle production network. I consider how IBDs in Vancouver fit within the global network using frameworks developed in the Global Commodity Chain, Global Value Chain, and Global Production Network literature. I identify network actors at the local scale and the relationships between these actors, I suggest that embeddedness is an important feature of the local IBD sector, and I consider the foundations on which IBDs base their independence in this globalized industry. My research findings suggest that while the shift to global production in the bicycle industry has resulted in a greater number IBDs in Vancouver, there is cause to take a cautionary stance looking forward.

Keywords: Bicycle industry; independent retailers; global production networks; local consumers; embeddedness

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List of Acronyms

BTAC	Bicycle Trade Association of Canada
IBD	Independent Bicycle Dealer
GCC	Global Commodity Chain
GPN	Global Production Network
GVC	Global Value Chain
P&A	Parts and Accessories

1. Introduction

1.1. Preamble

The work in the following pages is inspired by my experience working at an independent bicycle shop in Vancouver from 2007 to 2011. During that time, I learned quite a bit about how the bicycle industry is structured and what it means for local independent bicycle retailers. At the time, we, along with many of our customers, felt dismayed that it was no longer possible for consumers to buy a decent commuter hybrid bicycle (the type of bike one would be most likely to use around the city) that was manufactured in Canada. This was a very different situation than it had been even ten years earlier, when there were numerous Canadian brands with at least some manufacturing capacity in Canada. But by the middle of the aughts, the shift to global production in the Canadian bicycle industry was more or less complete. Our little shop made an effort to change this tide by approaching Cycles Devinci, a company based in Quebec that had retained its manufacturing capacity to make a few high-end models as well as Bixi bikes for the bike-sharing systems in Montreal and Toronto (among other cities), to see if they would do a 'Made in Canada' commuter hybrid bike just for our shop. They agreed and we did a run of 100 bikes. The bikes were popular and we were extremely pleased with the result, selling through them over the course of one season. We felt that we had really made a difference in the industry, at least around Vancouver, and that other shops would want to follow suit with similar projects of their own. We showed that consumers were not always interested in the latest flashy innovations, but that they sometimes saw value in other features like where a product is manufactured. Our feeling of success was extinguished the following year when Devinci informed us that they were not interested in repeating the order, and in retrospect our project turned out to be a blip on the radar rather than a direction shift in Canada's bicycle industry.

We learned a few different things from this experience. On the one hand, we learned that one little bike shop can use its knowledge of local consumers to create

value in a product and change the structure of the production network. On the other hand, we learned that in the bigger picture, the efforts of our shop did not have a great or lasting impact on how the industry is structured, and further that the 'Made in Canada' feature that gave value to these otherwise unremarkable bicycles at our shop was something that did not hold the same meaning for other shops in the city. This experience has inspired me to conduct a research project that looks at how independent bike shops fit into the globalized bicycle production network, how the shift to global production has impacted local dealers, and what it means for their ability to remain competitive within the structure of the bicycle industry. This project helps to understand how local consumers play a role in how independent dealers 'plug in' to the global network, along with the importance of retail businesses being connected, territorially and socially, with the cultures of local, and specifically urban, consumers. The findings of this research suggest that despite a shift to global production in the bicycle industry, local actors and the relationships between them continue to play a valuable role in the globalized bicycle production network.

1.2. Research question

The question that my research has sought to answer is: How has the shift to a global production network in the bicycle industry impacted independent bicycle dealers (IBDs) in Vancouver and how do they remain competitive within the governance model of the bicycle production network? This question contains several key concepts. To begin, the subjects of primary interest are IBDs. I define an IBD as an independently owned retail business with a physical retail location whose primary engagement is selling and servicing bicycles and bicycle-related products. The question also acknowledges that there has been a shift to a global production network in the bicycle industry, implying at the same time that the production network has not always been global in reach and scale. This shift has important implications for how trading arrangements are organized, leading to another key component of the question, namely, how this shift has impacted local IBDs in Vancouver. In order to understand this impact, I have investigated the governance model of the bicycle production network by looking at how trading arrangements are structured, the institutions (both formal and informal) that are in place to develop and reinforce those structures, and how power is distributed

throughout the network. In particular, I have focused on the structure and institutions that are built up at the local scale in Vancouver. These factors affect the ability of IBDs to remain competitive, so the final aspect of my question is to look at the bases on which IBDs compete within the governance structure of the globalized bicycle production network. Based on the research findings, I suggest that a connection with local bicycle consumers is a key basis for competition, and this connection enhances the importance of local, independent bicycle dealers within the global bicycle production network, despite a broader retail landscape that is characterized by retail consolidation by mass merchants. With this in mind, throughout all aspects of this research I have looked at the specifically local context for IBDs in Vancouver, with an emphasis on the development of a local character of the IBD sector despite a shift to global production. This was achieved by looking at the historical development of the sector in Vancouver, along with a look at where IBDs locate themselves within the city, physically within neighbourhoods and also in terms of the cultures of bicycle consumers which have a specifically local character. Retailers are the coupling point between consumers and the production network, and so I demonstrate that IBDs use their unique knowledge of local consumption cultures to navigate the global production network.

Vancouver is a particularly interesting locale for this study because it has at least two prominent cultures of bicycle consumption that have contributed to shaping the bicycle industry. Since the 1980s, there has been the progressive development of a mountain biking culture which has been enabled in no small part by the proximity of what has come to be understood as ideal riding terrain on the 'north shore'. Many bicycle, component and riding gear brands have developed out of this culture, some of which started out of local bike shops. The innovations that were developed to meet the needs of this local riding (and thus consuming) culture have been adopted by the globalized bicycle industry. More recently, Vancouver has increasingly identified itself as a 'bikeable' city, and though its cycling mode share is not remarkably different from other Canadian cities, there is no doubt a sense that Vancouver has a unique urban cycling culture that accompanies the city's push for bikeability. This push for bikeability is part of the city's policy agenda that includes the *Greenest City 2020 Action Plan* (City of Vancouver, 2012), which, among other goals, aims to make cycling and walking preferred modes of transportation. The installation of numerous separated bike lanes,

along with ongoing improvements to cycling routes throughout the city, are further evidence of the city's commitment to supporting an urban cycling culture in Vancouver.

To answer the varied aspects of my research question, I draw on three closely related frameworks which are used to understand the shift to a global production network and the governance structure that has developed from this shift. Using these frameworks helps understand how local IBDs fit within the global network. Frameworks of Global Commodity Chains (GCC), Global Value Chains (GVC), and Global Production Networks (GPN) are all concerned with the ways that supply networks are organized and governed. To some degree, these frameworks have developed sequentially, with each successive framework incorporating a greater breadth of institutions and actors to explain the structure of the global network. For this reason, I have adopted the GPN framework to discuss the bicycle production network, as it allows for the broadest analysis of the varied actors and institutions in the network. However, concepts from the GCC and GVC frameworks remain relevant and can contribute to an understanding of the bicycle production network. In all three of these frameworks, the focus is on power relations between actors in the network, and the institutions that reinforce those dynamics. As well, though the frameworks do not explicitly exclude actors at the consumption end of the supply network, in practice the literature within these frameworks tends to favour analyses of what is going on at the production end. My own analysis of how IBDs in Vancouver fit into the bicycle GPN, however, focuses on what is going on towards the point of consumption, looking at the relationships between IBDs and the bicycle brands, suppliers and consumers that connect with them at the local scale.

To this end, I first offer an historical analysis of the IBD sector in Vancouver since 1970, the approximate point at which the shift to overseas production began in earnest. I divide this period since the 1970s into three eras in which the structure of the bicycle production network, the styles of bicycles, and the ways that local IBDs identify themselves show distinct differences. This sets the context for the current structure of the bicycle production network and helps explain some of the local characteristics of the IBD sector of the bicycle industry. I outline the current structure of the network from the perspective of local IBDs by first identifying the key actors at the local scale and exploring how they connect with each other. I then propose that IBDs are embedded in

this local network in various ways. I borrow the concepts of societal, network, and territorial embeddedness proposed by Hess (2004), Coe, Dicken and Hess (2008), and Hess and Coe (2006), looking at how IBDs and other firm actors are immersed in local cycling cultures. I show that repeated transactions over time build up networks based on trust, and this adds strength and stability to the IBD sector of the bicycle industry in Vancouver. Further, I suggest that being located in Vancouver, and in particular neighbourhoods within Vancouver, develops a local character for the network of IBDs in the city.

Following the discussion on embeddedness, I return to the research question and explore some characteristics of the current structure of Vancouver's IBD network. These characteristics provide a foundation on which the IBD network is based, but I question the stability of this foundation. I first question the extent to which IBDs are actually independent, by exploring how power is distributed in the network, and how brands and branding are leveraged to enhance power for various actors in the network. I also document the practice of IBDs establishing their own identities through critique of other IBDs, and suggest that this provides a weak foundation for the independent identities of IBDs. I then attempt to untangle the fear of bicycle commoditization among actors in the IBD network. This has important implications for IBDs because, as the thinking goes, if bicycles are reduced to a commodity then the value that IBDs add will no longer be relevant. The flipside of this problem, however, is that if bicycles are more than a commodity IBDs run the risk of limiting their market share to cycling enthusiasts to the exclusion of recreational consumers. These characteristics are important factors in the structure of the IBD network in Vancouver, but they are worthy of some concern because they do not provide an entirely stable foundation for Vancouver's IBDs.

Despite these concerns, and despite the global nature of the bicycle production network, the need for strong connections at the local scale remains persistent. My research investigates the ways that IBDs in Vancouver act as the connecting point between the globalized production network and local consumer cultures, and proposes that this connection contributes to the ongoing relevance of local IBDs. For this reason, this work is a meaningful contribution to understanding the importance of local actors in the structure of globalized production networks.

1.3. Overview

This paper proceeds first with a literature review (Chapter 2) which begins by documenting the shift to global production in the bicycle industry along with the decoupling of innovation from production. I then introduce three frameworks for understanding the structure of global trading networks: Global Commodity Chains, Global Value Chains, and Global Production Networks. I suggest that the third framework is best suited to analyzing the IBD network in Vancouver because it allows for the broadest analysis of actors and factors that contribute to the structure of the network. I therefore conclude the literature review with an outline for inserting a set of actors at the local level into the broader bicycle industry using the Global Production Networks framework. Following the literature review, I introduce the methodology of this research project (Chapter 3). Content analysis of trade magazines and other sources, statistical data and business listings, and semi-structured interviews were used to provide the empirical foundation of this paper. The research findings are presented in Chapter 4, in which I offer an historical analysis of the IBD sector of the bicycle industry in Vancouver, as well as an outline of the relevant actors in the IBD channel of the bicycle industry at the local scale. Chapter 5 provides a more in-depth discussion on the role of embeddedness in the structure of the IBD network, followed by a discussion of other characteristics of the current structure of the IBD network. The project ends with a brief conclusion.

2. Literature Review

Exploring how independent bicycle dealers (IBDs) in Vancouver engage with the globalized bicycle production network enables a better understanding of the role of local actors in global production networks. A great deal of work has focused on developing models for understanding the structure and governance of globalized production networks, yet for the most part this research is concerned with understanding dynamics of networks at the production end, while the role of retailers, and especially small independent retailers, is given relatively little attention. My research uses the frameworks developed in the production network literature to build an understanding of how the global bicycle production network is structured and governed along with the historical context of how the network developed, and then to explore how local IBDs 'plug in' to, and also shape, this larger structure. Further, I seek to understand why IBDs survive in a time when other retail sectors are characterized by increasing concentration in the mass merchant model, and how IBDs remain competitive despite these broader retail trends. I suggest that an understanding of, and connection with, distinct local cultures of consumption are important factors in the success of IBDs. My research contributes to the production network literature by applying the frameworks developed in that literature to actors in the network who receive little attention: independent retailers. The role of independent retailers is important despite this lack of attention, as they make up an important point of convergence between producers and consumers. First I explore the shift in the way production is organized that has resulted in the global dispersion of production, then I introduce three frameworks for understanding the structure of globalized trading arrangements, arguing that while all three contribute to an understanding of global trade, the Global Production Network framework is best-suited for analyzing the IBD sector of the globalized bicycle industry. Finally, I offer an outline of how the GPN framework may be used to analyze the role and contribution of local independent bicycle retailers in the broader bicycle industry. This analysis provides the

groundwork for explaining why independent bicycle retailers continue to remain relevant in the bicycle industry.

2.1. The shift from domestic vertical integration to global dispersion

There was a time when all (or most) aspects of the production of a given product were organized by a single firm that took care of designing, manufacturing, distributing and marketing their product. This vertically-integrated firm structure was the dominant form of firm organization until well into the 20th century. The bicycle industry offers several good examples of vertically-integrated firm structures. For example, Norcliffe (1997) gives an in-depth description of the operation of the Pope Manufacturing Company, which in the last decade of the 19th century was the world's largest producer of bicycles and had one of the largest vertically integrated factories in the world. All aspects of production, from steel tubing to rubber tires to saddle making took place in the same facility owned by Albert Pope. This production model carried on well into the 20th century, with most well-known brands (including Raleigh of England and CCM in Canada) controlling the various aspects of bicycle production in their home countries. The story of the Schwinn Bicycle Company in the US is also no exception, and Crown & Coleman (1996) offer an overview of how the firm organized bicycle production, from design and manufacturing down to the details of retail sales. Crown and Coleman demonstrate that while this vertically-integrated firm structure may have contributed to Schwinn's success early on, it also became a liability when competing firms started to outsource production to firms overseas, because Schwinn did not have the flexibility to tailor production methods to new designs and could not manufacture their products cheaply enough in-house to compete with the imports offered by other firms.

The story of the Schwinn Company's demise is reflected in a larger shift in the organization of production, which plays out in at least two ways. First, there is a spatial division of labour (Massey, 1979) where the different functions of production take place in different regions. Design and management may take place in one region (in the case of bicycles, usually closer to the market), while manufacturing and assembly takes place in another (primarily in East Asia for bicycles). Second, firms no longer need to own the

factories in which their products are produced. Rather, firms have moved towards specializing in specific aspects of production. For example, brand-name companies located near the market can specialize in product design and marketing, while outsourcing manufacturing to companies in East Asia. In turn, those contract manufacturers (Hess and Coe, 2006) take on a merchant character (Sturgeon, 2000), offering their manufacturing services to numerous brand-name companies. In the bicycle industry, as in other industries, contract manufacturers have also taken on additional roles in order to capture additional value (Hess and Coe, 2006, p. 1210-1211), such as organizing supply of components with the multitude of component manufacturers who supply the hundreds of different parts required to assemble a bicycle. In this organizational structure, the traditional linking of innovative capacity and market share with the size and scope of a firm break down, allowing firms to specialize in certain aspects of production and reducing the barriers to entry for new firms (Sturgeon, 2000). This new organizational structure has resulted in an explosion of new businesses in the bicycle industry since the 1970s, with brand-name companies being able to design and market products without the significant capital investment in a production facility. These are what Gereffi (2006) calls brand marketers, or “manufacturers without factories” (p. 11), and a considerable number of the brand-name companies currently in the bicycle industry fit this model. Importantly, though, while manufacturing may be moved offshore, the brand marketers often remain in the home market, where product designers and marketers can interact easily with prospective customers and tailor their offerings to those customers’ needs (Vernon, 1979, p. 256).

There are a variety of factors that have contributed to industries becoming globally dispersed. Gereffi (2006, p. 9) identifies three major factors that contributed to the broader shift in global production: the insertion of 3 billion workers into the global workforce following the fall of Communism, the unprecedented ability to communicate globally in real time using the internet, and the targeting of labour in the search for new efficiencies. With respect to the bicycle industry specifically, the government of Taiwan actively pursued bicycle production beginning in the late 1960s (Gao, Liu & Norcliffe, 2012, p. 9) by creating a favourable environment for entrepreneurship and by fostering growth in the bicycle export sector (Chu, 1997; Hu & Wu, 2011). China also emerged as

a major bicycle producer by the turn of the millennium by shifting its focus to higher-end manufacturing for export to western markets (Bronfenbrenner and Luce, 2004).

Product standardization and modularity are also factors that have contributed to the globalization of the bicycle industry, as well as the structure of inter-firm relations. Though there is no formal institution that sets standards in the bicycle industry (Galvin and Morkel, 2001, 40), standards have arisen informally over time. These standards reduce the need for inter-firm communication because products are manufactured according to predetermined sizes and interfaces; each firm knows that as long as they adhere to the established standards their product will fit properly with those of other firms. Further, the established standards are modular, meaning that the same component design will fit different sizes, models and brands of bicycle. These established standards and modularity have enabled a fragmented and globally dispersed industry by reducing the transaction costs involved with inter-firm communication.

An example of the modularity of a specific bicycle component illustrates the point more specifically. Rear derailleurs, the component that controls in which gear the chain is engaged at the rear wheel, come in a variety of design features depending on its intended use. They are made by three major manufacturers: Shimano, SRAM, and Campagnolo. They are not universally compatible; as a simplified generalization, each should be connected to shifters of the same brand. But the way they connect to the bicycle frame is the same across all brands of rear derailleur and all brands of bicycle. That means that any given brand of frame can be equipped with any brand of rear derailleur. A bicycle designer in Vancouver can select the brand of rear derailleur they would like to use on a particular model, place the order through a manufacturing/assembly firm in Taiwan or China, which in turn orders the rear derailleur from the component manufacturer which, as an example, may be headquartered in Japan but has manufacturing facilities in Malaysia, and none of these actors needs to consult another to make sure the rear derailleur will fasten properly to the bicycle. The same rear derailleur, in addition, could be used on any number of brands and models of bicycle without any need for inter-firm communication on whether the component will fit. Contemporary bicycles have dozens of such interfaces where the need to communicate between firms is minimized due to product modularity.

The fact that standards have arisen informally over time, as opposed to being set by a formal institution, leads to the question of which firms have the power to establish these standards. As Hess and Coe (2006, p. 1206) point out, standard setting is “a crucial underpinning of power and value dynamics” in global production networks. On one hand, there is no doubt that major component manufacturers such as Shimano (referred to as a “parameter-setting firm” by Gereffi et al., 2005, p. 98) have played a strong role in solidifying interfaces that have arisen over time, and the contract manufacturers and brand-marketing firms downstream in the bicycle production network are bound to working within those standardized interfaces. On the other hand, the informal manner in which standards have been set has allowed a variety of actors to engage in manufacturing at all stages of production, leading to a fragmented industry with a dispersed power structure. While there is no doubt that some firms have considerable influence in certain areas of the production network on account of their size, there is no single firm that dominates all aspects of production (Galvin and Morkel, 2001, p. 32) and therefore it is possible for smaller actors to gain entry into the production network on a somewhat level playing field.

The structure of the bicycle industry mirrors the structure of bicycles themselves. Due to the minimal need for inter-firm communication resulting from standardization, manufacturers, like the example of rear derailleurs cited above, are modular. In other words, they can enter trading arrangements interchangeably with numerous brand-marketing firms. As Gao et al. (2012) point out, the ability of contract manufacturers to produce for numerous brand-marketing firms at once, along with regular changes to bicycle models (often with merely aesthetic differences), generates lively competition among contract manufacturers for new contracts with brand-marketing firms. Because of this modularity of contract manufacturers, the industry structure is characterized by frequent switching of trading relationships between manufacturers and brand-marketing firms.

Before introducing the three frameworks that provide the foundation for my own analysis, it is worth offering a brief description of the current structure of the bicycle industry at the retail level. Bicycle retailing has a particular dual nature, in which two distinct supply channels emerge as the products move towards final consumption. On one hand is the major retail channel which accounts for 75% of units sold in Canada

(Gao et al., 2012, p. 5), but a smaller proportion of the dollar value of bicycle sales since major retailers sell mostly inexpensive bicycles. For comparison, figures from the US show a similar distribution of unit sales, with 70% of units sold by major retailers, but this represents only 27% of dollar sales (National Bicycle Dealers Association, 2012). On the other hand is the independent dealer channel (IBDs), which focuses more on medium- to high-quality bicycles, and though IBDs sell fewer units, their dollar sales in the US represent 55% of the market share (*ibid.*). IBDs also account for the vast majority of after-market component sales (Isely and Roelofs, 2004), which may be attributed to the fact that IBDs offer repair services which often require replacement parts, they tend to carry a wide and ever-changing selection of components in stock, and they have the expertise to help consumers select the correct products for their bike. These two types of retailers result in two distinct supply channels with very little overlap between them.

Gao et al. claim that in Canada since the 1980s “many independent bicycle shops have closed as a small group of big-box stores led by Wal-mart, Canadian Tire, and Zellers have progressively dominated the market via price and design competition” (2012, p. 2). While this narrative of ever-increasing power for mass merchants fits neatly into the buyer-driven commodity chain framework (to be discussed below), there is some reason to call it into question in the bicycle industry. Evidence from the US shows that the market share for IBDs, at least recently, has remained relatively constant (NBDA, 2012). As well, the findings of this research project suggest that there is a substantial network of bicycle brands and suppliers in place that are specifically dedicated to the IBD sector. Further, most of the innovations that drive the entire industry take place in the IBD stream. To suggest that this sector is in decline at the hands of major retailers is to overlook the possibility that the role of IBDs, and the network that serves them, is an important component of the entire bicycle industry. In the next section, I introduce three frameworks that will be used to investigate the role of IBDs in the context of the bicycle industry. While these frameworks have tended to focus on the relationships between actors involved with production activities, I posit that an investigation of the role of local actors in places where final products are consumed is similarly important for understanding the entirety of global networks.

2.2. GCC, GVC, and GPN frameworks

As the bicycle industry has shifted its production model from domestic vertical integration to a globally dispersed network, the governance structure of the network has changed alongside this shift. Governance addresses “the question of which firms in the chain are most able to control various aspects of the production process and how they appropriate and/or distribute the value that is created” (Bair, 2005, p. 156). This section introduces three frameworks for analyzing the governance structure of global trade: Global Commodity Chains (GCC), Global Value Chains (GVC), and Global Production Networks (GPN). All three frameworks are concerned with actors in global industries and the relationships between them, and to some degree all of the frameworks bring policy implications that seek to identify how those actors, especially the weakest ones, can improve their positions within global industries. The GPN framework, though, encompasses the broadest range of actors and relationships (Coe, Dicken, and Hess, 2008, p. 272), and is therefore the most promising framework for understanding how local retailers connect with consumers and the globalized bicycle production network. Nonetheless, the GCC and GVC frameworks also provide some valuable insight for this research project, and this warrants a brief overview of these frameworks as well.

To address the question of governance in the globalized economy, Gereffi (1994) proposes two models for understanding what he calls the Global Commodity Chain (GCC). One is a producer-driven commodity chain, and the other is a buyer-driven commodity chain. In the latter model, the buyer is not the end-consumer, but rather the brand-name marketing firm or major retailer that is buying products from a manufacturer. The two models are differentiated based on where the power lies in the chain. In the former, the producers have greater control of product design, manufacturing process and marketing (as in the automobile industry), while in the latter, the buyers take control of product design, manufacturing schedule and marketing the product, but do not participate in the actual manufacturing process. Gereffi uses major retailers and brand-name clothing as exemplary models. Though there are elements of both models in the bicycle industry, the latter better describes the industry, since the majority of bicycle brand-name firms design and market their product, but place orders for manufacturing through contract manufacturers.

Building on this governance model is the Global Value Chain (GVC) framework, which proposes that the producer-driven/buyer-driven dichotomy does not adequately describe all of the possible chain structures. In the GVC framework, Gereffi, Humphrey and Sturgeon (2005) propose five possible models for describing the governance structure of a value chain. These models range from a “market” value chain at one extreme, characterized by low cost of switching trading partners within a vertically disintegrated value chain, to a “hierarchy” value chain at the other extreme, with high levels of vertical integration and managerial control as the dominant form of governance. In between are “modular” value chains, with somewhat more interdependence between buyers and producers than market value chains, “relational” value chains, with higher complexity of transactions resulting in yet more interdependence between buyers and sellers, and “captive” value chains, where supplier capabilities are low, leading to dependence on buying firms. Which model best suits a particular value chain is determined by considering 3 determinants of value chain structure: 1) the complexity of transactions, 2) the codifiability of information, and 3) the capability of suppliers, using two values, high or low, to describe each of the determinants. They specifically identify the bicycle industry as a model of a “market” value chain, because the complexity of transactions is low, the codification of information between firms is high (due to product standardization), and the capabilities of manufacturing firms are high.

Compared to the two-pronged GCC framework originally proposed by Gereffi (1994), the GVC framework proposed by Gereffi et al. (2005) is more sensitive to “how inter-firm relations are shaped by the internal logics of sectors, such as industry structure” (Bair, 2005, p. 164), and in the case of the bicycle industry those relations are shaped by an industry structure with low transaction costs, high product modularity and highly capable manufacturing firms. Still, more of the power remains with the buying firms (the brand-marketers), but the market analogy demonstrates that while buying firms may exert more control in the transactions, the manufacturing firms manage to capture some value by targeting their services towards certain buyers and have some agency in choosing with whom they establish trading relationships. While the GVC framework allows for a more nuanced appraisal of the structure of global industries than the dichotomous approach of the GCC framework, its insistence on fitting global industries into one of five models has nonetheless been critiqued for establishing ideal

types and ignoring some less obvious factors in the structures of global industries (Coe et al., 2008, p. 275).

A response to critiques of the GCC and GVC frameworks, yet building on similar themes, is the framework of the Global Production Network (GPN). The GPN literature continues to be concerned with how power is distributed in the network, but it is more considerate of the fact that supply arrangements are not linear and better described as a network than a chain, that the organization of the network may be influenced by non-firm factors, and that despite the shift to globalized production, firms and other actors in the network remain embedded in particular places. To support the notion that a network is a more suitable metaphor to describe the structure of global production, Coe et al. (2008) explain that the concept of the network better recognizes the complexity of the global economy, and allows for a greater variety of network configurations in analyses of global trade. Networks, they argue, “reflect the fundamental *structural* and *relational* nature of how production, distribution, and consumption of goods and services are—indeed always have been—organized” (Coe et al., 2008, p. 272; emphasis in original). The metaphor of the chain, by comparison, is less able in its linearity to consider all of the structures and relations that make up the global economy. Hughes (2000, p. 178) agrees, noting that the network metaphor better describes the “complex and multi-stranded ways” in which various actors in the economy are connected, and that “at the most general level of analysis it simply captures the pattern of webs of interdependence existing between different sets of actors in the economy.” The GPN framework further acknowledges the role of a broader set of actors and relationships in shaping global trading arrangements, rather than focusing narrowly on the governance of the relationships between firms. For example, Coe et al. (2008) suggest a greater consideration of non-firm actors in GPNs, including the role of states and other regulatory institutions (including international standards), as well as the roles of labour, consumers and civil society organizations in shaping production networks. All of these actors and institutions, they argue, have an effect on the structure of global trade, and the GPN framework allows for a deeper analysis of how these factors play a role in shaping complex global networks.

Another concept that is particularly salient in the GPN literature is the concept of embeddedness. Hess and Coe explain that embeddedness refers to “how [production

networks] constitute and are reconstituted by the economic, social and political arrangements of the places they inhabit” (2006, p. 1206-1207). Hess (2004) offers three dimensions of embeddedness to describe the ways that actors are embedded in places: 1) societal embeddedness, which acknowledges that where an actor comes from, or their societal background, helps to shape the actions of individuals and collective actors, 2) network embeddedness, which considers the structure of relationships between actors in a network and, importantly, identifies trust as an important factor in creating those relationships, and 3) territorial embeddedness, which considers the extent to which economic activities are anchored in particular places. As will be discussed in the research findings, all three dimensions of embeddedness play a role in the development of a local character of the IBD sector of the bicycle industry; the research revealed social and cultural connections between actors in the sector based around immersion in various cycling cultures, factors of trust and familiarity that shape the structure of the network not only between IBDs and bicycle brands and suppliers but also between IBDs and bicycle consumers, and a strong degree of territoriality in shaping the location of IBDs within the city and also the relationships that exist in particular territories within the city.

With respect to the broader bicycle industry, a recent paper by Gao, Liu and Norcliffe (2012) stands out for its use of the GPN framework to investigate the nature of trading relationships between Canada, Taiwan and China. They find five salient features of the bicycle GPN which are not direct characteristics of inter-firm relationships themselves, yet they play an important role in the structure of those relationships. Importantly, they may have been overlooked by an analysis using the GCC or GVC frameworks, and this gives credit to the use of the GPN framework for understanding the bicycle industry. They find that product standardization, domestic content rules, increasing domination by major retailers, the rise of Sloanism, and political shifts by the Canadian and Chinese governments have contributed to the current structure of the bicycle GPN. Each of these points will be explored in further detail presently.

Gao et al. find that product standardization plays a role in shaping the bicycle GPN because it enables more subcontracting and reduces barriers to entry for both manufacturing and brand marketing firms. This echoes the previous discussion on the role of product modularity in the bicycle industry as described by Galvin and Morkel

(2001). Standardization has contributed to the vertical disintegration of the bicycle industry and reduces the cost of transactions between firms. Further, because interface standards for the most part are not owned by any one firm nor controlled by a standard-setting organization (as is the case in some industries), firms can engage freely in manufacturing bicycles and components, bicycle marketing, and trading between firms with few barriers. Gao et al. (2012) note that this informal standardization results in frequent switching of trading partners between bicycle brands and mass retailers in Canada and manufacturing firms in China, because as Gereffi et al. (2005) point out, the transaction costs are low and the information is highly codified.

Domestic content rules also play a role in the structure of the production network. The Canadian government imposes a tariff on imported bicycles, but the tariff rate changes depending on the country of origin and the value of the product. This tariff is most favourable to higher-value bicycles originating in China, with the result that about 90% of bicycles currently sold in Canada are made in China (Gao et al., 2012, p. 9). Coe et al. point out that macro-regional economic arrangements to give preferential treatment to particular states plays an increasingly important role in the organization of GPNs (2008, p. 283), and Gao et al. confirm that the Canadian government has adopted lower tariffs through bilateral trade agreements and even rejected a recommendation by the Canadian International Trade Tribunal to impose a temporary import surtax on imported bicycles from China (2012, p. 10). In doing so, the Canadian government has demonstrated a lack of interest in protecting bicycle manufacturing activities in Canada, and this has had a notable impact on the structure of the bicycle production network. An interesting twist on this shift in Canada's trading policies is that the IBD sector of the Canadian bicycle industry is now advocating to the federal government to completely eliminate tariffs on imported bicycles. An initiative on the website for the Bicycle Trade Association of Canada (BTAC) calls on BTAC members to sign a petition and/or send a postcard asking the Canadian finance minister to eliminate tariffs on bicycles (BTAC, 2013). If the tariff were eliminated, this would surely have an impact on the structure of the bicycle GPN, ceasing to protect what little bicycle manufacturing remains in Canada under the current tariff structure.

Gao et al. further assert that the bicycle GPN is increasingly dominated by major retailers. This fits neatly with Gereffi's (1994) model of the buyer-driven commodity chain,

and while Gao et al. explain that this places increasing buying power in the hands of a few major retailers, they also show that manufacturers have some mechanisms for remaining competitive. For the major retailers, manufacturers compete not only on price, but also on their ability to deliver the product on time and on technical features. Design details are often left up to the manufacturers, leaving room for competition over product designs as well. For all except the largest retailers, competition is also facilitated by trade shows, where buying and selling firms can meet, view products, and arrange trade deals. These are important places for buyers to examine new products, and so innovation (however cosmetic) is an important way to catch the interest of buyers at the trade show. While the market share of major retailers does account for the majority of bicycle sales in Canada, the narrative that this share is ever increasing may be called into question, given that the market share for IBDs in North America over the last decade has remained steady (NBDA, 2012).

Gao et al. point to the rise of Sloanism as a factor in shaping the bicycle GPN. They explain that Alfred Sloan, the president of General Motors from 1923 and competitor to Ford, is credited with bringing three major innovations to GM: planned obsolescence with regular model changes, market segmentation with products at every price-point, and credit arrangements to help purchasers close a deal. With respect to the global bicycle industry, Gao et al. focus on the first two of these innovations, noting that frequent model changes and product segmentation are prominent characteristics of bicycle retailing. However, their contention that bicycles quickly become obsolete is contrary to the notion of product modularity, and Galvin and Morkel (2001) rightly point out that the product architecture, and the interfaces between components, have changed little in the past century. Nonetheless, the practice of frequent model changes may give the illusion of obsolescence, even when those changes are cosmetic. The additional fact that it is often less expensive to replace a bicycle than to repair it (particularly the case with the inexpensive bicycles sold by major retailers) may contribute to that illusion. There is no doubt that bicycle retailing is characterized by product segmentation into a wide range of styles and price points, and while major retailers focus in general on less expensive machines, segmentation even within the lower-end of the product range is readily apparent. These Sloanist practices are even more apparent in the IBD sector. With innovation being a key aspect of competition in the IBD sector, new products are

regularly introduced and older designs are rendered obsolete (again, this may be as much illusion as reality). Product segmentation is very apparent in IBDs, where typically bicycles will range in price from \$300-400 at the low end to several thousand dollars for a high-end machine. Further, the range of available styles of bicycles is very wide; there is considerable variety even within the distinct categories of mountain bikes, road bikes, and urban commuter bikes (not to mention the more exotic styles like recumbent bikes). And while Gao et al. do not elaborate on the third practice of Sloanism, offering credit to help close a deal, it is the case that some of the major bicycle brands in the IBD sector have adopted financing programs to help customers make a bicycle purchase (see, for example, Trek Bikes, n.d.).

Finally, Gao et al. point to the impact of political shifts in Canada and China on the bicycle GPN, arguing that the rise of neoliberal policies in Canada have led to a breakdown of vertically-integrated production models and the reduction in trade barriers, while the shift to the Open Door Policy in China has enabled entrepreneurial firms to enter the global economy. Again, these political shifts may not have been captured by the GCC and GVC frameworks, but were identified in the GPN framework. The result of these five characteristics identified by Gao et al. is a globally dispersed production network where merchant manufacturers (Sturgeon, 2000) or contract manufacturers as they are called by Hess and Coe (2006), mostly in China and Taiwan, engage in trading relationships with brand-marketing buyers (Gereffi, 2006, p. 11) and major retailers who are located in the region of consumption, with frequent switching of trading partners being the norm.

It may seem thus far that the literature I have presented is focused heavily on the production aspects of the network/chain and on major branding and mass retailers. This is simply a reflection of the fact that the literature appears to be much more interested in production than consumption. Indeed, an underlying concern of the GCC, GVC, and GPN literature has to do with identifying how firms in the developing world can navigate these global networks to their benefit, and avoid the pitfalls of participating in a globalized economy. For example, Bair explains that “GCC researchers...are principally concerned with the question of how participation in commodity chains can facilitate industrial upgrading for developing country exporters” (2005, p. 156). Similarly, Kaplinsky and Morris (2001) stress that GVC analysis is particularly important for new

producers, especially in poor countries where producers are trying to enter global markets (p. 2). They go on to suggest that understanding the dynamic factors of the global value chain is important to identifying how producers can make the best of globalization by making use of their core competencies (p. 9). So where are the retailers in these frameworks? What role does consumption play in the ways that these networks are structured? The following section will explore in more detail the role of local, independent retailers in the structure of the global bicycle production network.

2.3. Inserting local IBDs into the Global Production Network

The existence of retailers in the GCC, GVC, and even the GPN frameworks generally seems to be taken for granted. Leslie & Reimer (1999) point out that “[GCC literature] often treat[s] consumption as a starting point from which to trace relations back to...production” (p. 404-405), but questions about what is happening at the point in the network where final consumption takes place are not often posed. Hughes agrees that commodity chain approaches overlook the role of consumption in their analyses, stating that they “pay insufficient attention to the complex practices through which production and consumption are linked” (2000, p. 177). Gereffi's (1994) buyer-driven commodity chain model, for example, is founded on the notion that major retailers have gained the balance of power in many sectors, yet the model does not seek to understand the process by which retailers have gained this dominance. Further still, and more importantly for this research project, it does not ask what is happening to small, independent retailers as major retailers assume a central role in the supply network. Similarly, while the GVC approach does acknowledge that “consumers are far from passive” in the GVC framework (Gereffi et al., 2005, p. 98), it falls short of taking a serious look at the ways that consumers and the retailers that connect with them play a role in the structure of global value chains. Even proponents of the GPN framework have acknowledged that the role of consumption could be integrated more fully into GPN analysis (Coe et al., 2008, p. 286). While this research project does not specifically draw on the perspective of consumers to the GPN, it does take us a step closer to understanding consumers' contribution by exploring the role of independent retailers which are the direct link between consumers and the production network.

With the drawbacks of the GCC and GVC frameworks in their lack of interest in final consumption and small local retailers, the GPN framework is best-suited to undertake the task of exploring how IBDs in Vancouver connect with both their consumers and the production network. The GPN framework offers the most promise because it not only allows for an analysis of the various firm and non-firm actors in the network and the relationships between them, it also calls for a consideration of other non-firm factors that contribute to the structure of these relationships. The GPN framework allows for a consideration of the effects of embeddedness on the industry structure, with my own research findings showing that social embeddedness in localized cycling cultures, network embeddedness in relationships based on trust that have developed within the local sector, and territorial embeddedness at the neighbourhood and city/region scales remain important characteristics of IBDs and smaller bicycle brands despite a shift to global production. Coe et al. point out that “every element in a GPN—every firm, every function—is, quite literally *grounded* in specific locations” (2008, p. 279, emphasis in original). Of particular importance to this study are the less tangible characteristics of such grounding, including “localized social relationships and distinctive institutions and cultural practices” (Coe et al., 2008, p. 279). As will be discussed later in my research findings, these relationships, institutions and cultural practices play an important role in the structure of Vancouver's bicycle industry in both IBDs' relationships with their bicycle brands and suppliers as well as with their customers, and they are important factors in IBDs' continued relevance within the broader bicycle production network.

Given the broad scope of the GPN framework, it is appropriate to incorporate a broad analysis of the role of local IBDs in the globalized bicycle production network. One such avenue is to look at how IBDs compete, both between each other and against the major retailers. One way of competing with the major retailers has been to specialize in higher quality products, as pointed out by Gao et al. (2012, p. 9). Specialization is a strategy that has been discussed in the context of manufacturing firms (Galvin & Morkel, 2001; Sturgeon, 2000), but it is also a strategy employed by retail firms. IBDs have the ability to specialize in various segments of the bicycle market, such as road racing bikes or mountain bikes. Wrigley, Coe and Currah suggest that having contact with customers is an imperative to particularize, rather than to standardize, and this requires that

retailers be sensitive to local cultures of consumption (2005, p. 440). This can take the form of offering a particular selection of products that meets the needs of local consumers, and it can also take the form of designing unique shops and offering personalized customer service (Li, 2010). Unlike non-retail firms, the retail environment itself is a bundle of services consumed by the customer (Wrigley et al., 2005, p. 440), and thus it must appeal to local tastes to be successful. Clark and Banga describe this as “developing a congruence between the image of the store and the customers they are appealing to” (2010, p. 194). IBDs’ embeddedness in particular neighbourhoods allows them to connect to localized cultures of consumption and tailor their products, services and marketing to those cultures.

Another avenue of inquiry here is the ways that brands and branding are employed to support the ongoing relevance of IBDs. As previously noted, the shift to global production has resulted in a market structure based in part on product standardization. With many similar products available to consumers, brands increasingly look for intangible ideas that are not easily replicable to give value to their products because differentiation based on function is less and less able to sustain a competitive advantage. One such intangible idea is the entanglement of products with geographical meanings. Pike suggests that places “have been used to provide a multifaceted, rich and pliable source of attributes and associations capable of creating and resonating with such distinctive, even authentic, values and meanings” (Pike, 2009, p. 624). Bicycle brands often make place associations with their products through marketing images that connect products with places, and sometimes even by naming models after particular places. Pike notes that the geographic scale of such entanglements may include the neighbourhood (2009, p. 634), and as such IBDs are well-poised to associate themselves with the neighbourhood in which they are located. This adds currency to the brand of the shop; it is one of the intangible attributes that gives value to an IBD’s brand, and it differentiates IBDs from major retailers as well.

The value that brands and branding add to bicycles as products and IBDs as services is an important part of the bicycle production network. As will be discussed in the research findings, protecting the value of bicycles as something more than a commodity is an important role for IBDs. There are two reasons for this. First, Coe et al. (2008, p. 276) note that firms in the weakest position in a network are those selling

products that can easily be replaced. So, in order to retain power in the network, IBDs must themselves be adding value to the products they sell. Second, firms upstream in the network are also concerned with upholding the value of bicycles, and in addition to their own marketing efforts, they count on IBDs to represent not just the products, but the brand. The analysis in section 4.4 will offer further insight into the prospects for IBDs to continue adding value in the bicycle GPN.

Throughout this research paper, I use the concept of scale in more of a relational sense than an absolute one, in particular with respect to the relationship between 'local' actors and the 'global' production network. Cox (1998, p. 41) points out that both relational and absolute conceptions have their purposes, and indeed I do use an absolute definition of scale when limiting my sample frame to IBDs within the fixed boundaries of the City of Vancouver. However, this is more out of convenience than a theoretical preference for an absolute conception of scale. On the contrary, I use the conception of a local scale in a somewhat vague manner, reflecting Paasi's contention that "scales are not fixed, separate levels of the social world" (2004, p. 542). This is not to say that the local scale is not a real or important conception, though, as throughout this paper I argue that actors and relationships at the local scale are of ongoing importance despite the global shift in manufacturing activities. That the local scale is important in the bicycle production network is further demonstrated in many of the quotations from interview respondents throughout this paper. But what is meant by 'local' here is not a specific place with fixed boundaries, but rather a fluid conception that refers variously to neighbourhoods, the city, and even the region, depending on the context. My intention is to illuminate the "main dynamics and contours" (Brenner, 2001, p. 593) of the local scale in the bicycle production network and highlight the importance of the relationships and activities that take place in specific locales despite a shift to global production in the bicycle industry.

Paying closer attention to the local context of IBDs in the global production network offers a more in-depth understanding of how local actors contribute to the structure of a global network. In the bicycle industry, at least, the embeddedness of IBDs in local cycling cultures, along with IBDs' role in creating and representing geographically entangled brands, contributes to the ongoing importance of IBDs in the bicycle production network. However, as I suggest in the research findings, the strength

of the foundations of IBDs' independence in the network is questionable, so the outlook for the future of IBDs is rather uncertain. Before moving on to the research findings, though, I will first give an overview of the methodology used in this research project.

3. Methodology

Understanding how the shift to global production has impacted local IBDs requires data on the current structure of the IBD sector of the bicycle production network as well as historical information about how the sector has changed. To this end, the research data for this project was gathered using a mixed-method approach. To begin, I analyzed trade publications related to the bicycle industry, looking for themes on dealer/supplier relations and the structure of the bicycle industry at the consumption end of the production network. I also looked for statistical information to help provide an understanding of the size of the bicycle industry, the shift in bicycle production from domestic to global, and the historical trajectory of the number of independent bicycle dealers (IBDs) alongside this shift. For Vancouver, the historical trajectory of the number of IBDs was gathered by looking at IBD listings in the Yellow Pages beginning in 1970. Finally, I conducted a series of semi-structured interviews with owners of IBDs in Vancouver, along with representatives of bicycle brands and parts and accessory (P&A) suppliers which are based in Vancouver and sell their products to IBDs. In these interviews, I gained a deeper understanding of how the supply network is structured from the perspective of the IBDs, and I looked for indications of how power dynamics play out between IBDs and their suppliers. In addition, I looked for indications of how IBDs connect with local consumers, with the neighbourhoods in which they are located, and with the broader cycling cultures in and around Vancouver. I had planned to conduct one final interview with the executive director of the Bicycle Trade Association of Canada (BTAC), with the purpose of determining to what extent the situation for IBDs in Vancouver is unique compared with the rest of Canada, however I was not successful in getting an interview with him.

3.1. Content Analysis

For a perspective on how the IBD sector of the global bicycle industry is structured, I analyzed the content of trade publications and sources of industry news. The trade publication that proved to be most fruitful for content analysis is *Bicycle Retailer and Industry News*. This publication is based in the US, and is thus focused mainly on American issues, but it does cover Canadian content as well. Given that *Bicycle Retailer* is also distributed widely in Canada, I believe that the themes which are present in *Bicycle Retailer* are relevant to the Canadian industry despite its focus on American issues. *Bicycle Retailer* releases 18 issues per year, each with approximately 40-50 articles, and covers issues of interest to actors in the IBD channel of the North American bicycle industry, with topics including dealer/supplier relations, technical innovations, mergers and acquisitions, industry events, cycling events, and other news of interest in the industry. Full-text of issues is available through the EBSCO database *Business Source Complete* beginning 1 April, 2002. I began the analysis by selecting two issues at random and looking at all articles in these two issues for themes that would contribute to an understanding of how the bicycle industry is structured and the main issues of concern to those in the industry. The relevant themes I identified were power issues between IBDs and bicycle brands, questions of whether brands should supply exclusively to IBDs to the exclusion of mass retailers and internet retailers, and the importance of building rapport through events such as trade shows. In addition, I found that numerous articles carried an implication that there is something particular about bicycles that sets them apart from other consumer goods, that the value of bicycles goes beyond their dollar value. After identifying these themes in the two issues, I set about to find examples highlighting these themes in all issues by using specific search terms to identify relevant articles. I then read through the articles containing those terms and extracted the passages that highlight each theme. In doing so I was able to synthesize the relevant information and ideas that relate to each theme.

I also looked for other sources of trade information and industry news by looking at websites containing bicycle industry information. For global-reaching information, the website *Bike Europe* provides, among other articles, annual industry overviews for numerous countries, including Canada. The website for BTAC also contains a

smattering of relevant industry information, though it is the least consistent in providing comparable information over a period of time. In the end *Bike Europe* and the BTAC website were only marginally useful for illustrating important themes and concepts, while *Bicycle Retailer* was by far the most comprehensive source of useful information.

3.2. Statistical Data and Business Listings

Statistics were analyzed to provide some context for the current state of the bicycle industry in Canada as well as how it compares to the US bicycle industry. Statistical data was gathered from a variety of sources, including the trade publications mentioned above, which often provide numbers to show trends in the industry. Unfortunately, reliability is a problem for all sources of statistical information on the bicycle industry. It is not a large enough industry to have categories of its own, so bicycles are usually lumped together with other items in statistical analysis, such that bicycle manufacturing in Canada is counted by Statistics Canada under 'other transportation equipment' along with wagons and tanks, while bicycle retailers until recently were included in the category 'sporting goods retailers'. In both cases, it is not possible to identify bicycles and bicycle retailers specifically. Statistics that are published by trade organizations rely on self-reporting among their members, so at best the available data can serve to illustrate general trends in the industry. For this reason, statistics are used in this research project to highlight trends, but they cannot provide specific details about the bicycle industry.

One avenue that proved to be rather fruitful was compiling a history of how the number of IBDs in Vancouver has changed over the period during which the shift to global production occurred. I did this by looking at old copies of the Yellow Pages business directory in five year intervals beginning in 1970 and looking to see how the number of listings for bicycle dealers changed in Vancouver up until 2010. Though online listings and advertising have been overshadowing the role of the Yellow Pages for over a decade now, these listings are still the most comprehensive of any local business directory.

The Yellow Pages listings have distinct categories for bicycle dealers and repairers, and the listings appear to be fairly reliable. The categories did change over time, however. In the 1970s, all bicycle shops and repairers were listed under the category “Bicycles and Repairs,” and I counted all businesses under this category as IBDs. Beginning in 1980, the categories were split into “Bicycles – Dealers” and “Bicycles – Repairing”, so I counted businesses in both of these categories. Many businesses appeared under both categories, but they were only counted once. These categories remained constant until the present. I did not count businesses in the category “Bicycles – Whol & Mfrs” because they are not IBDs, but I mention it here because it was possible to note changes in the number of these businesses over time. This category, however, does not appear to have been as comprehensive as the retail listings, as based on my knowledge of past businesses in the bicycle industry in Vancouver, not all such businesses were included in that category.

By looking at all businesses listed as either bicycle dealers or repairers (or both), I was able to not only see how many IBDs there were at each five year interval, but I was also able to look at the continuity in bicycle businesses. In other words, by looking at the timing of firm births and deaths I was able to see how long IBDs stayed in business over the study period. Further, on a qualitative note, I was able to see how IBDs presented themselves differently at different points in the study period, by analyzing the text in the advertisements, which are present in addition to the standard listings. By looking at the types of bikes advertised and the number and variety of brands listed, I was able to get a sense of how the industry was changing over that time. Though this method was useful in illustrating how the industry changed over the study period, by 2000 a notable drop in the number of advertisements appeared, as internet marketing became the more popular avenue for reaching out to customers. Even when the advertisements dissipated, though, all businesses were still listed in the standard listings. By 2010, only a handful of the IBDs had purchased an advertisement in the Yellow Pages, and the few that did took out small advertisements, thus making it impossible to use these data to illustrate more recent changes in the industry.

I also generated a comprehensive list of businesses for 2012 by consulting multiple databases. This list was created to get the most accurate and up-to-date sample frame from which to select IBDs for interviews. The list was created in the fall of 2012,

and I believe it was accurate at the time, though it is worth noting that I have observed both entries and exits of IBDs since then. The list was not amended to reflect these changes. To create the list, I performed a simple Google search for bike shops in Vancouver, I consulted the online business listing website *Yelp.ca*, I looked at bike shop listings on the interactive cycling website *Pinkbike.com* and listings on the *Metro Vancouver Cycling Map, 5th ed*, and I also sifted through the City of Vancouver's business licence database to find bike shops that may not have been listed elsewhere. The Google search, *Yelp.ca*, *Pinkbike.com*, and the cycling map were helpful in creating a comprehensive list, because while some IBDs were listed in more than one database, many were only listed in one. None of the databases was complete, but combined they generated what I believe is a comprehensive list. If there are other IBDs in Vancouver that did not turn up in any of these listings, then they do not want to be found. The final database I consulted, consisting of all business licences in the City of Vancouver, was not useful because it was neither specific enough, nor accurate enough, to provide any additional businesses to the listing. IBDs were normally listed in this database under the category "Retail Dealer – Sports & Leisure Equipment", which was not specific enough to easily find IBDs among the other businesses in this category, but I also found other known IBDs that were listed under different categories, making it nearly impossible to work with this database to produce listings of IBDs specifically.

Using this method of consulting multiple databases, I generated a list of 49 IBD listings with addresses in the City of Vancouver. Some judgement was required to decide which businesses would be considered to be IBDs. My definition of an IBD is an independent business with a brick-and-mortar retail location whose primary engagement is selling and servicing bicycles and bicycle-related products. While I believe that this is an appropriate way of defining an IBD, I occasionally ran into trouble because I did not always know what the primary engagement of a business is, and finding out accurately would require a separate research project. I therefore did the best I could by looking at websites for individual businesses to determine whether they are primarily engaged in bicycles. In addition, two types of businesses presented some doubt as to whether they were engaged in selling and servicing bicycles: bicycle rental businesses, which for the most part are clustered near Stanley Park, and businesses selling electric bikes and scooters. The former were included in the sample frame because they deal with

conventional bicycles, have accounts with bicycle brands in the IBD channel, and sell their inventory after each season. In addition, they often offer basic repair services. The latter were not included because although electric bicycles appear to be gaining in popularity, they have not yet been widely adopted by the existing production network, and therefore have their own supply channel that exists separately from that which I am focusing on. The final list was used from which to draw potential interview respondents.

3.3. Semi-Structured Interviews

Content analysis of trade publications, statistical data and business listings helped to set the context for the state of the bicycle industry in Canada and North America, but semi-structured interviews were conducted to deeply explore the case of Vancouver's bicycle industry specifically. I conducted 9 interviews in total. 6 were with owners of IBDs in Vancouver, and 3 were with sales representatives or sales managers of bicycle brands or suppliers to IBDs in Vancouver. In order to select the 6 IBDs to interview, I created a list of all the IBDs in Vancouver by consulting multiple databases, as described in the previous section. From the list of 49 businesses that I created, I selected 6 IBDs to contact for an interview on the basis described below. During the interviews with IBDs, I compiled a list of their primary bicycle brands and part and accessory (P&A) suppliers, and selected 3 of those businesses to contact for an interview. The bicycle brands and P&A suppliers I selected were based in the Lower Mainland so that I could conduct the interviews in person. Figure 1 below shows basic information about each respondent I interviewed. It outlines the location and age of each firm, along with the principal bicycle brands carried by each IBD. In order to protect the identities of the respondents, greater detail has been withheld.

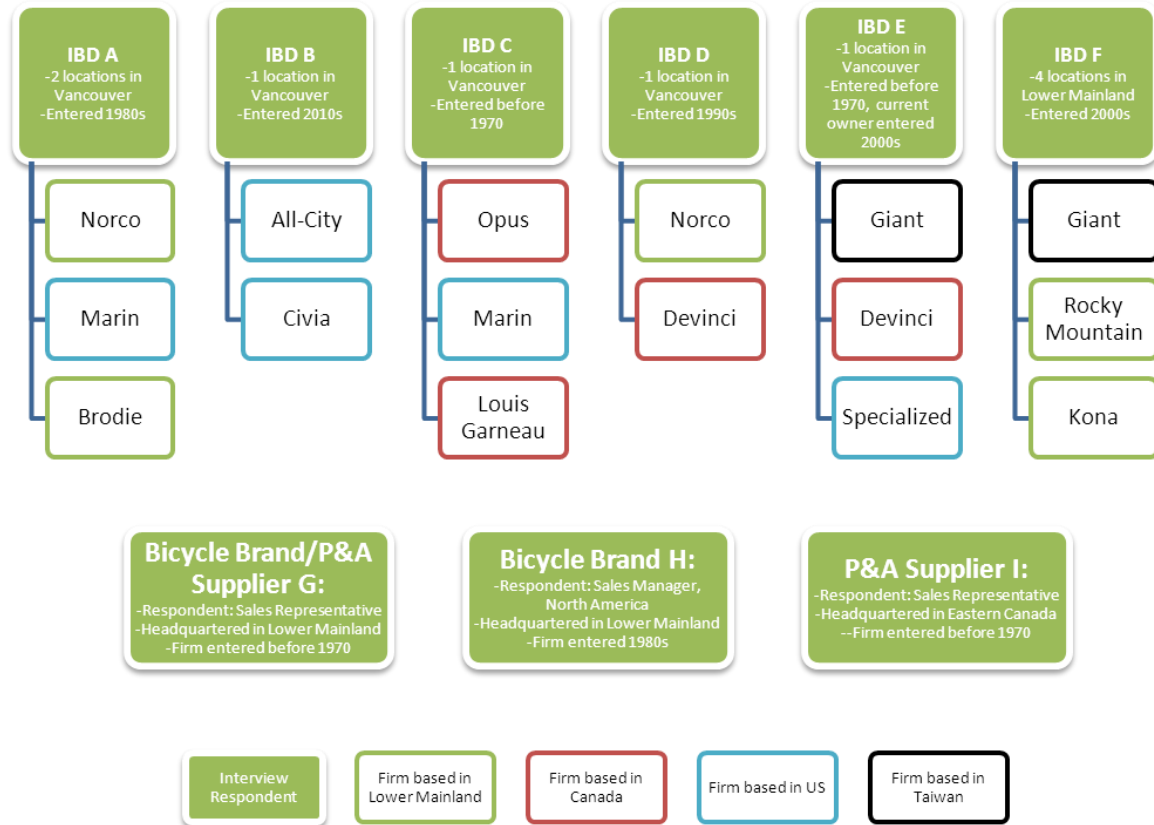


Figure 1. Interview respondents and principal brands for IBDs

When selecting the IBDs to contact for an interview, I attempted to achieve a variety of businesses based on age, brands they carry, and specialization in certain types of bicycles. I was able to know the age of existing IBDs because of the data gathered from the Yellow Pages business listings, and I contacted some of the oldest ones that existed prior to 1970 when my study period began, some middle-aged businesses that were started in the 1980s or 1990s, and some new businesses that were started since 2005. I was able to determine the brands carried by a business and whether they specialize in certain types of bicycles by looking at their websites. Generally, website information included at least a listing of key brands, and some indication of whether they specialize in mountain bikes, road bikes, urban bikes and so on. I created a shortlist of IBDs to contact, and after conducting the first few interviews I reconsidered the remaining list to try and ensure that I would get representation from the key business types. To be more exact, after the first three interviews, I realized I had not

yet interviewed any IBDs that carry any of the big three brands (Trek, Specialized and Giant), so I set out to get interviews with those IBDs in the remaining interviews. I contacted 8 IBDs in total. The owner of one IBD did not respond after several contact attempts by email and telephone, and the owner of another simply declined to participate. The owners of 6 IBDs agreed to participate and were interviewed either at their place of business, at a nearby cafe, and in one case over the telephone because the respondent was out of town.

Bicycle brand and supplier interviews were conducted following the IBD interviews, and respondents were selected because the business they represent was named during the IBD interviews as having a business relationship with the IBD. Further, they were selected because they are located in the Lower Mainland, so that interviews could be conducted in person. I chose to request an interview with the sales representative for this region at each business, in order to best understand how the relationships between bicycle brands/P&A suppliers and IBDs are structured. I contacted sales reps for three different businesses, using publicly available contact information, and all three agreed to participate. Two interviews were conducted at a cafe and one at the place of business for that respondent. One respondent represented a bicycle brand, one represented a P&A supplier, and one represented a business that is both a bicycle brand and P&A supplier.

My research design had included one final interview with the executive director of BTAC. I had been hoping to compare the findings from the interviews in Vancouver with the experience of the broader bicycle industry in Canada in order to assess to what degree there is a distinct local character to the industry in Vancouver. However, I was not able to procure that interview.

Potential respondents were contacted by email or telephone. Before calling or emailing, I took some time to familiarize myself with the business by perusing their website. In some cases, I was able to find out the name of the owner or manager in this way, as well as what brands they carry, whether they specialize in certain types of bicycles, and a rough idea of the size of the shop. This helped me to know who to ask for when I called. In cases where the owner was not named on the website, I sent an email requesting an interview. I introduced myself as a Master's student conducting

research on IBDs and the bicycle industry in Vancouver, and asked if they would participate in my research by being interviewed and sharing their experience about working in the bicycle industry.

The interviews took place between February 12 and April 5, 2013. They ranged in length from approximately 60 to 90 minutes, for a total of 10 hours 46 minutes of interview material. All respondents agreed to have the interviews audio recorded, allowing for transcription and a more in-depth analysis. They were transcribed almost verbatim, but with the omission of words like 'um', 'uh', 'like', and so on. This both saved time in the transcription process and made the transcripts easier to analyze later.

With the IBDs, I asked questions covering three different categories. To begin, I asked for some background information about the respondent and the shop they own. This helped me learn about who is responding, how long they have been in the business, how and why they got involved in the bicycle industry as an IBD owner. The second part was about IBDs' relationships with their bicycle brands and P&A suppliers. I asked them to tell me about which bicycle brands they carry and how the trading relations with those brands are structured, looking to understand how power dynamics play out in these relationships. I also asked about IBDs' relationships with P&A suppliers and how they are different from their relationships with bicycle brands. If the IBD has been in business for a long time, I asked about how trading relationships have changed over time along with the shift to global production, and also how this has impacted their relationship with local consumers. For newer IBDs, rather than looking for changes in the way trading relationships are structured, I considered the ease of entry into the industry and whether the shift to global production has made entry easier or not. The third part of the interview had to do with how IBDs connect with their customers, so I asked about why the shop is located where it is, and whether being located in a particular neighbourhood and having personal face-to-face contact amounted to a competitive advantage for IBDs. Further, I tried to determine if IBDs' connection with local consumers informs dealers' relationships with their bicycle brands and suppliers by looking for examples of feedback between consumers, IBDs and product designers.

The questions for bicycle brands and P&A suppliers were similarly structured in three parts, though tailored to the perspective of suppliers. First, I wanted to know how

and why the respondent got involved in the bicycle industry, and how long the business they represent has been in business. Second, I asked about how many IBDs they deal with in Vancouver and how the trading arrangements are structured. Since the notion of territory came up regularly in the IBD interviews, I also asked the bicycle brands about why they strive to protect territory and how they go about deciding on how to demarcate those territories. I also tried to determine why bicycle brands are protective of territories while P&A suppliers generally are not. The third part had to do with the question of whether IBDs' connection to local consumers has value in the production network from the perspective of the brands and suppliers. This was explored by looking for examples of how the brands and suppliers respond to feedback from local IBDs. In addition, I asked both bicycle brands and P&A suppliers if and why they supply exclusively to IBDs in order to understand what it is about independent retailers that continues to have value in a time of increasing retail consolidation. Sample interview scripts are included in the appendices.

During and after the interviews, I analyzed the data by identifying patterns and themes. This was done using a process of coding and memoing in the manner described by Babbie and Benaquisto (2002, p. 380-388). The coding process helped me to identify the important themes, such as power dynamics between IBDs and suppliers, the role of neighbourhood and territoriality, ease of entry into bicycle dealing and ease of establishing trading relationships with the desired brands and suppliers, how IBDs establish their identities, the role of face-to-face contact and informal institutions in trading relationships, bases for competition between IBDs (price, selection, specialization, other), and local tastes/cultures of consumption. In addition, I looked for examples of how these indicators have changed along with the shift to global production. Identifying these themes helped me determine how the governance model of the industry is structured, how this impacts IBDs, and to what degree IBDs are able to remain competitive within this governance structure. Using memoing over the course of the interviews helped me to make sense of these themes and to identify other themes that I had not foreseen. For example, when I started the research I had not considered the extent to which territory is an important factor in trading relationships between IBDs and bicycle brands. I had made a note of it early on and then began to see that it was an important theme in all of the interviews. Coding allowed me to see patterns in these

themes and begin to develop theories as to why these patterns exist. As well, the coding process allowed me to see cases where respondents had different ideas on the same themes, and so I have sought to explain these differences as well. I compared my own findings to my analysis of *Bicycle Retailer* to determine to what extent the situation for IBDs in Vancouver is unique to the local context.

The research findings are presented in the following sections of this paper. I begin with a presentation and analysis of the data gathered from the Yellow Pages listings, identifying three eras since 1970 and explaining what was taking place locally and globally during those eras. I then move on to an introduction of the key actors at the local scale in the current structure of the IBD network. The data for this analysis was gathered from the interviews and from the *Bicycle Retailer* themes. I then offer a more in-depth discussion on the role of embeddedness in the structure of the local IBD channel, followed by a discussion of the ways that IBDs' independence is established and how IBDs add value in the bicycle production network, again drawing data from the interviews and from *Bicycle Retailer*.

4. Research Findings

In this chapter, I first present a recent history of the IBD sector in Vancouver, covering the period during which the shift to global production in the bicycle industry occurred. I then introduce the key actors at the local scale in the current structure of the IBD sector and I describe the relationships between them.

4.1. Vancouver's IBDs, 1970-2012

To address the ways that local IBDs have been impacted by the shift to global production, it is first necessary to identify some of the ways in which IBDs have changed throughout the study period. This opening section presents quantitative information on the number of IBDs over the course of the study period, as well as how long IBDs tend to live and the rate of IBD entry and exit in Vancouver. In the following sections, I identify three eras in the bicycle industry to help explain these quantitative trends in terms of changing bicycle styles and broader changes in the structure of the bicycle industry. At the same time, I consider how these changes are reflected in the different ways IBDs present themselves in each of the three eras.

To illustrate how the number of IBDs in Vancouver has changed throughout the study period, I analyzed Yellow Pages business listings for Vancouver from 1970 to 2010. By looking at the number of listings in 5 year intervals, I am able to show the change in the number of IBDs in Vancouver at each interval. The number of IBDs in Vancouver has, on the whole, risen since 1970. This number increased faster than the population of Vancouver did during the same study period, indicating that the increase in IBDs is not simply a result of a growth in population during that time (see figure 2 below). Rather, the increase demonstrates a growth in the IBD segment of the bicycle industry. That this trend is reflective of a change in the industry is further demonstrated by the fact that known trends in the industry are visible in the graph. For example, there was a

boom in the consumption of 10-speed bicycles in the early 1970s that resulted in a rise in the number of IBD listings for 1975, but this boom was followed by one of the few periods that actually saw a decline in the number of IBDs over the study period. Similarly, the introduction of mountain bikes beginning in the early 1980s resulted in a steady and significant rise in IBDs as mountain bikes, and cycling more generally, gained in popularity. This growth trend continued into the 1990s, but there was a dip in the number of IBDs for 2000 followed by a slight recovery since then. Based on the interviews with bike shop owners and suppliers this is consistent with anecdotal evidence that there was a decline in popularity of mountain biking as the technology levelled off by the late 1990s.

Number of IBDs in Vancouver 1970-2010 compared to population

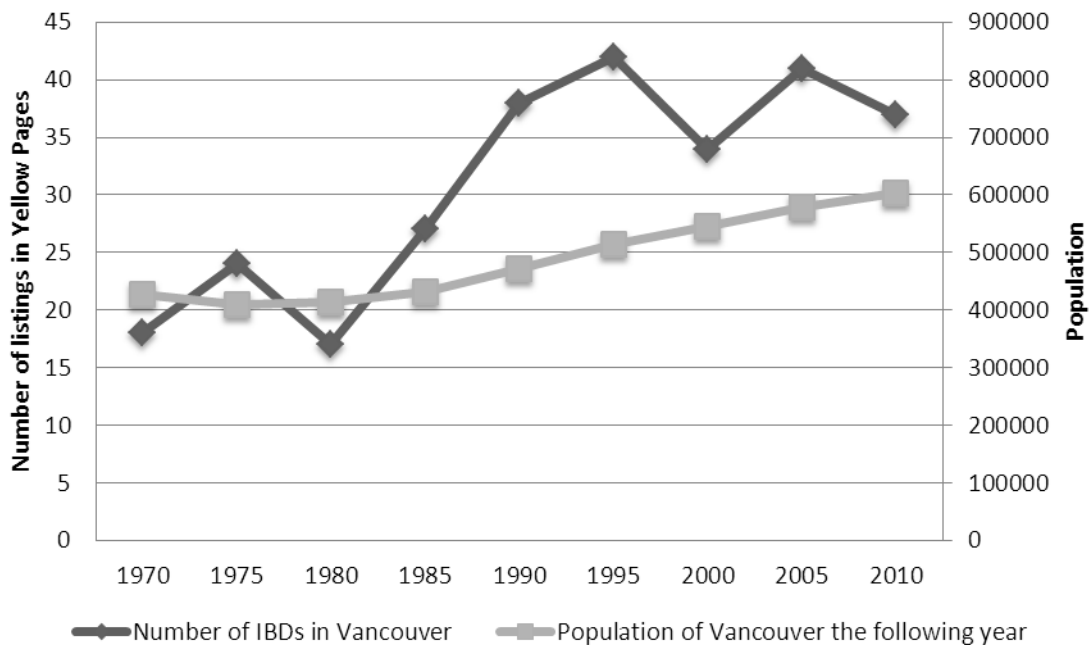


Figure 2. Number of IBD listings in Vancouver Yellow Pages 1970-2010 compared to population

Population figures sources: 1971: Davis, 1997, p. 780; 1976-2011: CHASS, 2013.

Though the number of IBDs on the whole has risen in Vancouver over the study period, the outlook for individual bike shops entering the business is not particularly

good. In fact, while there were 49 IBDs in business in 2012 (more than ever before), since 1970 there have been a total of 157 separate listings. There has been a considerable amount of turnover during the study period, and while some of this turnover can be accounted for by short-lived firms that only appeared once, even longer-lasting IBDs do not tend to live for very long. This is illustrated by the fact that only 3 out of the 18 IBDs that existed in 1970 are still in business today. Interestingly, those 3 businesses are much older still; the youngest was opened in 1946, and the other two are even older than that. Figure 3 below illustrates the lifespan of all IBD listings that turned up in either the Yellow Pages listings from 1970-2010 or in the multi-database search that was conducted in 2012 to identify currently operating IBDs. It is sorted by birth-year, but IBDs that existed in 1970 when the study period began may be older than that. Worthy of note is the fact that 75 (48%) of the 157 listings are short-lived firms, meaning that they only turned up once. The outlook was particularly bad for IBDs that opened in 1975 and 1980, of which none have survived to the present.

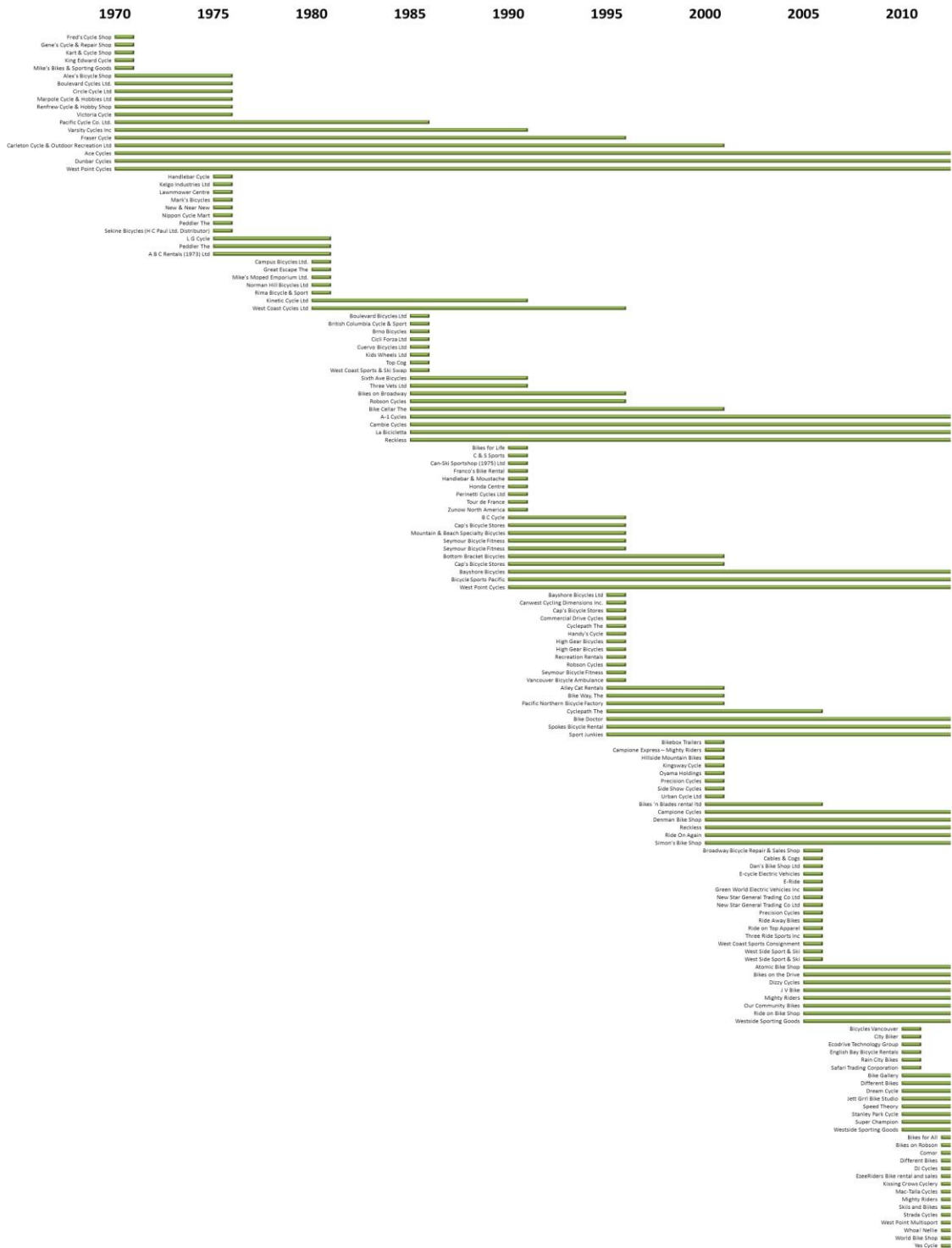


Figure 3. Lifespan of all IBDs in Vancouver, 1970-2012

Sources: 1970-2010 data adapted from Yellow Pages business listings; 2012 data from multiple business listings as described in text.

Note: Lifespan bars that continue to right edge of page indicate businesses that are currently operating as of fall 2012.

Most of the IBDs that were in business in the fall of 2012 when the multi-database search was conducted were established after 2000. To be more precise, 31 of the 49 IBDs currently in operation were established after 2000. There was also a wave of entrants beginning in the 1980s which have survived, yet most of the IBDs that entered the business during that wave have since exited. 15 of the currently operating IBDs were established after 1980 and before 2005. Only 3 IBDs that were in business before the 1980s are still operating. Based on these historical figures, the most likely outcome for a new IBD entering the business is to last fewer than five years. Despite the likelihood of early death, though, there are now more IBDs than ever in Vancouver, and the increase in the number of IBDs occurred in tandem with the shift to bicycle production in Asia.

Qualitatively, the trends in the number of IBDs are accompanied by a shift in the ways that IBDs presented themselves in Yellow Pages advertisements. During the 1970s IBDs tended to identify themselves mainly as purveyors of 10-speed bicycles, and often provided lawnmower and key-cutting services as well, indicating that the local bike shop was somewhat of a jack-of-all-trades with an emphasis on bicycle sales and repairs. But by 1985 there was no longer any mention of lawnmower services or key-cutting, there was only one remaining shop that listed 10-speeds in their advertisement (and this was the last occurrence of the term 10-speed), and there were no fewer than 13 shops that listed mountain bikes as part of their offerings. This is quite a rapid shift considering the term 'mountain' had not occurred in any listing prior to 1985. Throughout the study period, then, IBDs shifted from being neighbourhood shops selling bicycles among other services to more specialized businesses with a specific focus not just on bicycles in general, but certain types of bicycles, with mountain bikes being the most popular at the time.

4.1.1. *The 10-speed boom: 1970s*

In 1970, when the study period began the range of available bicycle styles was limited, with 3-speed roadsters being the dominant style for adults, and 10-speed bicycles just beginning to become popular. 10-speeds, as their name suggests, had ten gears, or 'speeds', which were operated by front and rear derailleurs. The extra gears, compared to the 3-speeds and single-gear bicycles that were available at the time,

allowed for easier riding uphill and faster riding downhill. With their drop-down handlebars, they also put the rider in a more aggressive forward position, making the bikes more efficient to ride, if less comfortable. Within the first few years of the 1970s, 10-speeds exploded in popularity, and neither bike shops nor manufacturers could keep up with the sudden demand (Crown & Coleman, 1996, p. 89-90). As a local example, one respondent whose shop was in business during the 1970s recounted a story that in 1971 the owner of the shop at the time had placed an order for 1000 10-speed bicycles from the French manufacturer Gitane, and by some fortuitous mistake they had shipped 2000 units. This normally would be a bad thing for a small business owner, but in this case it was a lucky mistake, because 10-speeds had become so popular that the shop could not assemble the bikes fast enough, and customers would take the bikes as-is in the box if they wanted their bikes in a timely manner (interview with IBD owner). The inability of domestic manufacturers to keep up with the demand for bicycles during the 10-speed boom provided an opportunity for foreign firms to gain entry into the North American market. European firms had had some market share already (as in the above-mentioned case of Gitane in a Vancouver bike shop), but this boom generated a large increase in bicycle imports, not only from European brands but also for the first time from Japanese brands like Nishiki, Fuji, and Centurion (Crown and Coleman, 1996, p. 93). These Japanese firms proved that Asian-made bicycles and components were not only comparable to or better than domestic and European-made bicycles, they were often less expensive too (*ibid.*, p. 94).

Paralleled with the changing styles of bicycles was a changing geography of bicycle production. Prior to the 10-speed boom of the 1970s, bicycles were made for the most part in their country of consumption by firms with strong national identities. For example, the Canadian Cycle and Motor Company (CCM) was, not surprisingly, Canada's bicycle brand, Schwinn was based in and strongly identified with the United States, and Raleigh was a thoroughly English company. 10-speeds, on the other hand, were often either imported from Europe or Japan, or manufactured in Canada by foreign firms. Peugeot and Gitane, for example, were popular 10-speed brands originating in France, and Sekine and Apollo 10-speeds came from Japan. Some foreign firms had set up manufacturing facilities in Canada to get around the stiff 25% tariff on bicycles at the time, such as Sekine, which had set up a factory in Manitoba in 1973 (The Sekine

Project, 2011), but design and components still originated in Japan. The introduction on a large scale of foreign firms into the Canadian market opened the doors for a shift in the geography of bicycle production, which started in the 1970s with the 10-speed boom but really took off with the introduction of mountain bikes in the 1980s.

4.1.2. *The Mountain Bike boom: 1980s and 1990s*

While the popularity of 10-speeds was rather short-lived, it ignited a renewed interest more generally in cycling among North Americans. Crown and Coleman (1996, p. 92-93) note that after the 10-speed boom in the early 1970s, three different riding styles emerged: bicycle motocross (more popularly known as BMX), which consisted of racing small-wheeled bicycles on a dirt track, bicycle touring, which was not new but did gain popularity into the 1980s, and mountain biking, which was taking off in various hotspots, including Vancouver. All of these styles challenged the established structure of the bicycle industry, and more so than the 10-speed boom they threatened the well-being of domestic manufacturers who were resistant to these changes. While BMX and bicycle touring were surely important to some IBDs in Vancouver, it was the growth of mountain biking that had a long-lasting impact on the structure of the IBD sector. The amount of activity around mountain biking that occurred in the 1980s and 1990s in Vancouver was reflective of similar trends in locations along the west coast of the US, particularly in Marin County, California, but within Canada this amount of activity was unique. Of course there was some mountain biking in eastern Canada, particularly Quebec and Ontario, but the degree of riding, manufacturing and innovation all together in Vancouver was especially high. Unlike the 10-speed boom of the previous decade, this was a more homegrown change in the industry. With the wide availability of multi-speed bicycles and components coming from Japan, local riders in Vancouver started modifying imported 10-speeds to fit smaller wheels with wider tires in order to ride them offroad (CycleEXIF, n.d.). These modified bicycles quickly led to purpose-built frames for offroad cycling, or mountain biking. In Vancouver, several companies were started that made bicycles specifically for mountain biking, including Rocky Mountain, Brodie, Kona, RekTek, Cove, and Offroad Toad. The bicycles were being equipped mainly with Japanese components (including Suntour and Shimano), and those component makers began to modify their offerings to be more suitable for mountain biking (Savage, 2006).

Nonetheless, some local component manufacturers opened up in Vancouver as well, such as Syncros and RaceFace, which both manufactured high-quality bicycle components specifically for mountain biking applications.

In the 1980s and 1990s, then, the bicycle industry in Vancouver saw a considerable amount of activity centred on the mountain bike. From evidence in the interviews, and based on blogs and informal histories on the internet, it is clear that there was during this time a considerable amount of local feedback amongst riders and local framebuilders. One IBD owner stated: “back then, this was the place, and everything that was new and exciting was coming out of here” (Interview with IBD owner). This growth in activity also generated numerous spinoff companies that originated from existing companies. As an example, Rocky Mountain Bicycles came up numerous times in the interviews, partly because it was started out of a local Vancouver bike shop, but also because of its connection with other local brands. Paul Brodie, the founder of Brodie Bicycles, had worked at Rocky Mountain, and Dan Gerhard and Jacob Heilbronn, the owners of Kona and the original importers of Marin bicycles from the US, were involved with Rocky Mountain as well. In addition, the component company RaceFace began as a subsidiary of Rocky Mountain, sharing a manufacturing facility until the late 1990s. Rocky Mountain was at the centre of a web of connections between various companies and actors in Vancouver's bicycle industry, and numerous innovations in bicycle design and riding styles came out of these connections. This activity is also reflected in the growth of IBDs in Vancouver during that period, with many new IBDs (and a few old ones) claiming to be mountain bike specialists in their Yellow Pages ads (as in figure 4 below).



Figure 4. Sample Yellow Pages Advertisement, 1995: Mountain Bike Specialists

Source: BC Tel, Yellow Pages for Vancouver, 1995. Reprinted with permission.

While these innovations were taking place at the local level, they did not go unnoticed internationally. As previously noted, the Japanese component makers Shimano and Suntour were already providing components tailored to this new style of riding, but Asian frame manufacturers were getting into the mountain bike business as well. Japanese companies such as Kuwahara and Bridgestone were following the trends in mountain bike design and offering their own products to the market, and at the same time both Japanese and North American companies more and more were outsourcing production to increasingly capable firms in Taiwan. By this time, Taiwanese firms were able to provide high quality bicycles at significantly lower prices than what could be made in Vancouver. Some Vancouver companies dropped their manufacturing capacities altogether in favour of focusing on product design and marketing, while others retained some manufacturing capacity in order to continue producing higher-end products domestically and to be able to build and test prototypes quickly for a more effective research and design process. The shift to overseas production was also facilitated by advances in frame materials and manufacturing techniques. The cost of tooling up for different materials and techniques in a domestic factory was prohibitive compared to outsourcing to firms in Taiwan or China with more advanced capabilities.

This is consistent with Sturgeon's (2000) observation that innovative firms no longer need to own production facilities, instead focusing on product innovation while volume production is outsourced to merchant manufacturers overseas. Nonetheless, it has remained important for design and marketing activities to be located close to the market, as it allows for a better understanding of the consumers' needs (Vernon, 1979, p. 256). In this new industry structure, the value that manufacturing added was secondary to the research and design process and to the marketing of finished products, so it was logical for firms to retain design and marketing activities in the home market while outsourcing manufacturing to highly capable firms in Asia.

Over the course of the mountain bike boom of the 1980s and 1990s, manufacturing was increasingly uncoupled from the brand name companies, and with good quality manufacturing available through firms in Taiwan (and more recently in China), the barriers to entry for new bicycle brand names were reduced. As designs stabilized for mountain bike frames, it became easier for smaller entrants in the industry to make up a brand name and order complete bicycles from manufacturers in Taiwan. As well, and perhaps with greater impact, this new manufacturing structure allowed existing companies to significantly scale up their production. Companies were no longer limited by how many frames their own framebuilders could build; instead increasing production was simply a matter of placing a larger order. The result of this shift was a significant increase in the brand names available. As an illustration, the number of unique brand names listed in the Yellow Pages advertisements from the period 1970-1980 was 23, while from 1985-1995 it was 121, including complete bicycle brands as well as components and accessories. This rise can be partly explained by a change in the nature of Yellow Pages advertising, in which taking out a larger advertisement had become more commonplace and there was thus more space in which to list the available brands, but it also demonstrates a stronger emphasis on the fact that more brands were available, and indicates that brand names had become important marketing tools for IBDs.

While manufacturing of both complete bicycles and components was increasingly moving overseas, it remained important for companies involved in designing and marketing bicycle products to remain close to the market. While the initial uptick in mountain biking resulted in a surge of innovation in a largely homegrown market,

designs did stabilize and become somewhat standardized. Yet the popularity of mountain biking relied on constant innovation in order to maintain the interest of existing consumers and attract new consumers with exciting new products, and so companies continued to modify and improve existing designs while also experimenting with new designs. This required a knowledge of the market that was achieved by being immersed in it. A common thread in the interviews with both IBDs and suppliers is that people in the bicycle industry are almost always cyclists themselves and have a keen awareness of trends and what other riders are looking for in new products. For brand-name companies, this proximity to bicycle consumers allows them to tailor their offerings based on consumer preferences, and similarly for IBDs the knowledge of local consumers through immersion in cycling allows them to stay relevant to both consumers and to brand-name companies.

The extraordinary growth in mountain biking through the 1980s and 1990s had an impact beyond the trails. While the 10-speed road bikes of the 1970s were quite speedy for getting around the city, they were notoriously unstable to ride, had poor braking power and shifting gears required the rider to remove their hands from the handlebar in order to operate the shifting levers. Mountain bikes, on the other hand, were very stable with their flat handlebars, had stronger braking power on account of improved brake designs, and they incorporated shifting levers that could be operated without removing one's hand from the handlebar. These designs were intended to allow mountain bikers to ride faster and on more challenging terrain, but they also inspired more confidence among cyclists in the city as well, many of whom had taken to riding mountain bikes around town. One IBD owner told me that in the late 1980s he had been using his mountain bike to commute to work, and one day he took his road bike instead and realized how much faster it was. He then set about working with a bicycle brand to design a bike that combined the stable elements of a mountain bike with the speed elements of a road bike. This resulted in the hybrid bicycle, which is now the most common style of bicycle used by cyclists in the city. This example demonstrates that the local innovations that occurred with the mountain bike can also have an influence on other forms of cycling. In this case it resulted in a more widespread adoption of cycling as a form of urban transportation, on account of its increased speed and stability.

4.1.3. Back to the pavement: the 2000s

The local firm activity around mountain bikes is no longer as localized as it once was. The respondent who stated that in the past “everything that was new and exciting was coming out of here” went on to say that “now, it's a lot more global, and tidbits and improvements come from all over the world” (Interview with IBD owner). This is not to say that there is no firm activity around mountain bikes in Vancouver anymore, but it is much less concentrated and less place-specific than it once was. Yet Vancouver retains a place-based connection with bicycles in a different way: it has developed a reputation as a bikeable city, no doubt due in part to the initiatives in the *Greenest City 2020 Action Plan* (City of Vancouver, 2012). Vancouver ranks a close second among Canadian cities for bikeability, according to Bike Score (Winters, 2012), and the city's mayor is well-known to be a dedicated bicycle commuter. The city has installed several new separated bike lanes and made improvements to existing cycling routes. One IBD owner stated that Vancouver's cycling infrastructure is one of the biggest factors to his success (Interview with IBD owner). Other respondents also noted that urban cycling is on the rise. One IBD owner, for example, stated that in Vancouver,

people are moving away from cars and onto bikes, whether it's environmental or health or because it's easier or cheaper.... And if you look at the rest of Canada, you might see some of that...but that's not usually the way bikes are consumed (interview with IBD owner).

Whether these changes are driven by cyclists or by policy is difficult to say, but either way it contributes to Vancouver being identified as a good city for cycling.

The styles of bicycles that are associated with this shift towards urban cycling are not as well-defined as in the 10-speed and mountain bike eras. With the shift to overseas production, the breadth of product that is available has increased dramatically, so one can observe a wide variety of bicycles being used to get around the city. As a generalization, though, IBDs selling new bicycles for city cycling tend to sell a style broadly referred to as “hybrid” bicycles, which are a combination of flat handlebars and a more upright position like a mountain bike, and larger wheels with skinnier tires like a road bike. There was no agreement among respondents about what these bicycles should be called. They were referred to variously as utility bikes, pavement bikes, urban bikes, city bikes, and so on, but their function is clear: to act as a mode of transportation

and recreation on city streets and paths. The popularity of these hybrids began in the 1990s, but really picked up after the turn of the millennium. And though there is little in the way of novel technology, they do stand as a symbol of this current era in a city that increasingly identifies with a culture of cycling for transportation.

Having identified the key eras in the shift to overseas bicycle production from the perspective of Vancouver, I now move on to an analysis of the current state of Vancouver's IBD network by describing the key actors in the local IBD channel and the relationships between them.

4.2. Actors in the IBD channel in Vancouver

The GPN framework calls for consideration of a broad range of actors who play a role in generating the structure of the production network. As this research is concerned mainly with placing IBDs within the broader structure of the network, this section will consider the role of IBDs themselves as well as the actors that they connect with. These actors are both firms and non-firms. The main types of firm actors are bicycle brands and part and accessory (P&A) suppliers, while the main non-firm actors are consumers. Of course these actors do not comprise the entire bicycle production network, but they are the actors that connect most directly with IBDs. Across all of these actors, it will become apparent that the informal institution of trust, and other non-firm factors such as the importance of brands and branding play an important role in the structure of the network. In addition to actors in the IBD network, a brief consideration of other retail actors that offer an alternative to the IBD model will also be given in order to help explain why non-IBD actors in the IBD network remain committed to the IBD model. While this categorization of actors in the network is admittedly somewhat crude, it does help to clarify the roles and relationships of various actors in the IBD channel of the bicycle industry.

4.2.1. *Independent Bicycle Dealers*

IBDs are at the centre of the production network under investigation. They are not the largest firms in the network, nor do they, as individual actors at least, hold the

most power in their relationships with other actors in the network, but they are critical actors in that they are a central point around which the network is organized. This is supported by the fact that the bicycle brands and P&A suppliers that sell their products to IBDs for the most part sell exclusively through this retail model. There is thus a great deal of commitment to the IBD model among other firm actors in the production network. Whether consumers are as committed to this model is more difficult to say, but as will be discussed in the following section on embeddedness, there is evidence to support the idea IBDs are important to bicycle consumers as well.

While IBDs are far from uniform, there are some common features among them. In Vancouver, they are almost all small or medium sized retail stores. Almost all IBDs have only a single location, with five IBD businesses having 2 or 3 locations in the Lower Mainland, one having 5 and one having 6. Very few have more than one location in the city proper. Since the listing was created in the fall of 2012, however, several of the multi-location IBD businesses have closed at least one location, suggesting that there is some difficulty in sustaining several locations.

IBDs tend to locate themselves directly on commercial thoroughfares in the city, and though there is some clustering of IBDs in some areas, they are also dispersed throughout the city's main commercial areas. Geographic distribution is an important consideration in location decisions for IBDs, and the notion of 'having a territory' was a common thread throughout the interviews I conducted. This geographic dispersion indicates that being in particular neighbourhoods is important to IBDs, with an important customer base coming from the immediate neighbourhood. This territorial embeddedness of IBDs in particular neighbourhoods will be discussed more in depth in section 5.1.3.

While most IBD respondents acknowledged that an important customer base comes from the immediate neighbourhood, some cited a strategy of specialization in certain product categories in order to expand their geographic reach. For example, shops might specialize in carrying a strong selection of high-end road bikes and related accessories, and become known for expertise in this style of bicycle riding. In this way, they can become a destination for customers to come from a greater distance in order to have access to this product selection and expertise. Still, for the most part, shops that

specialize in certain high-end products will cater to the more general needs of consumers in the immediate neighbourhood. One respondent explained that the geographic reach of his customer base varies depending on the product category: for kids' bikes and commuter bikes, customers come from the immediate neighbourhood, while for high-end downhill mountain biking products that his shop specializes in, people come from across the city, and even from around the world on their way to downhill mountain biking events in Whistler (interview with IBD owner). While this is perhaps an extreme example, it serves to illustrate how the geographic reach of an IBD's customer based can vary depending on the product category they specialize in.

In addition to neighbourhood affiliation and product specialization, an important way in which IBDs tend to identify themselves is by the bicycle brands they carry. Whereas it was common in the 1990s for IBDs to carry many different bicycle brands, sometimes upwards of 10 or more, it is now the case that IBDs will carry 2 or 3 key brands, and *might* carry a few niche brands on top of that depending on whether the shop specializes in certain riding styles. This shift to carrying fewer brands has strengthened the relationships between IBDs and bicycle brands, with both parties seeking long-term relationships rather than loose supply arrangements. While this shift may indicate a strengthening of the power of bicycle brands in their relationship with IBDs, the exact nature of the relationship will depend on which brands IBDs choose to, or are allowed to carry. For example, several of the respondents I interviewed deliberately chose to carry only medium-sized brands as a strategy to maintain their independence, while others extolled the value of having a large brand in their store because people come in specifically for that widely-recognized brand. The risk, however, is that the largest brands have more power to dictate how much floor space must be devoted to the brand, how much breadth of product a shop must carry, and in some cases they may tie in minimum accessory purchases with the requirements for being a dealer of that brand. This was a common complaint in the letters section of *Bicycle Retailer*. Among the IBD respondents in this study none had had the problem, though it was cited as a reason not to carry certain brands. This shift towards strengthening relationships between bicycle brands and IBDs is the opposite of what is happening between bicycle brands and manufacturers, which have become less secure over time (Gao et al., 2012). Therefore, there is something different about the relationship between

brands and IBDs, compared to the relationship between brands and manufacturers, that makes strong ties with IBDs important. I suggest that various forms of embeddedness and the intangibility of brand associations contribute to the strength of ties between bicycle brands and IBDs. These concepts will be discussed further in Chapter 5.

As the GCC, GVC, and GPN literatures are all concerned with the distribution of power in the production network, a consideration of IBDs' power in the network is in order. On one hand, the fact that the IBD model remains prominent and part of the bicycle production network is dedicated to exclusively serving this segment of the industry indicates that IBDs as a whole retain a fair amount of power. On the other, since IBDs are small- to medium-sized independent retail businesses they are bound to working within the confines of a larger structure, meaning that their individual ability to wield power in the network is limited.

4.2.2. *Bicycle Brands*

Since the shift to global production and the decoupling of production from innovation, bicycle branding firms tend to focus primarily on designing and marketing complete bicycles, while outsourcing production to contract manufacturers located mostly in Asia. They operate separately from P&A suppliers and usually deal directly with IBDs, having a sales team devoted to establishing and maintaining relationships with IBDs. The ways that bicycle brands engage with local markets depends on the size of the firm. The three largest brands, Specialized, Trek and Giant, are global companies with broad distribution networks. They keep abreast of broad trends in the market and have such a wide range of bicycle models that they can meet the needs of local markets by tailoring the available models in those regions. Small- and medium-sized brands are more dependent on regional markets and thus locate themselves in places with distinct cycling cultures in order to offer the most suitable products. Vancouver is home-base for numerous medium-sized brands, including Norco, Rocky Mountain, and Kona. Though all three of these examples have a degree of global distribution, they draw their knowledge of consumer demands from being immersed in a local region with a high degree of bicycle consumption. To illustrate this point, one bicycle brand respondent explained that it is

invaluable for us to be connected with the community. So to [position] ourselves [in the Lower Mainland is strategic], not only from a company perspective because it allows us to be right on the testing grounds for what we develop our product for, [but also because] it brings us closer to our consumer, closer to our dealer, to improve that communication cycle (interview with bicycle brand representative).

This brand, like most others, is no longer engaged in manufacturing activities, but instead outsources to contract manufacturers in Asia. Importantly, though, this medium-sized brand finds that being proximate to consumers and dealers is important for communication and for product development.

Several respondents pointed out that one of the challenges in the industry is that any bicycle brand can produce bicycles at comparable prices and qualities. This is largely due to the fact that since manufacturing has been decoupled from innovation and branding, the same contract manufacturers produce bicycles for many bicycle brands. In addition, the modularity of bicycle components results in the same components appearing on many different brands of bicycles. Often, then, the primary difference between different brands of bicycle in the same style and price-point is the brand name on the bicycle and the colour scheme. To highlight this point, one IBD respondent joked that the most important person at the factory is the one who puts the stickers on, indicating that besides the brand name on the bicycles there is little difference between them. This is not always the case; at the high-end, product innovation provides important differentiation and enhances value. For products below the high-end, though, innovative designs and features do not play such a role, and bicycle brands must use other methods to uphold the value of their products. Establishing brand value is one such method, and as such bicycle brands have emphasized the importance of dealing with IBDs that will represent the brand itself, rather than just selling bicycles based on the merits of individual models. A sales rep for a bicycle brand explained that 15 years ago, IBDs would pick out the best \$500 bike, the best \$1000 bike and so on, regardless of the brand name, but now IBDs are required by bicycle brands to carry the same brand across all price-points and product categories in the store. He described this requirement as “getting your whole brand story told” (interview with bicycle brand representative), and this notion of a “brand story” highlights the importance of differentiating based on branding.

Based on the responses in the interviews, bicycle brands employ a variety of strategies to gain the brand representation they ask of IBDs, using a combination of incentives and consequences. Incentives generally include volume discounts and further discounts if an IBD covers a minimum number of product categories. Consequences may include loss of exclusive dealership of the brand within a certain territory, or even the possibility of being dropped entirely by the brand. I did learn of cases in Vancouver where a brand dropped a dealer because they felt the dealer was not adequately representing the brand, and in one particular case the sales rep for a brand explained that even though they did not have a replacement dealer in that territory, his brand would rather not be represented at all than be represented poorly. Part of the explanation for how that shop was poorly representing the brand was that there were too many other brands in the relatively small shop and that the shop was not carrying enough models or devoting enough floorspace to adequately represent the brand.

The ability of bicycle brands to dictate how much physical representation they get in an IBD depends on the size and popularity of the brand. Widely recognized major brands like Trek and Giant can ask for big commitments from IBDs because there can be great value in having a major brand in an IBD, and an IBD can identify itself as being a dealer for one of the big brands. Medium-sized brands may not be able to achieve such good representation in a bike shop, either because the shop already carries a major brand, or because they are one of a few medium-sized brands in the store. In such latter cases, the IBD does not identify itself as strongly with what brands they carry, but rather the shop itself is its own brand, regardless of the bicycle brands it carries. This may drive the bicycle brand to lean towards incentives rather than consequences in trying to leverage a better position for itself within a given IBD, because the threat of withdrawing from that IBD may not have a large impact on the identity of that shop.

Bicycle brand respondents explained that there are various criteria for establishing a relationship with an IBD. The first is territorial, meaning that bicycle brands will not open an account with an IBD if it is too close to an existing dealer of that brand. The second is financial, meaning that the bicycle brand will take various measures to ensure that the IBD will be able to pay for the product they order. Finally, the IBD must be able to properly represent the brand by building equity in the brand name. This is achieved by abiding by minimum prices to not diminish the value of the brand, by

carrying an adequate selection of the brand's models, and also by having expertise in order to legitimize the brand. This last point is exemplified by a statement made by a bicycle brand representative:

If we enter into a region and we choose a[n IBD] partner that's heavy into the pavement, and they do really well with our commuter bikes, our sport hardtails, even kids bikes for that matter, but they don't have a mountain bike presence or a mountain bike business, it gives us an opportunity to look at a second dealer in that area that's focused on the mountain bike portion.... We want to...expose that product to each customer of ours, but if it's in the interest of our brand and the interest of those stores, we may say "the urban shop doesn't have access to full-suspension product, whereas the other partner, they're exclusively full-suspension or exclusively mountain bike product".... If we can't find one shop that will do the best job to represent the full product line, sometimes it makes sense to split it up like that (interview with bicycle brand representative).

The interesting point here is that the identity of the IBD is an important consideration when bicycle brands establish relationships with IBDs. The first IBD does not have the necessary expertise to represent, or is simply not interested in representing the mountain bike portion of the brand's lineup, so the brand will look for another partner that can uphold the value of the mountain bike portion of their business. The bicycle brand is looking for certain attributes in an IBD to represent the brand in a certain way.

For both bicycle brands and IBDs, establishing and maintaining long-term relationships is important. Brands want consistency in the way their products are represented, while IBDs identify themselves to varying degrees by the bicycle brands they carry. These relationships are sustained in a variety of ways. For one, face-to-face contact between bicycle brand representatives and IBD owners and/or managers plays a role in strengthening relationships over time. These relationships help to build trust and common understanding between the different actors in the network. One IBD respondent explained that

[the sales representative] can be helpful for a clearer understanding on the wholesaler's part about what the nature of our store is. I've got suppliers out east who have never been in our store and have no idea what it's like. Their only sense of us is by looking at the sales volumes and the types of products we buy from them. The sales reps can convey that information and the message of what we stand for and represent as a bike business. That's a really good thing (interview with IBD owner).

This business model of having a sales representative visit IBDs regularly and develop a common understanding helps to strengthen the relationship between bicycle brands and IBDs. Some respondents explained that the role of sales representatives has changed over time. One respondent said that “25 years ago the rep was an order taker. Now, the rep is a relationship smoother-outer. He's a source of intelligence in the industry” (interview with IBD owner). A bicycle brand representative agreed, saying that 15 years ago, “whoever went through the door got the order.” But now, he said, IBDs

view the relationship between the supplier and the retailer more in terms of a partnership...as opposed to treating it as a simple supply relationship. The more you can integrate our business with their business and grow the business together, that forms a partnership, as opposed to 'how much is your city bike?' or 'what spec does your \$500 city bike have?'

In this example, the partnership becomes more about maintaining a strong relationship over the long term, rather than basing the relationship on the merits of individual product offerings. This shift in language to a 'partnership' was common throughout the interviews I conducted.

Another way that the relationship between bicycle brands and IBDs is sustained is through trade shows and other product introduction events. Several respondents explained that the value of attending trade shows was no so much about seeking out new products, but rather to strengthen existing relationships between IBDs and bicycle brands. One IBD respondent explained that the importance of trade shows is

Massive. It goes a long way to cementing really good relationships. It might sound weird, but being real in those moments goes a long way. Sticking around to help tear down after a trade show and going out for beers afterwards puts you on a first-name, friendly basis, and they're all genuinely interesting people.... There's lots of ways to do business, but if you find people you like, become friends, and you really cement that (interview with IBD owner).

Another IBD owner explained that he does send staff to the annual trade show in Las Vegas, but the value is not in finding new products but rather to maintain and strengthen the relationships with brands they already carry:

For sure there's an opportunity, [my staff] often go out for dinner or whatever with one of the suppliers.... What I've seen though is, the ones that they spend the time with and go out for dinner with are already the ones they have the best relationship with, so it's more of a perk, they enjoy the break, they go to Vegas,

have some beers at night, and hang out and get all bike-geeky for a couple of days.... So the trade shows, less and less is there anything new to see. So, we go, but not for the reasons you might think (interview with IBD owner).

Having recognized that the importance of trade shows has become more about relationship-building than finding new trading partners, bicycle brands are now shifting their strategy away from trade shows and towards holding their own local events. For these events, a bicycle brand will invite all of their local dealers and the dealers' staff to a day-long event where they can learn about upcoming products and test ride new bicycle models. A bicycle brand representative explained of this model that

the opportunity to get that captured audience for a full day versus just a quick 30 or 45 minute meeting on a trade show floor, you're able to instill not only the confidence but certainly provide them with much greater depth of information about the product, the process, the company, the culture, for them to make what we hope is a larger commitment or really strengthen that relationship (interview with bicycle brand representative).

This example demonstrates that strengthening the brand's relationship with IBDs is not simply a matter of extolling the virtues of the products they sell, but also about establishing a common culture in order to strengthen the relationship between the branding firm and their existing dealers. An important role of both the trade shows and local events, moreover, is to develop a camaraderie based on a mutual passion for cycling that helps to strengthen the brands' relationship with IBDs.

4.2.3. *Part and Accessory Suppliers*

The P&A supplier business model is a direct result of the shift from vertically integrated domestic production to globally dispersed production. The two largest P&A suppliers in Canada both started in the 1960s, and their business was importing replacement parts and basic accessories from manufacturers in East Asia (mostly Japan at the time). At the time the selection of product was small, with perhaps 50 different items, but they had seen a gap in the market where they could sell these parts to IBDs at a lower cost and with more reliable availability than the major domestic manufacturers at the time could provide. This model proved to be successful, and with the expansion of bicycle styles available in the 1970s with the sudden popularity of 10-speeds and then the explosion of styles with the mountain bike boom in the 1980s the P&A suppliers were

well-poised to capitalize on this enormous increase in the selection of parts and accessories for all bicycle styles. The largest P&A suppliers now have thousands of different product offerings. For the most part, though, P&A suppliers do not sell complete bicycles.

In contrast to bicycle brands, P&A suppliers will sell their products to any IBD that will buy it. There are some criteria: it must be a brick-and-mortar retail store, they must be able to establish credit, and it must not be a mass merchant, but beyond that there is very little protection of the products supplied by these suppliers. The larger P&A suppliers will carry a full breadth of brands and products, including replacement parts for bicycles such as brake pads, tires, drivetrain components, wheels, saddles and so on, as well as a range of accessories, such as fenders, carrying racks and bags, helmets, lights, and possibly soft goods such as jerseys, jackets, cycling shorts and so on. For the most part, P&A suppliers do not impose territorial restrictions on the products they sell, meaning that two IBDs side by side could carry the same selection of parts and accessories even though they could not carry the same bicycle brands. In addition, many brands of products, especially bicycle components, are distributed by more than one supplier, so suppliers cannot always rely on exclusive dealership of a given brand. For this reason, P&A suppliers are more likely to use incentives to increase their business with IBDs, because there is not much in the way of meaningful consequences. There are some indications that this structure is changing, however, as the sales rep for one large P&A supplier told me that they are in the process of reducing their brand offerings, focusing on premium brands over which they can arrange exclusive distributorship in Canada, and are even starting to impose territorial restrictions on some of the premium brands they carry, in the same manner that bicycle brands do.

Though P&A suppliers do not practice the same exclusionary methods that bicycle brands do, they still take measures to strengthen relationships with IBDs and generate long-term partnerships. As with bicycle brands, developing trust and familiarity through face-to-face contact and a common culture of passion for cycling is an important basis for such relationships.

4.2.4. *Bicycle consumers*

A major and long-standing critique of the GCC, GVC, and GPN frameworks is that they tend to focus on firms and the relationships between them, but rarely pay attention to the final consumers for whom production networks exist in the first place (Coe et al., 2008, p. 286). This research project can be subject to the same critique, in that consultation with consumers was not part of the research design. I therefore cannot directly address questions of why consumers shop at IBDs or why they buy some brands over others. But it is possible to offer some insight on consumers based on the ways that respondents talked about them. IBD owners, bicycle brands, and P&A suppliers have developed a typology of consumers which they use to explain the varying product offerings in different market segments. In addition, consumer tastes are often reflected in the product selection in IBDs, and bicycle brands find value in being connected with consumers as well.

The primary way in which respondents talked about consumers was in terms of a dichotomy of recreational and enthusiast consumers. This typology serves to explain the two main types of customers that IBDs are striving to attract, and trying to meet the needs of both types of consumers can be a challenging balancing act. Enthusiasts are people who are committed to cycling, usually in a sport capacity like road racing or mountain biking, but sometimes as serious bicycle commuters. They have likely owned many bicycles and certainly have purchased many accessories and replacement parts, and they tend to be fairly knowledgeable about the various products on the market, and they are interested in the latest innovations as well. Recreational cyclists, on the other hand, cycle less often, have less knowledge about (and perhaps little interest in) the variety of products on the market or the latest innovations, and they may be just as likely play tennis or go for a run as ride their bikes to spend their leisure time. The challenge for IBDs, then, is to maintain the expertise and knowledge required to attract the enthusiasts, but also to maintain the interest of recreational cyclists, and not come across as intimidating or condescending to recreational consumers. Catering to these two separate markets is a challenge for IBDs and bicycle brands, and one that will be addressed further in the section on commoditization of bicycles (section 5.2.2). Respondents agreed, though, that most IBDs cannot sustain themselves on the

business of enthusiasts alone, and so they must make efforts to attract the recreational consumer base in order to be profitable.

As previously mentioned, the geography of the consumer base varies depending on the type of consumer. Recreational consumers are more likely to shop in their immediate neighbourhood, while enthusiasts may travel further in order to access a shop that has a particular selection or expertise. Respondents for the most part agreed that their selection of products is based on past sales, and in this way consumer tastes play a role in shaping the offerings of each IBD. To highlight how different localized tastes are reflected in IBDs, several respondents suggested that IBDs in the City of Vancouver tend to have a pavement-oriented focus, while IBDs in North Vancouver, for example, have more selection in mountain bikes. One P&A supplier stated that

specific regions cater specific merchandise based on the clientele... Unequivocally, North Van is where 85% of the mountain bike business is done, where it's sold, where people go to buy mountain bikes, parts, knowledge from staff, whatever it may be. It's all done in North Van. You come to the Broadway district of Vancouver, it's a neat clash between mid- to upper-end road bikes, and commuter bikes, and seeing the retailers in terms of how they cater to both where you don't see any high-end mountain bikes on the floor at all, which is the polar opposite if you were to go over to North Vancouver (interview with P&A supplier).

While most respondents supported this generalization, they also cautioned that catering too heavily to the localized tastes of enthusiasts could alienate recreational consumers. An IBD owner stated

if you follow what people are asking for, like all the guys in North Van looking for full-suspension bikes for the North Shore, eventually it turns into that's all you sell. So you narrow your market base and your appeal, and you turn into one of those intimidating bike shops that normal people don't want to go into (interview with IBD owner).

The challenge for IBDs, then, is to balance the demands of local enthusiasts with the more general tastes of recreational consumers. This challenge will be addressed further in the section on commoditization of bicycles.

The role of consumers in the bicycle GPN is not only important because of their relationship with IBDs; connecting with local consumers and receiving feedback is important to local bicycle brands as well. This connection is achieved through demo

events, and also simply through immersion in consumer cultures. Many bicycle brands hold demo events where they bring a selection of bicycles to a location and allow consumers to try them out. One brand representative explained

we do [demo events] so locally, we can get consumers out to test our product, to ride our product, we can get immediate feedback from the consumer.... Innovation is huge...but at the same time you can produce some of the most innovative product in the world, but if consumers aren't going to grasp that product they're not going to invest and buy into it. So for us it's really important to stay connected to that retail and consumer chain to aid in the R&D process, to ensure that when we are innovating products, it certainly makes sense from a functioning bike standpoint, but it makes sense from a consumer standpoint as well (interview with bicycle brand representative).

This statement highlights the need for bicycle brands to position themselves within cycling communities not only by introducing new product to them but also by receiving feedback and understanding what “makes sense from a consumer standpoint.” This is achieved through holding local events such as product demos. The feedback received from consumers at these events helps to shape bicycle brands' product offerings and in turn the product selection of IBDs as well. The role of consumers, then, is an important consideration in the structure of the bicycle production network.

4.2.5. *Alternatives to the neighbourhood IBD*

Of course, IBDs are not the only type of retailer from whom consumers can purchase bicycles and related products. From a business competitiveness standpoint, non-IBD retailers represent a potential threat to IBDs. While these actors are not directly involved in the IBD channel of the bicycle industry, they are part of the broader bicycle GPN, and their actions impact on the structure of the IBD network as well. It is thus worthwhile to briefly discuss the two main types of actors who provide this potential threat to IBDs: mass merchants and internet retailers.

Mass merchants: Threat from below

The above-described firm actors in the IBD sector of the bicycle industry work almost exclusively from the mass merchants who are also engaged in bicycle and accessory sales. Upstream in the network at the manufacturing level, there are connections in common, but at the retailer/distributor level, the two sectors are fairly

distinct. Bicycle brands in the IBD stream in particular are loathe to sell their product through mass merchants in addition to IBDs. One reason given for bicycle brands to avoid selling through mass merchants is a fear that brand image would be undermined if an IBD brand were to appear in a mass merchant store. A bicycle brand representative explained

In our office, our catchphrase is 'IBDs build brands'. Once they're built, then Walmart, MEC [Mountain Equipment Co-op], and the like want them once they're built. But the challenge there is once they go into those entities in terms of distribution channels, the cachet gets lost and the brand gets discarded [by IBDs] (interview with bicycle brand representative).

IBD-focused bicycle brands insist that mass merchants cannot provide the same level of service, quality of assembly, or sales expertise. But in addition to protecting brand image, there is also a power issue at play. Bicycle brand representatives pointed to the fact that although the business of mass merchants is lucrative, it also puts the brand in a much weaker position. Engaging in high-volume sales with very few mass retail partners results in a loss of business from the IBD partners, but also puts the bicycle brand in a captive position in their relationship with mass retailers. A statement from a bicycle brand representative serves to highlight these points:

putting all your eggs in one basket, so to speak,...really limits your additional distribution avenues. So if we limit ourselves to [a single mass retailer], and we don't have the protection or preservation of our existing IBD network, that can change overnight, and that's one person buying our product. If they have 30 or 40 locations, if they turn that off, all of a sudden our business is gone, and we've completely damaged our reputation in the IBD marketplace (interview with bicycle brand representative).

In order to avoid these hazards of dealing with mass merchants, bicycle brands that sell through the IBD channel are very loyal to the independent retail model. This contributes to the ongoing relevance of IBDs in a time when many retail sectors are threatened by retail consolidation.

The reason that IBDs view mass merchants as a potential threat is because they target recreational consumers with low-priced products instead of competing on quality of service or expertise. This has the effect of commoditizing bicycles by shifting marketing away from quality and innovative features and instead focusing on price-oriented marketing. One IBD owner explained that mass merchants have dominated low

price-point bicycles for a long time, but now they threaten to move into more expensive bicycles as well, taking away business from the recreational consumers who might otherwise shop at IBDs.

Online retail: Threat from above

While mass merchants threaten to take business away from recreational consumers in the lower price points, online retail is targeting the enthusiast customer base. The threat of online retail came up in most interviews with both IBDs and bicycle brands/P&A suppliers. Respondents had varying opinions about it, and strategies for dealing with it. Some IBDs had developed their own online retail store to capitalize on this shift in retail sales, while others reasoned that they would not be greatly affected by the rise in online retail. Similarly, bicycle brands and P&A suppliers had varying opinions. One respondent said that his firm was integrating an online retail component into their dealer network, while another explained that while they had experimented with online retail in the past, they would be avoiding it altogether going forward, saying “we want to ensure that the consumer has the right fit, the right product, the right follow-through service, and you can't get that over the internet” (interview with bicycle brand representative). Online retail targets cycling enthusiasts who are already quite knowledgeable about bicycles and P&A, are willing to do their own research and thus do not need the knowledge and expertise of a local bike shop to help with their buying decisions. Further, these consumers buy high-quality (and therefore high-priced) products where the savings achieved from buying online can more than offset the cost of shipping the product.

So while mass merchants are creeping into higher-priced products from the low-end, online retail is capturing market share mostly from the very high-end, leaving IBDs with all of the sales in between. For now, IBDs remain relevant in the mid-range categories because of their knowledge and their physical neighbourhood presence, but how much of a threat online and mass merchant retail will be to the IBD retail model in the future depends on who you ask.

This section has identified the key actors at the local level of the IBD sector of the bicycle industry. It has considered the roles that each type of actor play and how they connect with one another. The following chapter will discuss in greater depth how these

actors are connected with one another, proposing that embeddedness is a prominent factor in how the local sector of the bicycle industry is structured, and will consider the foundations on which IBDs base their independence within the bicycle production network.

5. Discussion

Having identified the key actors at the local scale in the IBD channel of the bicycle industry, and having explained the historical trajectory of the bicycle industry leading to its current state, I now offer a more in-depth discussion on the structure of the local sector of the bicycle industry. I begin by proposing that various forms of embeddedness provide an explanatory mechanism for how the IBD network is structured and for the ongoing importance of interactions at the neighbourhood and city scales. I then turn to a discussion of the foundations on which IBDs base their independence, and the role of innovation in upholding the value of both bicycles and IBDs.

5.1. Three dimensions of embeddedness in the structure of the local IBD network

Relationships between the above-mentioned actors in the local IBD sector of the bicycle industry are mediated by factors well beyond rational economic decision-making. Connections between actors are steeped in shared cultural values and are founded on trust that is built up over time. As well, connections between actors are mediated by territory; where actors are located plays a role in how they are connected with other actors in the network. To explain how these factors help shape the bicycle production network, I use three dimensions of embeddedness as described by Hess (2004): societal embeddedness, network embeddedness, and territorial embeddedness. Together, these factors play an important role in shaping the local segment of the bicycle GPN.

5.1.1. Societal Embeddedness

The relationships between IBDs, bicycle brands and P&A suppliers as well as between IBDs and bicycle consumers are mediated by shared cultural interests. There are many cultural identities enmeshed in the activity of bicycle riding, each with unique characteristics. Mountain biking, road racing, fixed-gear riding, as a few examples, each have their own characteristics and these are mediating factors in the connections between different actors in the network. Immersion in these cycling cultures creates a social structure on which to base relationships between actors. This is a process of societal embeddedness, described by Hess as “considering the societal...background...influencing and shaping the action of individual and collective actors” (2004, p. 176). To highlight how shared culture between brands and IBDs matters, one representative for a bicycle brand stated that it is important “to share that culture of who we are [in order to] to strengthen the relationship with our dealers” (interview with bicycle brand representative). This culture is difficult to define, and can vary between different segments of the market, but it does provide common ground for different actors in the industry. It is bolstered by the fact that individuals who are involved in the bicycle business play, or have played, various roles in cycling. For example, many IBD owners and employees are, or have been involved with bicycle racing. Further, many employees of bicycle brands and P&A suppliers have worked at IBDs in the past. This type of crossover between different aspects of cycling helps to generate a common culture and in turn strengthen the relationships between these actors.

IBDs are also embedded in cultural connections with bicycle consumers. One IBD owner explained:

we develop a connection with [consumers], there's a lifestyle that goes with it.... The thing is, local bike shops have this local thing. You have to have [employees] who live in the community, who ride in the community, who understand the local nuances of cycling (interview with IBD owner).

As this quote demonstrates, being connected with the local cycling community in order to understand its nuances is an important part of being an IBD. When this understanding is achieved, an IBD will have “staff that speak the language, that look a certain way, so when you go into the store you feel that you're getting the selection you want, the expertise that you're after” (interview with P&A supplier). Being socially embedded in

cycling cultures helps staff to learn the language and the “look” in order to strengthen the relationships between IBDs and bicycle consumers. An IBD owner agreed, saying “if we become a place that has no personality, no special tie to the customers, has no value-added or feeling of support, that's the threat” (interview with IBD owner). Again, this “special tie” is mediated by a common culture of cycling between IBDs and bicycle consumers.

A particularly strong indication of societal embeddedness in the IBD sector of the bicycle industry is apparent in the recurring theme of passion as a factor in the structure of the IBD sector. A common theme in all of the interviews was that nearly everyone who owns or works in an IBD, or who works for a local bicycle brand or P&A supplier, is a cycling enthusiast and has a passion for cycling. Passion provides a foundation for relationships between actors in the network, based on common interests and shared knowledge. As it came out in the interviews, though, passion both enables and constrains actors in the network, because although it provides a basis for relationships between actors, it also leads to what some respondents described as irrational economic behaviour that they believe is a problem for the industry.

One of the positive effects of passion for cycling in the bicycle industry has to do with the ability of passionate people to encourage consumers to engage in the sport. Passionate people have a genuine interest in learning about different products, and becoming proficient mechanics or bicycle fitters. In other words, passion leads to expertise, and it also leads to deep engagement, or embeddedness, in cycling cultures. One bicycle brand representative explained that

the IBD...has a culture within it that supports the enthusiasts, the dedicated cyclists, who can't get that from the...mass market channel. Now, [enthusiasts] can buy stuff presumably now even easier with the internet and e-commerce, through a multitude of different channels, but still it's the IBD that has the culture, enhances the culture of the buying experience, simply by existing and supporting those enthusiasts with information, with added value opportunities.... The big challenge in our industry is not just selling bikes, it's turning bike buyers into cyclists. And the IBD does that (Bicycle brand representative).

The culture described by this respondent comes about in IBDs because owners and staff all share a passion for bicycles and cycling, and this in turn helps to support cyclists and potential cyclists by being resources that can help consumers get the right products for

their needs. This culture is not simply generated by actors in the industry, but also responds to existing cycling cultures. For example, as previously cited, one IBD owner stated that IBDs need to be run by “people who live in the community, who ride in the community, who understand the local nuances of cycling” (Interview with IBD owner). IBDs, then, play a role in generating and regenerating cultures of cycling consumers in which IBDs and other actors are embedded, and this interaction is mediated by a shared passion for cycling.

But while passion enables some of the positive effects of societal embeddedness, it can also be a constraint on the economic success of IBDs. Several respondents pointed out that people's passion for cycling is such a major factor in the decision to open a bike shop that many people go in without having enough, or any, business experience. This sentiment is illustrated by the following statement:

The problem with the bike industry is there are a lot of people passionate about it and dream of opening a bike shop and not many of them have good business sense. Most shops that open fail within the first couple of years. Whenever the money they've invested runs out (IBD owner).

Another IBD owner cited passion as a reason that IBDs manage to stay in business. When asked about the future outlook for IBDs, he replied

Average [IBDs] for sure are going to have trouble, but as I mentioned..., a lot of the average ones are going to hang around because there's this factor of passion and people that are doing it, you know, they bought themselves a job and are willing to do it for cheap to pursue their passion and so, that's why there are so many damn businesses in such a marginal industry. The laws of economics don't apply (IBD owner).

The statement that most IBDs fail in the first few years is supported by the data I gathered from the Yellow Pages. Both statements cite passion as a primary reason for people getting into the business in the first place, but also for why many IBDs fail in the first few years, or alternatively stay in business even when its profitability is allegedly marginal. So while passion serves as an indicator of societal embeddedness in the IBD sector of the bicycle industry, it can both enable and constrain the activities of actors in the IBD network.

As a final note here, Hess (2004, p. 176) also suggests that societal embeddedness also has a ‘biologistic’ meaning to it, that common lineage helps to

strengthen relationships between actors in the network. It is perhaps worth pointing out, then, that all 9 respondents I interviewed were white men. While there are women and people of colour in the local sector of the bicycle industry, it is an industry that is overwhelmingly occupied by white men. However problematic this might be (especially with respect to the difficulty in attracting a broader demographic to cycling), it may in fact be contributing to stronger relationships between actors in the IBD network.

5.1.2. *Network embeddedness*

While a shared culture strengthens relationships between actors, ongoing and repeated transactions results in network embeddedness based on trust. Hess argues that “network embeddedness can be regarded as the product of a process of trust building between network agents, which is important for successful and stable relationships” (2004, p. 177). Like social embeddedness, network embeddedness is apparent in relationships between IBDs, bicycle brands and P&A suppliers as well as between IBDs and bicycle consumers. To emphasize the importance of building trust between firm actors, one P&A supplier explained “you need to have [face-to-face contact], to look someone in the eye and know that what's being agreed upon is going to happen, that everyone's telling the truth, and doing the handshake and all that” (interview with P&A supplier representative). Building trust, for this supplier, is an important foundation for relationships with IBDs. From another perspective, an IBD owner said “having a rep I can call who is responsive who will gets things done right away is really important, and if I don't get facetime with them and they're not reliable then I stop using them, because other people are willing to do the work” (interview with IBD owner). In this case, trust in a sales representative is built on past interactions, on a demonstrated ability to “get things done.” There is also a lot of trust built into arrangements between bicycle brands and IBDs that sell that brand. While there are hard terms built into dealer contracts (such as agreement to pay on time), there are also a lot of soft terms: devoting a certain amount of floor space to the brand, not undercutting other dealers of the same brand, and being able to “tell the brand story,” as previously quoted by one bicycle brand representative. Trust is particularly important for these less tangible aspects of dealer arrangements, is built up over time through

repeated transactions, and results in more stable relationships between firm actors in the IBD network.

Trust is also an important factor in IBDs' relationships with consumers. One IBD owner suggested that their relationships with consumers are built up over time because bicycle service is "kind of like a haircut. You build up a certain trust. The bike was in last time for a tune up and you can talk about what happened last time and what needs to be done this time, I think that's where we build our niche" (interview with IBD owner). Similarly, another IBD owner supported the notion that repeated transactions result in stable, trusting relationships: "we've got a brand with our store, people like us, people trust us,...we could sell a bike called the wet noodle [because] they've been buying bikes from us for 15 years" (interview with IBD owner). Trust, then, is an important basis for forming relationships between firm actors in the IBD network and also between IBDs and bicycle consumers. This helps to stabilize and strengthen the network of relationships between various actors in the network, resulting in network embeddedness.

5.1.3. Territorial embeddedness

Hess states that territorial embeddedness "considers the extent to which an actor is 'anchored' in particular territories or places" (2004, p. 177). Not surprisingly, IBDs as retailers are strongly embedded in particular places, but bicycle brands and P&A suppliers are also bound to the places they inhabit. The scales of territorial embeddedness vary; for IBDs, embeddedness in particular neighbourhoods is particularly evident, but there are also indications of embeddedness in the city or region as well. For bicycle brands and P&A suppliers, the neighbourhood is not as important but certainly embeddedness in the city/region is an important factor in generating strong relationships. Territorial embeddedness is evident in a few ways. For one, connections with particular places are evident in the names of some IBDs. Dunbar Cycles, Bikes on the Drive, Denman Bike Shop, and West Point Cycles are just a few names of IBDs whose business name identifies the neighbourhood that they are embedded in. Also, IBD owners often spoke in the interviews about being part of the neighbourhood. One respondent, for example, explained "we add some social capital to the neighbourhood. The bike shop is somewhere you can go to borrow a screwdriver. You can't do that anywhere else anymore" (interview with IBD owner). In a similar vein, and to repeat part

of a previous quotation, another IBD owner stated that “local bike shops have this local thing” (interview with IBD owner). Though the idea of having “a local thing” is rather ambiguous, it does indicate that IBDs do characteristically engage and identify with the neighbourhood in which they are located.

Embeddedness in particular neighbourhoods is certainly not unique to IBDs in Vancouver, but there are ways that IBDs in Vancouver are embedded at the city/region scale as well. Likewise, bicycle brands and P&A suppliers demonstrate that territorial embeddedness at the city/region scale is an important basis for establishing relationships with other actors in the network. As previously noted, Vancouver is well-known for its role in the growth of mountain biking in the 1980s and 1990s, and more recently Vancouver identifies itself as a cycling-friendly city, in no small part due to the *Greenest City* initiative. To highlight how being in Vancouver is an important part of one bicycle brand’s identity, one respondent stated

Vancouver, as you know, is such an iconic place for mountain biking. The North Shore is recognized around the globe. The whole freeriding movement [a style of mountain biking]..., that started here on the North Shore. And [our brand] was involved with that movement. So culturally, Vancouver aligns with who [our brand] is, where we got started, who we are today, and the culture that we’re moving forward with (interview with bicycle brand representative).

The physical landscape around Vancouver, then, has enabled the development of a culture of mountain biking that some bicycle brands have become closely identified with. The climate also plays a role in Vancouver’s identity as a bicycle-friendly city, and many respondents pointed to mild winters as one reason that urban cycling is prominent in Vancouver’s identity. Firms that are located in Vancouver connect with this identity simply by being located here. One IBD owner summarized it like this:

The best example I can give is, if we wanted to start a luxury watch company, we should be in Switzerland. We could make them on the moon, but we should have an address in Geneva or Zurich. Why? Because that’s where those watches come from. If you want to start a bike company, and you’re in Regina, you’ll have a harder time than if you were in Vancouver (interview with IBD owner).

Being part of the community is an important part of territorial embeddedness. To explain how one P&A supplier originally based in eastern Canada strove to become part of the

network of the western market, the representative explained how they gained entry into the market:

When you're going into an existing market where people are passionate and protective of jobs..., they want to buy from a "western company", supporting the local community or whatever, it was important to have an office with employees that were based here as well. So we hired some people out of local bikes shops or whatever it may be to make sure we had a footprint in the west, to make sure we're a western company and not just an eastern company that's a phone line (interview with P&A supplier representative).

Tapping into the existing network in order to achieve a "footprint" in the west was an important part of this firm's strategy for gaining entry, or becoming embedded, in the western market. Vancouver's unique physical geography, which lends itself to a prominent culture of mountain biking, along with its mild climate for year-round urban cycling, contributes to firms being territorially embedded in the city/region of Vancouver. IBDs in particular are also embedded in specific neighbourhoods. These are important bases for relationships between all actors in the IBD sector of the bicycle GPN.

5.2. How the shift to global production has impacted local IBDs

This final section returns to the research question, which asks how the shift to global production in the bicycle industry has impacted local IBDs, and how IBDs remain competitive within the governance structure of the production network. In section 4.1, I outlined a recent history of the bicycle industry, and showed that the number of IBDs in Vancouver grew alongside the shift to global production. The growth in IBDs that occurred in tandem with this shift also generated a network of bicycle brands and P&A suppliers that service the IBD channel of the bicycle industry, and this commitment to the IBD model is an important feature of the current structure of the bicycle industry. The shift to global production, then, has resulted in the growth of IBDs and the emergence of a network of firms that service IBDs, but does this mean that IBDs are in a strong and stable position in this new global production network? There are reasons to question the stability of IBDs' position in this globalized network. In this section, I first question the degree to which IBDs are in fact independent by considering the ways that IBDs establish their own independent identities. I then point to one of the foundations on

which this segment of the bicycle market is based: the practice of constant innovation (a component of Sloanism) which contributes to upholding the value of bicycles as something more than a commodity. Indeed, the fear of commoditization, a situation where products lose their value when they can be easily reproduced, is a common theme in the IBD sector of the bicycle industry, and I suggest that reliance on constant innovation to avoid commoditization is a somewhat weak foundation for the IBD network.

5.2.1. Independent Bicycle Dealers?

A theme that regularly emerged during the interviews was the idea that IBD owners are strongly independent. This independence is constructed on the notion that IBDs have the autonomy to make their own choices about what products to sell and that store branding is an important part of the branding process in the IBD sector. Further, I observed that IBDs establish their own identities through critique of other IBDs, a particularly dubious practice for the strength of IBDs as a whole. So how independent are IBDs in Vancouver? The following subsections will explore the ways in which IBDs establish (or try to establish) their independence within the industry.

Establishing independence through selection/specialization

One way in which independence might be asserted is by IBDs making free choices about what products IBDs will carry in the shop and with which bicycle brands and P&A suppliers they choose to establish trading relationships. A common theme in the trade magazine *Bicycle Retailer* is that IBDs are no longer free to carry the products they choose. For example, one IBD owner was quoted in *Bicycle Retailer* as saying that

the most-cited complaint I've read is about buying a bike and then only having Bontrager [a subsidiary of Trek] or Specialized accessories to choose from. Here we are in 2012 where people are flocking to the Internet because there is unlimited selection there, yet we have brands like Trek and Specialized reducing choice at shops and further driving people to buy via the Internet (State of Retail, 2012, p. 26).

This statement refers to the practice of the largest bicycle brands tying P&A purchases into dealer arrangements so that dealers have no choice but to carry the products sold by those brands. The IBD owner is highlighting a recurring theme in the trade magazine, namely that IBD owners are losing power to the major brands. In my own findings,

however, I found that IBD owners make deliberate efforts to avoid being tied in by the major brands. One respondent, for example, explained that his strategy for remaining independent and avoiding being pushed around by his suppliers is to purposefully deal only with smaller brands and to spread his business around. That way, as he explains, “if I run up my bill too high with [one brand], I go ‘sorry about that, I can get bikes from someone else,’ and I pay them off and get back to where I want to be, and I’m not choking on one supplier” (IBD owner). Similarly, another respondent explains that he will only deal with brands that can work within his own circumstances:

IBD owner: That was a challenge initially, [bicycle brands would] ask me to buy ten bikes, and I would say ‘I’ve been open for a month, how about I buy one and we’ll see how it goes.’

DM: Does that fly with them?

IBD owner: Not always, but for everyone we’re still in bed with it certainly has.

This IBD owner has selected the brands he carries based on their willingness to deal with a new shop that is not ready to buy products in the volume they typically ask for.

The strategy to deal with smaller brands, though, is not the only way that IBDs use product selection to establish their independence. One IBD owner framed his choice to carry two of the major bicycle brands in terms of having earned those brands through his shop’s own success:

Giant came in in the early days and we had good timing on that, so that helped, and we’ve shown a lot of growth and improvement, and we generated a lot of buzz around what we were doing on the downhill side of things. With Specialized it was about a year ago, and it was, now that we’re established we’re forefront in the industry as far as downhill goes and they wanted to be a part of it (IBD owner).

So, even when a shop deals with the larger brands, they can maintain their power by positioning themselves within a cycling culture and by being an expert shop that major brands want to be a part of. I did not find cases in Vancouver where IBD owners felt that they were being overpowered by bicycle brands, but they actively deployed a variety of strategies to ensure that this was the case. While articles in *Bicycle Retailer* suggest that IBDs are being overpowered by major brands, my own findings for Vancouver suggest that while these pressures exist, IBDs strive to retain their independence by being

strategic about how and with whom they engage in trading relationships. This is facilitated by the fact that there are many and varied bicycle brands to choose from.

Bicycle brands and shop branding

In addition to protecting their independence by being strategic about their product mix in the shop, IBD owners tend to identify their shops not only based on what brands they carry, but by establishing the shop itself as a brand. This is a strategy that helps to protect IBDs' position of power within the production network, because even the major brands need well-branded IBDs to effectively sell the product. One bicycle brand representative explained that "the good bike shops in Vancouver, they're the brand, so it doesn't really matter what they carry" (Interview with bicycle brand representative). This suggests that customers go to a particular IBD for the shop itself, not the products inside, and this enhances the bargaining position of IBDs because they do not need to carry certain brands in order to get customers in the door. An IBD respondent agreed, saying "if [a product is] in our store, it's good.... The store is a brand for me. If it's in our store, we've looked at it, we've tested it, we've compared it, you'll be happy with that product" (interview with IBD owner). The value that the shop gains by being a brand itself, by establishing its own good reputation rather than relying solely on the reputation of bicycle and P&A brands, helps to enhance the position of IBDs in the production network and contributes to their continued relevance in the bicycle industry.

IBDs establish their own brand images through spatial associations and by building a favourable reputation among consumers. Often, as previously noted, IBDs establish their identities based on what neighbourhood they are in, supporting Pike's assertion that "brands are entangled in inescapable spatial associations" (2009, p. 619). As well, the reputation of an IBD is built on repeated transactions and favourable word-of-mouth referrals. One IBD owner summarized this process by explaining, "we have to embrace what makes a neighbourhood bike shop appealing to people, it's about the people in the store, how they treat you and the relationship you have" (Interview with IBD owner). But do these factors add up to a valuable brand image for the store? I suggest that while these are important aspects of any neighbourhood store, they are not enough on their own to generate an IBD brand that is wholly independent of bicycle brands. To a greater or lesser extent, the brands that an IBD carries are part of the brand image of

that shop. This is indicated historically by the fact that IBD advertisements in the Yellow Pages increasingly listed what brands they carry, and presently by the fact that with a brief perusal of just about any IBD website the list of brands they carry is prominently displayed. Clearly, bicycle brands are part of the shop brand, though how big that part is varies from shop to shop.

Though an IBD brand can be an important tool for leveraging power in relations with other actors, it may not be a critical element in the production network. Recent shifts towards so-called 'concept stores' indicate that the power of IBDs as brands could succumb to the power of bicycle brands. The trade magazine *Bicycle Retailer* documents numerous cases of new concept stores opening in North American cities, a trend that appears to be gaining momentum. Trek, Specialized, Giant, and the Vancouver-based brand Norco have all introduced such retail models that sell their own brand exclusively (or nearly exclusively). Since the list of IBDs in Vancouver was created in the fall of 2012, the major brand Giant has opened a concept store in a location that was previously an IBD called Different Bikes. This is the first of its kind in the City of Vancouver, though there were rumours in the interviews that other large brands would soon be following suit. The growing trend of concept stores in the bicycle industry is a threat to the notion that the branding of individual IBDs enhances their independence.

Establishing identities through critique of other shops

A particularly weak foundation for basing independence is the practice of IBDs establishing their own identities partly through critique of other IBDs. This contributes to a problem the industry has that customers find bike shops intimidating or simply unhelpful, but instead of working together to remedy this problem, the reputation is perpetuated by the IBDs themselves. Of course, respondents were not willing to implicate themselves as being intimidating, but by proclaiming that *other* shops are intimidating or unhelpful they establish their own identities as something different from that. A few examples are in order here. Following are statements from four different IBD owners that highlight the ways that IBDs establish their own identities through critique of other shops:

Our take on it is people like the woman that was just in [a small, middle-aged woman] don't feel comfortable in a lot of shops because they're full of dudes. We

try to be real accommodating to her, she has neighbours and friends, and we hope they'll come in too.

There's kids working there, and they're into it, their buddies are all hanging out and talking about somebody's new bike, and somebody else walks in and wants help. It's an intimidating environment, and we just don't want that to go on here.

When friends have come to me looking for advice where to buy something or get work done, there's a list of recommendations with 'buts'. For this kind of thing, go here, but don't be surprised if they're terse with you. Or, go here, don't expect much knowledge but they've got great prices. There wasn't any one shop I could think of that I could recommend to friends that didn't have 'buts' attached. So my goal here is to be inviting, personable, give more service, astound people with what [I'm] willing to do, not be that 'no' shop that judges you for the bike you walk in with or the questions you're asking.

Being avid cyclists and having bought lots of bike stuff, and never really having found..., we always thought bike shops could be ok to good, but there was such a short list of good ones, we came at it from that perspective, how can we make a shop that we'd like to shop at?

In all four examples, the IBD owners identified some of the common critiques that customers have of bike shops, but also set themselves apart from these critiques. In this way, they identify themselves as being different, but reinforce some of the drawbacks that bike shops are reputed to have. Whether or not these critiques have validity is not the point, instead what matters is that IBDs are reinforcing their independence and establishing their own unique identities in opposition to other IBDs. This could have a negative effect on the reputation of IBDs more generally, since nobody seems to be working to establish a positive reputation for *all* IBDs in the city.

Another type of critique that emerged among some respondents in the interviews was that other IBDs are diluting the bicycle business. This is another way that IBD owners establish their own credibility, by making an implication that their own presence in the industry is more legitimate than that of other IBDs. Two examples serve to highlight this sentiment:

The problem is people are coming in with small amounts of cash, opening bikes shops, buying inventory, but because their first few years are so tight, they're not contributing anything back to the industry, they're not growing the sport, the industry, all they're doing is taking a chunk out of a pie that's this big.

The laws of economics don't really apply, because they would say that a low margin, highly competitive business prone to failure would lead to there being

less [bike shops], but in Vancouver if you do some kind of a trend, or a historical analysis you know that in the past ten years more shops have opened than closed.... I'm willing to bet (and they're all privately held so you can't really find out) that probably half, at least half, of the growing number of bike shops in the lower mainland, and BC, are marginal. Economically marginal. So, what the hell? Why do more people keep piling into an economically marginal business?

Again, the point here is not to judge whether some businesses are more deserving than others to be in the industry, but rather to point out the ways in which IBDs establish their own identities, and in this case credibility, through critique of other IBDs. This practice does nothing to enhance the position of IBDs as a whole, and is a dubious foundation on which to establish identities of independence for IBDs.

5.2.2. Risk of commoditization

A major challenge in the bicycle industry is striking a balance between constantly innovating to keep enthusiast consumers interested and buying new products, and not being so exclusive with product offerings as to turn away the recreational cyclists who are not so interested in the latest gear. Two common themes in *Bicycle Retailer* are, on one hand, keeping bicycles from being reduced to a 'commodity' which can be picked off the shelf at mass merchant retail store, and on the other hand not turning away the recreational cyclists, and potential recreational cyclists, by being too much of a boutique industry and appearing to cater only to a niche market. This is a difficult balance, because the IBD channel of the bicycle industry has built itself on the Sloanist practice of regularly introducing new innovations and discarding old designs.

A common narrative in the bicycle industry is that bicycles were essentially a commodity item until the mountain bike boom of the 1980s. This is reflected in the fact that before the 1980s, bicycles were sold alongside key-cutting and lawnmower services. It is also reflected by the fact that bicycle brands had perhaps a dozen models available in any given year (see, for example, The Sekine Project, n.d.), a far cry from the hundreds of models offered by the larger companies today. The introduction of new riding styles such as mountain biking, enabled by and also inspiring innovative designs, has led to the branching out of multiple riding styles within a given product category. For example, mountain biking can be subdivided into downhill, freeride, all-mountain, and cross-country riding, each with their own specificities with regard to optimal design

features. Bicycle designers constantly seek to improve design features, usually following a process of incremental innovation (Galvin and Morkel, 2001), but occasionally introducing significant design changes that open the door for yet more innovations in designs and riding styles. These constant innovations, however small they are, support the notion that bicycles are something more than a commodity and this helps to uphold their value and support the legitimacy of IBDs as being the most suitable retail format for selling bicycles.

Coe, Dicken and Hess state that “in a GPN..., the firms in the weakest position are those producing what are in effect commodities that are easily replaced” (2008, p. 276). This could as easily refer to firms engaged in selling products, and IBD owners express concern that bicycles will once again be reduced to a commodity if constant innovation were to cease. If bicycles do not change from one year to the next, if they are the same no matter whether they are sold in a bike shop, at a mass merchant or through internet retail, then the fear is that the value that IBDs add to the bicycle industry will be negated. Recent comments expressed in *Bicycle Retailer* serve to highlight this concern. One IBD owner stated that internet sales contribute to reducing bicycles and parts to a commodity. He states that “once it becomes a commodity, you are no longer selling bike parts but competing on advertising, getting your site to climb high on Google searches and cutting margins” (IBD owner, quoted in Wiebe, 1 Oct. 2011). Similarly, an IBD owner in a letter to the editor compares bicycles to Apple products, which he acknowledges are sold by both mass merchants and independent retailers:

Recently, I had a conversation with a colleague about these very topics. He asked why I get so bent out of shape over this when you can clearly buy the iPod at both the Apple store and WalMart. I told him that while I respect Apple’s ability to protect pricing, the iPod is merely a commodity item that can be purchased straight off the shelf—no assembly or service required. Heck, no salesperson required, either (Sirkin, 1 Jan. 2012).

This quote serves to highlight the notion that bicycles are something different from other popular consumer items. By pointing out that a salesperson is not required to sell an iPod, it is implied that bicycles are different in that consumers need the assistance of a knowledgeable salesperson to help them select the most suitable product. Also, while this IBD owner acknowledges Apple's ability to protect pricing, he implies that bicycle brands do not have as much power to protect pricing. This concern is supported by the

previous quote which likewise demonstrates a fear of price competition if the value of bicycles cannot be upheld by IBDs and other firms in the IBD sector of the industry.

But if bicycles are something more than a commodity, if they are somehow different from other consumer products, then what are they, and how did they achieve their status? A quote from *Bicycle Retailer* helps to address this question:

[Raleigh CEO Alan] Finden-Crofts compared what mountain bikes did for the bike business to what oversized composite tennis racquets did for Dunlop. "In tennis, it brought the price up and made it fashionable. The mountain bike did the same thing; before a bike was a commodity and it helped the industry become more fashionable through technological innovation," he said (Tompkins, 1 Sep. 2010).

The innovation of the mountain bike itself helped to raise bicycles from a commodity to a fashionable item, by making a significant breakthrough in design. Since then, bicycle designers have striven to keep the up momentum of this innovation, and therefore to maintain the fashionable value of the mountain bike. And this strategy has not been limited to mountain bikes; road bikes too have been subject to constant innovation as well, with new frame materials such as carbon fibre, more and more gears, electronic shifting systems and so on. The merits of these innovations could be called into question for the needs of the average consumer, but I suggest that it is precisely because the innovations are more than what one needs that they attain the status of being fashionable and thus more than a simple commodity. IBDs contribute to this process by upholding the image of bicycles as being fashionable, and the stakes are high for them because when bicycles cease to be fashionable, they no longer hold their value and price competition could pervade the industry in the way feared by the above-quoted IBD owners.

The bicycle industry also uses the term 'commodity' to set less expensive bicycles apart from high-end products. Almost exclusively, innovative products appear in the higher price-points, while mid-range products are sometimes referred to as the 'commodity segments' of the market. These mid-range products have features that were once innovative, but are now commonplace as those once-innovative designs have trickled down into the lower price points. Bicycles in the commodity segments are aimed at recreational consumers who are not as interested in the latest innovations as enthusiasts are. Recreational consumers are more interested in good value and tried-

and-tested products. But while the previous discussion of IBDs fearing the commoditization of bicycles might suggest that bicycles in the commodity segments are a lost cause for IBDs, quite the opposite seems to be the case. One interview respondent explained that “as you get into the business...you figure out that to be successful most shops need to cater to a broad range of customers, broader than just the high-end cyclists” (interview with IBD owner). This quote demonstrates that IBDs cannot rely solely on the business of high-end customers, but must also cater to the more recreational customers who are less interested in the latest innovations and instead are looking for more value-oriented products.

But if IBDs are already selling bicycles from the commodity segments to recreational consumers, why do those consumers keep shopping at IBDs? I suggest that while bicycles as a product may be commoditized, IBDs as a service are much more difficult to reproduce. One IBD owner asks:

if you look from the perspective of a handful of small-to-medium sized bike shops that really are part of a community, and trying to deliver a service to a network of people in the community, where we screw up is if we forget, and we just turn into a generic, I don't know, like a SportChek, a no-character purveyor of biking goods, then of course, how are you going to compete? (Interview with IBD owner).

A bicycle brand representative supports this idea, saying “the big challenge in our industry is not just selling bikes, it's turning bike buyers into cyclists” (interview with bicycle brand representative). The personalized service, engagement in communities, and the expertise that IBD owners and staff have are all characteristics of IBDs that protect the service they offer, if not the bicycles they sell, from commoditization.

The shift to global production which brought a drastic increase in available products and the regular introduction of new products and designs has no doubt been beneficial to IBDs, given that their numbers have greatly increased since the 1970s. But while these Sloanist practices of constant innovation have contributed an air of fashionability for bicycles to the benefit of IBDs, there is always a risk that new innovations may cease to interest bicycle consumers, leaving IBDs in a rather precarious position. While this scenario would largely be beyond the control of individual IBDs, IBDs

could retain importance by continuing to offer a high quality of customer service, something that is purportedly more difficult to reproduce in the mass merchant channel.

In sum, then, the shift to global production in the bicycle industry has had both favourable and uncertain effects on local IBDs. On one hand, there are more IBDs than ever, and there are significantly more brands and products to choose from than when the study period began. There are indications that in some ways IBDs are able to retain some power in the network by leveraging their own brand identities in addition to the brands that they carry. And without a doubt, the degree of IBDs' embeddedness in the network of firms with whom they have trading relationships, as well as in cycling communities at the local scale, contributes to strengthening the position of IBDs within the broader bicycle production network. However, some of the foundations on which IBDs base their independence are rather precarious. The practice of bolstering their own identities through critique of other IBDs is particularly troubling. As well, the strength of individual shops' brands could be overcome by the larger bicycle brands if those brands continue on a trajectory of opening concept stores in neighbourhood locations. Finally, IBDs are dependent on the network of bicycle brands to continuously innovate product offerings in order to avoid the commoditization of bicycles. Whether the current state of the IBD network as described in this paper is stable or shifting is a matter of waiting to see, and time will tell where things will go from here.

6. Conclusion

This paper has sought to determine how the shift to global production in the bicycle industry has impacted IBDs at the local scale in Vancouver. I have shown that the number of IBDs in Vancouver has increased in tandem with the shift to global production and that the shift has generated a significant increase in the variety of bicycles styles and the in number of bicycle, part, and accessory brands. Using the global production networks (GPN) framework, I have identified the relevant actors at the local scale, and the relationships between them. Though the scope of this research was not global, it is a contribution to the GPN literature because it helps to understand how actors and relationships at a local scale contribute to the structure of global production networks. The local network that I describe in this paper connects with global actors through trading relationships between locally-based branding firms and overseas manufacturers, but also through the development of cycling cultures that may be adopted on a larger scale in other places.

In the case of the IBD sector in Vancouver, local actors and relationships are characterized by a high degree of embeddedness. Using three dimensions of embeddedness (as outlined by Coe et al. 2008; Hess and Coe, 2006), I have demonstrated that IBD owners and staff are societally embedded in cycling cultures, and this provides a foundation for relationships between IBDs and bicycle brands/P&A suppliers, and between IBDs and bicycle consumers. Ongoing engagement between these actors generates network embeddedness, where trust is a key basis for relationships between actors. As well, IBDs are territorially embedded at the neighbourhood scale, identifying with the particular neighbourhoods in which they are located and tailoring their offerings to localized tastes. They are also embedded in broader cultures of cycling at the city/region scale. The historical importance of mountain biking cultures as well as the more recent evolution of urban cycling cultures are distinguishing features of Vancouver's identity, and IBDs, as well as bicycle brands and P&A suppliers, are embedded in these localized cultures. The strength of the

relationships resulting from these various forms of embeddedness is an important contribution to the ongoing relevance of IBDs in the broader bicycle industry.

Despite the strength of relationships between IBDs, bicycle brands, P&A suppliers and bicycle consumers, I have questioned the degree to which IBDs are in fact independent. By exploring the ways in which IBDs establish their independent identities, through product selection/specialization, through balancing the value of the IBD brand with the value of bicycle brands, and through critique of other IBDs, I suggest that the foundation for IBD independence is not especially strong. In addition, the threat of commoditization in the bicycle industry poses a risk that is beyond the control of individual IBDs, yet could impact on the success of IBDs. However, the service that IBDs offer is difficult to commoditize, and this in turn plays an important role in upholding the value of bicycles as well. Thus while the shift to global production has yielded some favourable effects, indicated by more IBDs, more product selection, and ongoing innovation, there is also cause for concern looking forward. IBDs will need to work hard, and work better together, to protect their positions in the globalized bicycle production network.

In terms of policy implications, the municipal and provincial governments could play a role in fostering the continuation of a strong IBD network by encouraging urban cycling through infrastructure improvements and by promoting public acceptance of cycling as a legitimate mode of transportation. In the recreational realm, cooperating with mountain biking associations to ensure the availability and maintenance of trails could go a long way to encouraging continued activity around mountain bikes. At the federal level, the government could consider heeding the pleas of BTAC to eliminate tariffs on imported bicycles as it has recently done for other sporting equipment. Whether this would truly benefit IBDs I am not so sure, but it seems to be an important cause to the only Canadian organization representing IBDs, so the issue at least deserves consideration.

This research project has looked at activity around one small industry, and in one particular city. Following the emphasis of the GPN framework on incorporating a broad range of actors, further research could expand the scope of this project to explicitly include bicycle consumers in the research methodology. It could also include IBD

employees, to understand why people work in this industry, or it could include former IBD owners, as this project only captured the perspectives of existing IBDs. In addition, further research could take a similar approach to IBDs and related actors in other cities. This would allow for comparisons to see how unique the activity around bicycles in Vancouver is. Conversely, further research could take a similar approach to other industries in Vancouver. It could ask what other industries are characterized by similarly high degrees of embeddedness, and how do the actors in those industries connect with global production networks. As a possible comparison, backcountry skis and related equipment could offer one avenue of inquiry, as recent improvements in ski, boot, and binding designs have fueled an increase in consumption of such gear. This industry may be similarly place-based, with a necessity to be proximate to good skiing terrain and to be connected with skiing cultures in order to design and market the gear. Finally, further research could look at local retail sectors that *do not* exhibit a high degree of embeddedness, to help to explain why some sectors are significantly place-based while others are not.

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Appendices

Appendix A.

Script for semi-structured interviews: IBDs

Part 1: Background info on the respondent and the shop

1. When was the bike shop established? Were you the original owner? Why a bike shop?
2. Where did BD first open? How did the location get selected? Why Vancouver?
3. Describe the products/brands you've carried in the past. Was it difficult to open accounts with suppliers in the past?
4. How do you describe the shop today?

Part 2: Dealer/Supplier relations

5. What are your main brands/suppliers today? How long have you carried these brands? Why do you deal with the brands you do? Which ones are the most important?
6. How are your dealer contracts structured? Are they all similar or does it depend on the supplier? Is there pressure for bigger commitments, drop other brands, carry greater breadth? What kinds of conditions do suppliers impose in order to carry their brands?
7. What are some brands that you've carried in the past but no longer carry? What are the factors that lead to switching suppliers?
8. What are the methods of communication between your shop and your suppliers? How important is face-to-face contact? How do you/your staff learn about new products?
9. How do you find new suppliers? Do you actively look for new sources of product, or are you satisfied with what you have now?
10. Do you attend trade shows? If so, what role do they play in establishing/maintaining supplier relationships?

Part 3: Competition and local consumers

11. What are your strategies for remaining competitive (Price, Variety, Specialization, Store Layout, Service)?
12. What do you think are the biggest threats to your business, and how do you mitigate them (Other IBDs, Big Box Stores, Online retail, Cross-border shopping)?
13. What do you think are the biggest threats to all IBDs in Vancouver? Do IBDs work together to remain competitive? If so, how?
14. How do you know what local consumers want? How do you connect with them?
15. What is unique about bicycle consumers in Vancouver? How have local tastes changed over time?
16. Do you think the changes are driven by consumers, or by product designers? How does that knowledge exchange operate?
17. What, if anything, sets bicycles apart from other retail products? Service? Passion for cycling among people in the industry?

Appendix B.

Script for semi-structured interviews: Bicycle brands and Parts & Accessory suppliers

Part 1: Background info on the business

1. Tell me about when and how the business was established. Where did it start (and is that where it is located still)? What products were carried early on? Where were the dealers located?
2. What was happening in the bicycle industry at that time that enabled the business to establish itself?
3. Why is the business located in Vancouver?
4. What activities does the business engage in?
5. How and why did you get into this industry?

Part 2: Dealer/Supplier relations

6. What types of retail businesses does the business supply to? Do you have criteria for the types of businesses it will sell to? If so, what are those criteria?
7. How many accounts do you have with independent bike shops in Vancouver? (If possible, the city only)
8. Many dealers have told me that territory is one of the most important determining factors for whether they can carry a certain bicycle brand. Why is territory so important?
9. How are your dealer arrangements structured? Are they all similar or does it depend on the dealer? Minimum purchases? Pressure for bigger commitments, drop other brands, carry greater breadth?
10. Are all of your products available to all of your retailers? If not, what are the criteria for making those restrictions?
11. How frequently do you open new accounts and close old accounts in Vancouver? If switches are relatively frequent, what are the common reasons? If not, why do dealers and brands stick together when there is so much choice out there?
12. What are the methods of communication between you/CL and your bike shop accounts? How important is face-to-face contact? How do you introduce new products to your dealers?
13. Do you attend and/or display at trade shows? If so, what are the benefits of trade shows (and which ones?), and if not, why not?

Part 3: Competition and local consumers

14. As a representative for a national/international retail supplier, what would you say is unique about cycling/cyclists in Vancouver? If there is something unique about Vancouver, what strategies do you use to understand and cater to this local culture?
15. Do you receive feedback from local bike shops about product design, what customers are asking for and so on? What do you do with this information? Can you give me an example of how the feedback process might work?
16. Do you think changes in the market are driven by consumers, or by product designers? How does that knowledge exchange operate? How do you know what consumers want?

17. What do you think are the biggest threats to IBDs in Vancouver? Do IBDs work together to remain competitive? If so, how?

18. What changes have you seen in the ways that IBDs operate in your time in the industry, and where do you see things going from here?