A Service-oriented Approach to Ontario Food-grade Soybeans and Cannabis Supply Chains

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ABSTRACT

A SERVICE-ORIENTED APPROACH TO ONTARIO FOOD-GRADE SOYBEANS AND CANNABIS SUPPLY CHAINS

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Fulfilment of customers' requirements is becoming increasingly important in today's competitive era. Customers are increasingly valuing agri-food products for specific qualities and the protocols used in their production. Service-dominant logic offers an alternative relational approach to the traditional cost-driven transactional management of agri-food supply chains. Using a qualitative approach, trustful and committed B2B relationships; acknowledgement and effective application of intangible resources; and customer-centric value co-creation are identified as key elements to a service-oriented supply chain. Interaction between chain members, resource integration, and value co-creation was also found to be heavily informed by institutional context, such as markets and legislations. These findings suggest that strengthening linkages and coordination in supply chains may also require managing resources that lie beyond the supply chain, such as institutions and institutional arrangements, in addition to the traditional management of goods, information, and buyer-supplier relations.

Keywords: *Supply chain management, service-dominant logic, agri-food, value co-creation, relationships, intangible resources, institutions, institutional arrangement*

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Chapter 1. Introduction

Markets are vital to supporting healthy communities, creating new employment opportunities, and driving national economic performance (OECD, 2013; OMAFRA, 2020a) and the Canadian agri-food system is no exception. The agri-food sector is a major driver of the Canadian economy, contributing $143 billion or 7.4% of the national GDP in 2018, but focus has centered primarily on the larger export commodity market and less attention has been placed on domestic processing which is considered an area of untapped potential by the Canadian Department of Agriculture and Agri-food Canada (Agriculture and Agri-food Canada, 2020). Recognizing an opportunity to strengthen domestic supply chains, the Ontario Minister of Agriculture, Food and Rural Affairs (OMAFRA) has invested significant resources in support programs to encourage the production and consumption of local agricultural products (OMAFRA, 2020a). Within this context, two Canadian agri-food sectors, namely food-grade soybeans and recreational cannabis, emerge as supply chains offering opportunities for growth and development.

Soybeans play a crucial role in the Canadian agricultural economy and are the third largest field crop in terms of farm cash receipts (Statistics Canada, 2020). Since the 1970s, Ontario has been the largest soybean producing province and is home to over 60% of Canada's soybean producers who grow over 50% of Canada's total soybean production (Dorff, 2009; Grain Farmers of Ontario, 2020). Within Ontario, approximately 75% of soybeans grown are genetically modified (GM) commodity soybeans typically used for animal feed and oil while the remaining 25% are non-GM food-grade soybeans designated for human consumption (Grain Farmers of Ontario, 2020). Despite being a relatively small percentage of total soybean

production, food-grade soybeans are viewed as an important market segment of Canadian agriculture due to their higher premiums and world renown reputation for quality. The Identity Preservation (IP) program, which is a reputable whole-chain traceability system, make Canadian food-grade soybeans highly desirable in the markets of Japan, Malaysia, Vietnam, and China for their use in specialty soy food products such as tofu, miso, and tempeh (OMAFRA, 2017; Soy Canada, 2020). Canadian production of food-grade soybeans is expected to grow by 25% by 2027 (Soy Canada, 2017) and Ontario is recognized for its world-leading IP food-grade soybean production. The majority of food-grade soybeans produced in Ontario are sold in bulk as lower margin raw non-processed soybeans to be processed into higher margin finished products in foreign markets (Grain Farmers of Ontario, 2020), presenting an opportunity to develop the processing of locally produced, higher value soy-based products. Increasing linkages between local food-grade soybean farmers, processors and foodservice and hospitality businesses through the promotion of local food have been connected to mutually beneficial (Thomas-Francois et al., 2017a; 2017b; 2018; 2020) and strengthened B2B (business-to-business) relationships within supply chains that may help to achieve this goal.

In contrast to the long history of the Canadian soybean industry, the passing of the Cannabis Act in October of 2018 marked the birth of the legal Canadian recreational cannabis industry which has created a new agri-food sector for recreational cannabis and processed products (e.g., edible foodstuffs, drinks). The sector is forecasted to have a lucrative future as its market value is projected to reach over $200 billion CAD by 2025 (Deloitte, 2019). The Canadian government has mandated that the sales and distribution of cannabis products is up to the discretion of each individual province (Health Canada, 2020a) and Ontario is a unique case as cannabis cultivators and producers may only sell their products to the government operated

Ontario Cannabis Store (OCS) (Government of Ontario, 2020). Since legalization, the Ontario cannabis industry has been turbulent. The long held cultural stigmatization of cannabis (Keul & Eisenhauer, 2019), the attractiveness of certain processed cannabis foodstuffs to children (e.g., candies, sodas, cookies) and varying potency rates means that cultivators and producers face strict scrutiny from regulators and health officials. Furthermore, the licensed cannabis industry faces competition from the well-established illegal legacy market (Zochodne, 2019). While a recent National Cannabis Survey has reported that more Canadians are transitioning to licensed cannabis sources, illegal sources remain problematic. Over 40% of Canadians were reported to have purchased cannabis from illegal markets in 2019 (Rotermann, 2020), citing lower price and comparable quality (Al-Hassoun, 2019; Rasmi, 2019, Thurvill, 2020), resulting in a loss of taxable revenue and the funding of criminal activity. While prices of legal cannabis are becoming more competitive (George-Cosh, 2020), there is still significant progress to be made. Suppliers and retailers have stated difficulties in complying with changing regulations, shortage of storefront licenses, maintaining competitive prices, and supply chain issues (Ontario Cannabis Retail Corporation, 2019; PwC, n.d.; Thurvill, 2020) and the legacy market still holds a significant portion of total market share (Amlung & MacKillop, 2019; George-Cosh, 2020). Strengthening B2B relationships within the supply chain may help to increase the competitiveness of the emerging Ontario cannabis industry as businesses must simultaneously compete against long-standing and experienced black market supply chains, while also navigating a turbulent regulatory environment.

Numerous previous studies within the marketing and service management literature suggest the development of non-transactional and valued relationships between supply chain members to increase collaboration, coordination, and value co-creation for the purposes of

delivering value to the end user and grow the competitiveness of markets (See Handayati et al., 2015; Thomas Francois et al., 2017b; Tsanos & Zografos, 2016; Vargo & Lusch, 2004). Based on the theoretical tenants of service-dominant logic (SDL), a service-oriented approach may be one framework to accomplish this goal. SDL is consumer oriented and emphasizes that businesses succeed by co-creating value through trusted B2B relationships and recognizing the use of intangible resources (Thomas-Francois et al., 2020; Vargo & Lusch, 2004; Vargo & Lusch, 2008). Furthermore, SDL advances supply chain management by adopting the service ecosystems perspective which views supply chains as a network of resources influenced by institutions and institutional arrangements (Vargo & Lusch, 2016). Institutions play a key role in influencing B2B supply chain relationships as they provide the decision-making context for buyers and suppliers, such as industry-specific practices or general beliefs (Pop et al., 2018) or turbulent environments characterized by forces outside of businesses' direct control (e.g., formal laws and regulations) (Krause & Pullman, 2020).

This study aims to explore the service-oriented approach within the context of Ontario food-grade soybeans and recreational cannabis. The service-oriented framework is derived from the tenants of SDL, namely valued relationships, optimal use of intangible resources, value co-creation, and institutional arrangements and institutions (Vargo & Lusch, 2004; 2008; 2016). While few studies have explored agri-food supply chains through a service-oriented framework, evidence suggests that members within agri-food supply chains that exhibit signs of a service-oriented approach have benefited from higher market share and superior chain performance (Thomas Francois et al., 2017a; 2017b). The paper proceeds as follows: first, a literature review briefly outlining B2B relationships within supply chain management, value chains and the concept of value, SDL, and institutions and current research on institutions. The next section will

be a description of the research methodology, followed by findings, discussions and recommendations.

Chapter 2. Literature Review

2.1. B2B Relationships within Supply Chain Management

Monczka et al. (2002) defines supply chains as "...a series of linked suppliers and customers" that "encompasses all activities associated with the flow and transformation of goods from the raw materials stage (extraction), through to end users, as well as the associated information flows" (p. 4). Supply chain management (SCM) can be considered the management of these supply chains for the purpose of increasing performance in the marketplace (Lambert, 2019). Lambert (2014) emphasizes that a supply chain is not merely a chain of interrelated businesses but a network of businesses and relationships. Two distinct paradigms adopted from industrial and business marketing informs this network perspective regarding the management of business relationships, namely transactional and relational marketing (Lindgreen et al., 2012). While transactional marketing focuses on exploiting the availability of competition through numerous, short-term, arm's-length relationships for efficient production and purchasing of mass-produced standardized products, relational marketing deals with dependent and cooperative relationships through long-term, jointly developed, ongoing exchanges for the development of customized products (Axelsson & Wynstra, 2002). Relational marketing became increasingly dominant within academic literature as global competition raised the complexity of consumer demand, increasing the desirability of customized offerings, which has pushed scholars and practitioners to pay more attention to value creation from the buyers' perspective (Lindgreen et al., 2012). This popularized collaborative approaches to relationship management as informed by relational marketing (Lindgreen et al., 2012).

La Londe and Masters (1994) suggest that the most successful SCM approaches are those that developed a relationship management strategy which was "mutually beneficial to all participants" and did not use "coercive power to extract concessions from weaker chain members" (p. 39). Mentzer et al., (2001) describe SCM as "a series of partnerships" which "requires partners to build and maintain long-term relationships" (p.10). Long-lasting B2B relationships are viewed as mutually beneficial as they provide more opportunities for both seller and buyer to create greater value (Leonidou, 2004). The concepts of trust and commitment are regarded as critical to developing and maintaining successful long term relationships and are well established concepts within SCM and marketing literature (See Morgan & Hunt, 1994; La Londe & Masters, 1994; Dwyer et al., 1987; Lummus & Vokurka, 1999; Mentzer et al., 2001; Tsanos & Zografos, 2016).

Morgan and Hunt (1994) define trust as "...confidence in an exchange partner's reliability and integrity" (p. 23) meaning a belief that the other party will follow through on delivering their side of a business agreement and that they are forthright when exchanging meaningful information. Commitment is defined by Morgan and Hunt (1994) as "an exchange partner believing that an ongoing relationship with another is so important as to warrant maximum efforts at maintaining it" (p.23), suggesting an obligation or duty to continue with the incumbent relationship. While many definitions of trust and commitment exist, Morgan and Hunt's definitions are highlighted due to their use in relational marketing from which SDL is partially informed by (Mentzer et al., 2001; Vargo & Lusch, 2004).

Common themes that characterize collaborative B2B relationships include an alignment of goals and activities towards meeting the needs of the end consumer (La Londe & Masters,

1994), the mutual sharing of information and resources through transparent communication (Handayati et al., 2015; Tsanos & Zografos, 2016), the mutual sharing of long term risks and rewards (Leonidou, 2004), long term orientation of relationships and partnerships (Mentzer et al., 2001), and cooperative and joint action planning of processes and activities to provide mutually positive outcomes (Ellram & Cooper, 1990).

2.2. The Value Chain

Common to many definitions of both SCM and supply chains is the inclusion of the final customer as a member of the supply chain who derives value and is ultimately satisfied from its deliverables (Stock & Boyer, 2009). Customer satisfaction is a major subtheme within SCM literature as understanding and meeting customer needs is linked to positive financial performance (Mowat & Collins, 2000; Stock & Boyer, 2009; Yu et al., 2013). The inclusion of the final customer and the focus on the provision of value to achieve customer satisfaction denotes the ultimate purpose of the supply chain and links it to the concept of a value chain (Chandrasekaran & Raghuram, 2014).

An effectively managed supply chain can transform into a value chain wherein its constituents reap a number of benefits (Baltacioglu et al., 2007). OMAFRA defines an agri-food value chain as a "strategic partnership among inter-dependent businesses that collaborate to progressively create value for the final consumer resulting in a collective competitive advantage" (OMAFRA, 2020b). While a supply chain is a collection of interrelated businesses, a value chain is an alliance wherein all members are united towards the cause of offering maximum value to the end consumer. This shared goal extends beyond the transactional purchasing of commodities

and agri-food value chains whose members are more coordinated towards this objective have been linked to higher market performance (Handyati et al., 2015; Thomas-Francoise et al., 2017b; 2018). Within this context, firms collaborate and cooperate with one another by sharing capabilities and resources, thus gaining a collective competitive advantage from being a part of the value chain (Handyati et al., 2015). Value is co-created between members in the chain and is greatly facilitated by high degrees of transparency, extensive information transfer, and effective communication (Handayti et al., 2015), therefore, establishing collaborative relationships based on trust, commitment, and cooperation is essential to delivering offerings that satisfy the end user (Lindgreen et al., 2012).

2.3. Service-dominant Logic

While agri-food value chains advocate the benefits of collaborative B2B relationships, agri-food is a commodity-oriented industry that has traditionally favoured transactional relationships (Sporleder & Boland, 2011). The innate biological risks of agri-food products (e.g., seasonality, quality, quantity) distinguishes agri-food from other industrial manufacturing and service supply chains (Sporleder & Boland, 2011), centering agri-food supply chain literature around, what is described within marketing literature as, a goods-dominant (G-D) logic (Vargo & Lusch, 2004). G-D logic follows a transactional approach to relationships (Axelsson & Wynstra, 2002) which has resulted in lower market power for businesses upstream the chain (e.g., farmers and cultivators) (Anderson & Hanselka, 2009; Sporleder & Boland, 2011; Cucagna & Goldsmith, 2017).

Marketing scholars Vargo and Lusch (2004; 2008) introduced SDL as an alternative marketing paradigm that posits that all economic exchanges are fundamentally about the exchange of service (Vargo & Lusch, 2004; 2008). "Service" is defined as "the application of specialized competences (skills and knowledge), through deeds, processes, and performances for the benefit of another entity or the entity itself" (Vargo & Lusch, 2004, p.326). "Service" is distinct from "services", as the former refers to the primary unit of analysis (service) while the latter refers to the activities and processes which may be a part of service-provision (Vargo & Lusch, 2008). The management of service provision is critical in maintaining competitive businesses and SDL has had significant influence on the service management perspective (Ostrom et al., 2010).

SDL is informed by relational marketing, described in the previous sections, and advocates strong B2B relationships built on trust, commitment, and collaboration (Vargo & Lusch, 2004). Resource-advantage theory, competence-based view, and institutional theory also contribute to SDL (Vargo & Lusch, 2004; Vargo & Lusch, 2016). SDL is pre-theoretic in nature and consists of 11 foundational premises that is summarized by five axioms (Vargo & Lusch, 2016). Within agri-food supply chains, the basis of a service-oriented perspective is derived from SDL and emphasizes value co-creation, relationships, intangible resources, (Thomas-Francois et al., 2017a) as well as institutions (Vargo & Lusch, 2016).

Effective use of intangible resources is a central tenant of SDL. Goods and services act as the delivery mechanisms for the provision of service (Vargo & Lusch, 2011). SDL categorizes resources as either operand (those that an act or operation is performed on, such as goods) or operant (those that act upon other resources, such as knowledge, competencies and skills) (Vargo

& Lusch, 2004). Based on competence-based theory (Hunt & Madhavarm, 2006), operant resources are considered the primary source of competitive advantage (Vargo & Lusch, 2004; 2008) and co-created value can be enhanced through operant resources (Töytäri et al., 2011). In the case of agri-food supply chains, a service-oriented perspective should recognize and leverage the human skills and knowledge of members in the chain in order maximize chain performance (Thomas-Francois et al., 2018) and increase confidence of the reliability of a partners' capabilities, facilitating trust and commitment as described in relational marketing.

SDL asserts that firms cannot produce and deliver value on their own as they can only make value propositions (Vargo & Lusch, 2004). Value is always co-created with the customer whose unique goals and business processes evaluates value through use (value-in-use) and context (value-in-context) (Chandler & Vargo, 2011; Edvardsson et al., 2011; Prahald & Ramaswamy, 2004). Differing from the traditional supply chain conception of value co-creation, value co-creation in SDL is no longer conceptualized as a linear sequential movement of value creation by the firm and value destruction by the consumer but as a dynamic system of exchange involving reciprocal interactions between a system of multiple actors (Lusch & Vargo, 2011). As such, value co-creation in B2B must be customer oriented as building successful B2B relationships means that businesses must understand the processes and goals of their customers in order for their value propositions to be accepted (Grönroos, 2011; Strandvik et al., 2012).

While relatively nascent, SDL has had large impact on SCM and B2B marketing as its dynamic view on value co-creation, relationships, and the nature of resources offers a more holistic perspective on the nature of supply chains (Vural et al., 2017). Value chains provide the operand resources within which operant resources can act upon and are considered to be

embedded within a greater service ecosystem (Lusch, 2011). A service ecosystem is "an arrangement of resources (including people, technology, information etc.) connected to other systems by value propositions (Vargo et al., 2008 p. 149) and actors within service systems aim to co-produce service offerings, engage in mutual service provision, and co-create value (Vargo & Lusch, 2016). Service ecosystems are not limited to markets and can range from individuals to entire nations (Spohrer et al., 2007). The concepts of institutions and institutional arrangements are introduced as factors that both define and shape the behaviour of actors within service systems.

2.4. Relationships among Concepts

Current research in SDL adopts the concept of institutions from institutional theory and focuses on their role within the service ecosystem. In the social sciences, institutional theory is the study of the structures that define and constrain the behaviours of individuals within organizations (Scott, 2014). Institutional theory originated in the 19th century and early work predominantly analyzed organizations from an economics perspective, using theories such as the expected-utility hypothesis, transaction-cost analysis, and game theory (North, 1990; Williamson, 1996; Scott, 2014). With the recognition of organizations as a formal discipline in the social sciences in the 1950s, the modern sociological approach to institutional theory emerged (Scott, 2014). While acknowledging certain aspects from previous economic arguments, modern research in institutional theory also focuses on cultural belief systems and borrows ideas from cognitive psychology, cultural studies, phenomenology, and ethnomethodology (Scott, 2014). In current academic literature, institutional theory remains

central to research in organizational studies and is the dominant theoretical framework (Vargo & Lusch, 2016; Scott, 2014). For the purposes of this paper, the aim of this section is not to provide a comprehensive overview of institutional theory but rather to define the SDL interpretation of institutions.

Vargo and Lusch (2016) integrate the concept of institutions from Scott (2014) and North's (1990) work in institutional theory. Scott (2014) defines institutions as the "regulative, normative, and cultural-cognitive elements that, together with associated activities and resources, provide stability and meaning to social life" (Scott, 2014, p. 56). North (1990) considers institutions to be the "rules of the game of a society" and organizations to be the players who act within the formal and informal rules of conduct that govern and constrain behaviors (p. 3). Vargo and Lusch (2016) define institutions in SDL as "humanly devised rules, norms, and beliefs that enable and constrain action and make social life predictable and meaningful" (p. 11). Institutions can be thought of as shared systems of beliefs comprised of shared heuristics (i.e., norms, rules, and values) that act as guides that dictate the behaviour of people in different contexts (Vargo & Lusch, 2016). The primary function of institutions is to reduce uncertainty by providing a stable structure to human interaction (North, 1990). In short, institutions are all of the many forms of cognitive shortcuts that aid in decision making and dictate behaviors that are shared amongst groups of people.

Institutions do not function independently but exist as assemblages of higher order sets of interrelated institutions which are known as institutional arrangements (North, 1990; Vargo & Lusch, 2016; Scott, 2014). Institutional arrangements range from the transnational scale of world systems to the individual level of interpersonal interactions (Scott, 2014). Forms of institutions

may include formal codified laws (i.e., rule of law, property rights, written contracts), informal social norms (i.e., cultural beliefs, behavioural norms, schemas, moral boundaries), and also includes any form of conceptual or symbolic meaning which governs, encourages, or restrains human behaviour in different contexts (Scott, 2014; Vargo & Lusch, 2016). Institutions operate in an "open system" as "activities and meanings occurring on one level are often linked to and activate activities and meanings on other levels" (Scott, 2014, p. 105). Vargo and Lusch (2016) adopt the concept "duality" from structuration theory (Giddens, 1984) to explain this interdependent relationship. Duality suggests that the structural properties of institutions are both the outcome and the context for actions. Duality enables different levels of analysis and that each level can also be viewed from the perspective of the other. SDL suggests that three levels of analysis exist: micro (individual dyadic activities i.e.,B2B or B2C interactions), meso (midrange structures and activities i.e., industry specific institutions), and macro (broader societal structures and activities) (Akaka et al., 2013; Vargo & Lusch, 2016). Vargo and Lusch describe the assignment of these levels of analysis as “somewhat arbitrary” (2016, p. 17) suggesting that they are not absolute. Duality suggests that the categorizations are fluid meaning institutions and institutional arrangements can be viewed from all three levels of analysis simultaneously.

Institutions undergo change through "institutionalization" and "deinstitutionalization". Because institutions are defined by the behaviours of actors within them, actors are capable of inducing institutional change through incremental, radical or liminal innovation (Brooker & Joppe, 2014; North, 1990; Scott, 2014; Vargo & Lusch, 2016). Innovation in institutions can occur through breaking, making, and maintaining institutionalized rules (Koskela-Huotari et al., 2016)

Institutions play a central role in SDL and its importance is denoted by its addition as a fifth axiom in its central tenants: "Value co-creation is coordinated through actor-generated institutions and institutional arrangements" (Vargo & Lusch, 2016). Institutions provide mutual expectations for the behaviours of actors involved in value co-creation which influences the allocation of resources in coordination and cooperation activities (Edvardsson et al., 2014). Institutions can influence the assessment of the outcomes of value creation within its relevant contexts (Akaka et al., 2013). Formal and informal institutions (i.e., property rights and contracts, value chain thinking) mediate conflicts or aid in coordination and cooperation activities between actors (Vargo & Lusch, 2016).

2.5. Current Institutional Research

Drawing on North (1990) and Scott's (2014) work in institutional theory, Edvardsson et al., (2014) proposed a conceptual framework to better understand the influence of institutional logics on resource integration and value co-creation. Borrowing from the three pillars of institutions proposed by Scott (2014), their model categorizes institutions as following regulative (e.g. rules, laws, sanctions), normative (norms, values, morals), and cognitive (perceptions and representations of reality, common beliefs, shared logics) rules. Because organizations are formed and operate within the context of these rules, institutions influence the actors within these organizations coordinating resource integration activities within these organizations' actors' behavior and expectations in value creation.

Koskela-Huotari & Vargo (2016) conceptualized how institutions provide the context for actors to evaluate the "resourceness" of potential resources for value co-creation. They use SDL

to explain how service ecosystems provide a multidimensional context for value co-creation as they are systems composed of multiple levels of nested, overlapping, and heterogeneous institutional arrangements that enable and constrain human action. Exchanges at the micro level are both determined by and determine the context of meso and macro level institutions (Vargo & Lusch, 2011; Lusch & Vargo, 2016). They apply institutional theory to explain that institutional arrangements are distinguished by unique practices, symbols and rules that guide behaviours. The authors propose that the "resourceness" of potential resources is determined through the unique sets of practices and rules that emerge from the overlapping and sometimes conflicting institutional arrangements.

Pop et al. (2018) developed a typology of service-oriented institutions within the pharmaceutical industry. The authors identified institutions that enable or constrained service orientation using the micro, meso, and macro levels of analysis as context. Micro level institutions “exist at the organizational level and determine how an organization collaborates and interacts with customers" (Pop et al., 2018, p. 596). Meso and macro level institutions are industry specific and exist at the global and societal level. Within the pharmaceutical industry, key meso institutions included intellectual rights, technical language, and health-care specific practices while macro institutions included general beliefs and legislations.

Within current supply chain literature, research on institutions is generally conducted through exploratory qualitative methods by investigating participants' value and motivations. Findings are extrapolated to generalize about the institutions governing supply chains. Even though the keyword of "institution" is not always explicitly stated as the topic of interest, the findings suggest the existence of the duality between institutional logic and actor outcome and

behaviours. For example, cognitive institutions, such as buyer motivation and the degree of shared values, can affect the structure of supply chains; those more interested in quality and unique items preferred shorter supply chains (Conner et al., 2014). Institutions, such as shared cultural values, can also affect the operational effectiveness and lead to the formation of unique supply chain structures, such as the organic formation of a value chain and the multitude of actors who act as resellers within Chinese seafood supply chains due to the preference for close, informal, and long-lasting relationships (Wang et al., 2019). Within community-based food supply chains in non-North American countries, differences in shared cultural values and norms, which can affect communication and relationship priorities, as well as formal codified laws, which can affect governance structures and government policy, lead to differences structured supply chain (Conner et al., 2014; Garret et al., 2013; Sajali et al., 2018).

2.6. Research Questions and Proposed Conceptual Framework

This study aims to investigate the research problem: What is the impact of using a service-oriented approach to strengthen supply chains for two agri-food commodities (food-grade soybeans and cannabis) in Ontario?

From this research problem, the following two questions were derived.

RQ1: What are the opportunities to strengthen B2B relationships within the cannabis supply chain in Ontario using a service-oriented approach?

RQ2: How can a service-oriented approach strengthen linkages between food-grade soybean and hospitality industries in Ontario?

This study aims to answer these questions by investigating the agri-food supply chains of Ontario food-grade soybeans and cannabis by observing signs of a service-oriented approach. A service-oriented approach is characterized by collaborative B2B relationships, effective use of intangible resources, and customer-oriented value co-creation as put forward by SDL (Vargo & Lusch, 2004; 2008). Institutions and institutional arrangements should enable the three aforementioned concepts in a service-oriented supply chain as well as provide the context for resource integration and value co-creation (Pop et al., 2018; Vargo & Lusch, 2016). A summary of the conceptual framework is shown in the table below.

Table 1. Proposed conceptual framework of a service-oriented supply chain

Theoretical Concepts	**How the concept manifests in a service-oriented supply chain**
Intangible Resources	Acknowledgement of human skills and knowledge (i.e., farmers' and cultivators' abilities)
Relationships	B2B relationships built on trust and commitment for the purpose of collaboration and cooperation
Value Co-creation	Value propositions should 1) provide value to the customer (B2B) and support their business processes and goals and 2) provide value to the end user
Institutions	Institutions and institutional arrangements guide and coordinate value co-creation

Chapter 3. Methodology

3.1. Study Population and Sample

This study uses a qualitative research methodology to investigate the proposed research questions. This study aims to answer the questions of "how" which is best investigated through a qualitative approach (Yin, 2018). The nascent and developing agri-food supply chains of food-grade soybeans and recreational cannabis are socially complex contemporary phenomena and a qualitative methodology will help to provide clearer insight and understanding (Yin, 2018). The exploratory nature of qualitative methodology also aids in detecting how the service-oriented approach manifests within this emerging and developing context. Furthermore, the concepts investigated may be subjective to the individual's own perceptions which is best captured through an exploratory qualitative approach rather than a confirmatory quantitative approach (Lune & Berg, 2017).

The study was conducted through semi-structured in-depth interviews. Semi-structured interviews are appropriate because they are flexible. They permit questions to be predetermined beforehand to act as guides for the interviewees to ensure that the necessary constructs are investigated within the allocated time limit. Semi-structured interviews permit interviewees to ask regular structured questions, which enables comparisons across interviews, while allowing the interviewee to pursue and seek additional information about spontaneous topics which may emerge during the interview process (Lune & Berg, 2017). This approach is similar to previous studies on agri-food supply chains, such as the exploration of service-oriented attributes exhibited by local Grenadian farmer and hotel supply chain by Thomas-Francois et al. (2017b;

2018; 2020); how operant resources can help new cannabis businesses to adapt and survive in the emerging American legal cannabis industry; and exploring how and what types of value is co-created in dyadic relationships of small and large organic food firms in the United Kingdom by Ngugi (2019).

The study site location was the province of Ontario in Canada which is ideal for researching food-grade soybean and recreational cannabis supply chains. Ontario produces over 50% of all of Canada's soybeans (Grain Farmers of Ontario, 2020) and is the province that pioneered soybean farming in Canada (Dorff, 2009), meaning that Ontario farmers are knowledgeable and experienced. Of the provinces in Canada, Ontario alone has adopted a unique supply chain structure through the government-owned Ontario Cannabis Store (Government of Ontario, 2020). This offers a unique study context for institutions as it adds another layer of regulations that cannabis supply chain members must account for in addition to the recently implemented and developing nation-wide policies.

3.2. Data Analysis

Data was analyzed from an interpretative and symbolic interactionist orientation. An interpretative approach enables researchers to view human activity (e.g., interviews) as a collection of meaningful symbols which can be transcribed into text for analysis and interpretation depending on the researchers' theoretical orientation (Berg & Lune, 2017). The researcher orientation was symbolic interactionism. According to Berg and Lune (2017), symbolic interactionism is an umbrella concept in sociology composed of a myriad of theoretical orientations, but the common uniting theme is that individuals attach meanings to objects and

events through social interactions. This creates a premise of shared understanding that is further reinforced as individuals frame their behaviour within this context (Berg & Lune, 2017).

Data analysis was conducted following the content analysis procedures as described by Berg and Lune (2017) and consisted of three major stages: (1) the preparation stage, (2) the coding stage, and (3) the analysis stage.

(1) In the initial stage, analytical categories of relevant themes and constructs are developed based on the research question and derived from extant literature. These categories assist in inductively discerning further categories and themes that are grounded in the data during coding.

(2) Next was the multi-stage coding process which consists of an open coding stage and iterative coding frame stages. In the open coding stage, phenomena relevant to the research question are identified, labeled, and categorized in order to find meanings or patterns that are present in the data. Following the open coding stage was a succession of iterative coding frames. Coding frames are similar to Strauss and Corbin's (1998) axial coding process. During the coding frame process, the categories derived from the open coding stage are further organized based on any links and interactions between them through inductive and deductive thinking. This process was repeated in an iterative process until no further subcategories could be identified.

(3) The last stage is the content analysis stage. In this stage, the previously sorted categories are examined for meaningful patterns, processes, and relationships that are linked to previously established research and theories from the literature review and the proposed conceptual model. A small set of generalizations was established from the findings and correlated to extant research.

3.3. Validity

Johnson (1997) asserts that the criteria for assessing the creditability and defensibility of qualitative research design is established through descriptive, internal, external, interpretive, and theoretical validity.

Descriptive validity refers to the "factual accuracy of the account as reported by the researchers" (Johnson, 1997, p. 284) meaning that the data collected must accurately reflect what was said during the interview. Maxwell (1992) contends that omission is a threat to descriptive validity, as a "verbatim interview transcript might be descriptively invalid in omitting features of the informant's speech, such as stress and pitch, that are essential to the understanding of the interview" (p. 9). To strengthen descriptive validity, the audio of the interviews was recorded and later cross-checked with the transcripts.

Internal validity refers to "the degree to which a researcher is justified in concluding that an observed relationship is causal" (Johnson, 1997, p. 287). Data triangulation, which is when the researcher collects multiple sources of data using one research method, is one strategy to improve internal validity (Johnson, 1997). This was accomplished by collecting data from multiple members of supply chains about their relationship with adjacent members when possible. This increased the understanding of the phenomenon by enabling corroboration and discovery of multiple perspectives from both sides of the relationship, thus strengthening internal validity (Johnson, 1997).

External validity is the generalizability of the research findings (Johnson, 1997). While Johnson (1997) acknowledges that generalizability is not the typical purpose of qualitative research, he agrees with Yin's (2018) contention that replication logic can be applied to qualitative research to increase the broadness of findings. Replication logic posits that "the more times a research finding is shown to be true with different sets of people, the more confidence we can place in the finding and in the conclusion that the finding generalizes beyond the people in the original research study" (Johnson, 1997, p. 290). External validity is maintained by repeating the data collection process stated in the previous paragraph with another supply chain which corresponds with replication logic thus strengthening external validity (Yin, 2018)

Interpretive validity refers to the how accurately the researcher understands and reports the meaning of the phenomena observed (Johnson, 1997). This criterion was met through recording and transcribing participant interviews which enables the use of low inference descriptors or direct quotations in the final report. Low inference descriptors are the "use of descriptions phrased very close to the participants' accounts and researchers' field notes" (Johnson, 1997, p. 283). Verbatim is "the lowest inference descriptor of all because the participants' exact words are provided in direct quotations" (Johnson, 1997, p. 285) which enables a direct experience into the participants' perspective and increases the degree of interpretive validity.

Theoretical validity is the degree to which the "theoretical explanation developed from a research study fits the data and, therefore, is credible and defensible" (Johnson, 1997, p. 287). Theoretical validity can be met through theory triangulation which is the use of multiple theories to interpret the data (Johnson, 1997). The use of SDL fits this criterion as its tenants are informed

by multiple theories, such as resource-advantage theory, competence-based view, and institutional theory (Vargo & Lusch, 2004; 2016). Pattern matching, which is the strategy of making multiple predictions (Johnson, 1997) is another method of increasing theoretical validity which is met using multiple research questions.

3.4. Data Collection

A total of 10 interviews were conducted: 6 interviews with food-grade soybean supply chain members and 4 interviews with recreational cannabis supply chain members. The interview guide explores B2B relationships, use of intangible resources, value co-creation, and institutions in the respective contexts of cannabis and soybean supply chains. From this, the research questions can be answered through recommendations on how to strengthen and develop supply chain linkages. The interview guide can be found in Appendix 1.

The first stage of data collection was contacting researchers and people who had previously worked in the industry for contacts within the respective supply chains resulting in a total of 5 interviews: 4 in the food-grade soybean supply chain and 1 in the recreational cannabis supply chain. The second stage was to use non-probability snowball sampling by asking for referrals from the interviewees in the first stage resulting in 2 additional interviews for food-grade soybean supply chains. Because data collection occurred during prime crop planting periods in Ontario, many farmers were non-responsive or unavailable for interviews. In addition, access to members of the domestic processing and hospitality side of the food-grade soybean supply chain was limited due to availability and language barriers between the researcher and chain members.

Three additional interviews with recreational cannabis supply chain members were collected by contacting members via email using the public database of authorized Federal licensed cultivators, processors, and sellers which is provided by the Government of Canada. The response rate using this method was low and many members were ineligible as they had only recently acquired their licenses and their businesses were not yet operational during the time of data collection.

According to Sandelowski (2008), data saturation or "informational redundancy" (p. 875) is reached when "researchers sense they have seen or heard something so repeatedly that they can anticipate it" (p. 875). However, data saturation can also occur when the researcher has exhausted all available resources meaning no new data thus no new themes can emerge (Fuss & Ness, 2015). As such, due to the lack of availability and general non-responsiveness of members from both recreational cannabis and food-grade soybean supply chains, data saturation was assumed to have been met at 10 interviews out of necessity.

In total, 1 local tofu wholesaler, 1 local tofu producer, 3 soybean contractors, 1 food-grade soybean farmer, 2 cannabis private retail storefronts, and 2 cannabis licensed producers with micro-cultivator licensees were interviewed, with 7 hours and 2 minutes of audio and 43,944 words.

Chapter 4. Results

The findings describe service-oriented aspects related to relationships, use of intangible resources, and valued co-creation observed in the context of Ontario recreational cannabis and food-grade soybean supply chains. Institutional arrangements guiding value co-creation, namely legislations and markets, are also identified.

4.1. Recreational Cannabis Supply Chains

B2B relationships

Current Ontario regulations mandate that the OCS acts as the sole wholesale distributor of cannabis for the recreational market of Ontario. As such, interactions between chain members are uncommon as the OCS fulfils both roles of buyer and supplier. B2B interactions in the cannabis supply chain are primarily between the OCS with licensed producers and private retailers.

Because cannabis has only been legalized for two years at the time of data collection, relations in the supply chain are still developing. The current relationship that licensed producers and retailers have with the OCS is described as transactional. Interactions are primarily for the exchange of goods which is conducted through an automated online system. Communication with OCS representatives was described to be bureaucratic and procedural oriented. Some participants preferred this type of working relationship but there was also a desire for more collaboration beyond the mere purchasing or selling of goods. Small businesses with micro-cultivation licenses, or craft licensed producers, in particular wanted the OCS to support the

supply chain by working with chain members to identify issues or bottlenecks in a proactive rather than reactive manner.

> *But one thing that I do wish is that [the OCS] had foresaw the need for craft. That they foresaw that craft growers across Canada want to bring their product to market. It would have been great if they looked at this forthcoming and not be reactive into creating these different policies. So that was one of my main challenges with OCS, just the complexities of getting to market. I think craft growers should have the ability, or any grower doesn't matter, should have the ability, once licensed, to work directly with the OCS and not have to have spend extra money on sales agents or anything along those lines." (Participant 8)*

Participants also described an unequal power differential in their relationship with the OCS. As a crown corporation, policies put forward by the OCS are supported by Ontario legislation as stipulated by the Cannabis Act. Chain members have limited capacity to negotiate in terms of contractual fees or prices. Some participants perceived this power differential to be exploitive which may constrain relational trust.

> *"I can find my own supply chain instead of having go directly to Ontario OCS, and then they put my product on the market. It'd be a whole lot easier. But because I'm dealing with pretty much middlemen, it makes it harder. Cause everybody wants to eat, everyone wants to a dollar on my product, right." (Participant 7)*

Notably, the OCS is also a competitor to retailers through to its online direct-to-consumer webstore. There was a belief that the OCS should be relegated to solely a distribution role.

Retailers believed that the OCS acting as their supplier while also selling directly to consumers ran the risk of jeopardizing their profit margins because of the floor prices established by the OCS's online store. As more retail stores open in Ontario, retailers are concerned that some may choose to underprice the OCS even at the cost of profitability which exerts further pressure on themselves.

> *"There's nothing wrong with the government being a supplier. The issue is the economics is pretty tight as more stores open because of the amount that the government takes. So, the cost of a product from what is sold to the OCS to what it is when the retailer buys it, there's a hell of a mark up, right. I just think that's wrong. I think the government should run a breakeven business, not a profit business, on the backs of private industry. Overall, that's the concern." (Participant 9)*

> *"If you're a good retailer and you're shopping at other stores, and you're doing price comparisons yourself, you know, retailers are now starting to sell their products even cheaper than the Ontario Cannabis Store website. That pretty dangerous, right? Because you're selling it at the cheapest you could possibly get it which is a specific margin point. And then you have retailers who are going even below that to stay competitive. So that's challenging in itself." (Participant 10)*

Use of intangible resources

The demands of Ontario cannabis end-users are growing increasingly sophisticated post-legalization. Participants reported that a growing segment of end-users are seeking cannabis products with qualities beyond the merely their levels of THC. Popular amongst these end-users

are limited production, small batch, quality-focused cannabis releases known as craft cannabis. Craft cannabis follows cultivation protocols that require hands-on care that accentuates qualities such as moisture levels, trichrome density, and terpene flavors, which are valued and appreciated by experienced end-users. These attributes require the intangible resources of cannabis cultivators to produce, such as technical knowledge in maintaining growing facilities with a consistent and controlled climate, strong agronomic skills, and comprehensive knowledge of speciality cannabis strains and the best practices for their production.

> *"And then you'll have these quality craft brands who can grow really good cannabis, and they will be few and far between. … You know, you have these large production companies growing cannabis in droves. But it's not necessarily selling, the mass-produced stuff. What's sold out really quickly in terms of like the product is moving, are these new small batch growers, small batch limited releases, and I would hope to see more of that. But the quality of the product is very important. (Participant 10)*

As the sole supplier for every retailer in Ontario, the OCS is responsible for the selection of cannabis products that are available to end-users in the legal market. Craft licensed producers and private retailers believe that the product procurement model adopted by the OCS is not consumer-centric as it overemphasizes the importance of THC to the detriment of other attributes which results in a lower quality product for the end-user. This focus towards THC also does not acknowledge the full range of the intangible resources of craft licensed producers. Craft producers are incentivized to maximize solely the THC levels of their product because the system of measurement adopted by the OCS does not recognize or reward other qualities.

"...it's all numbers to [the OCS]. Okay, you have what, 15 to 20 percent THC, okay, we're going to give you this much money, you have 20 to 25, we're going to give this much money. That's all it is. They don't go by quality, they don't go by taste, they don't go by nothing. ...Their measurement system is completely out of whack. ...Everyone wants that high THC because [the OCS] think it's more attractive to [end-users] because it's higher THC and they think that that you get more money for it. Because, obviously, the higher the THC is, the more money you get. So, it's a trend that they are using but it's not working for 'em because just because you have high THC doesn't mean you have a quality bud." (Participant 7)

Licensed producers and retailers are wary that this model may increase the risk of quality cheating as producers may artificially inflate THC levels through misreporting or other techniques which can also be detrimental to end-consumers' confidence in the legal market.

"Some people, what they do is they dry their flower almost to 8%-6% moisture so they get a higher THC level on their product. But when it gets to actual consumer, you can literally break it up with your hands and bust the dust, you know what I mean? It's dry. It's drying to nothing." (Participant 7)

"I always say the cost of poor quality is reputational risk" (Participant 10)

This firm-centric approach to value propositions follows an outdated goods-dominant logic. It is not consumer centric as value is defined by the OCS, rather than co-created with end-users (Vargo & Lusch, 2004). It has consequences for the whole chain as some retailers are unable to acquire in-demand products because they do not meet the requirements of the OCS.

"Our only way to purchase cannabis is through the OCS. And so, we are tied to what they want from list. And we've had that experience where there's a product that we want to carry but can't get listed because the OCS doesn't feel it's a product that they want to sell. The issue there is we're handcuffed by a couple of purchasers at the OCS who really dictate what the end consumer selection is in the market. Right now, there's a race to the cheapest, highest THC product. Fine, there's definitely a market for that. But there's also a market for other products that have higher terpenes or unique flavor profiles, or maybe a lower THC, not for everybody but there's definitely a market for it. Not everybody wants to, excuse the expression, sit and get stoned as fast as they can." (Participant 8)

Value co-creation

Legislations and markets are identified as institutional arrangements that influence value co-creation in the context of Ontario cannabis supply chains. As discussed in previous sections, legislations play a key role in the Ontario recreational cannabis supply chain which chain members have little to no control over. B2B value co-creation between chain members is constrained because the OCS is the sole supplier for the province which discourages interactions between retailers and craft licensed producers. All retailers have access to the same selection of products meaning there is little incentive for licensed producers and private retailers to form partnerships. This lack of interaction also limits the transfer of knowledge in the chain, as licensed producers must rely on Federally provided sales data and feedback from social media to discern end-user demands.

"Unfortunately, with the way that Ontario is set up, you know, a single point of supply and everything, realistically you can't actually curate and have ways to differentiate yourself from the retailer down the street or around the corner. So, we do a bit but it's unfortunate that we've not yet been able to really find that niche of being able to work directly with the licensed producers to come up with products that would be exclusive to us" (Participant 8)

Markets are another institutional arrangement that significantly influence value co-creation processes (Vargo & Lusch, 2016). As mentioned, demand in the legal recreational market is evolving and retailers and producers are adjusting their value propositions to accordingly. One unique aspect of the cannabis industry is competition from the illicit legacy market. Participants viewed legacy producers as skilled and knowledgeable.

"The general sentiment is that a lot of these growers are the best growers. A lot of people say "you know what, I'm not going to buy OCS stuff because it's not nearly as good as what I can get from my guy." (Participant 8)

While competitive prices are acknowledged to be one advantage that the legacy market has over the legal market, participants also perceived the legacy market to be more consumer-oriented. Non-regulated sellers and retailers can offer a greater and more curated selection of products, many of which are still not yet available in legal storefronts. The legacy market is viewed as more capable of responding to end-user demands as its supply chains can bypass Ontario regulations to quickly bring new products to market.

"It's an issue that, unfortunately, the end consumer doesn't know about and isn't really privy to because they can get only what they go into the store to buy or buy online, wherever the model is. And unfortunately, in a lot of cases, their dealer, that they can just go on an app and order from, has a more curated product list. They have the products that they want and therefore the illegal market continues to thrive." (Participant 9)

In response, some craft licensed producers observe and monitor the value propositions of the legacy market to assess changing end-user demands and adjust their own offerings accordingly. There is the belief that end-users from the legacy market can be converted to the legal market by offering similar quality products with the additional value-added advantage of rigid quality assurance, production controls, and traceability.

"I absolutely look at the legacy market. And I absolutely look at some of the trends that are coming up in the legacy market to see where people's taste palates are going. So, if we're looking at the very granular aspect of it, yeah, seeds, genetics, definitely looking at the legacy markets… How do we make sure that we can get the standards of the legacy market into the legal market and say hey, you know what, we have done this. Yes, we're federally legal but we have the quality that is coming out of that legacy market. …We are a company who knows exactly how to grow from seed all the way down to the packaging, and make sure that it's literally one of the best products that you can have on the market" (Participant 8)

4.2. Food-grade Soybean Supply Chains

The Ontario food-grade soybean supply chain is oriented towards the export tofu markets of China, Japan, and Southeast Asia, with a particular focus on Japan. The supply chain operates through formal written contracts, a legislative institutional arrangement, under which independent smallholder farmers are contracted by exporting agribusiness companies (known as contractors) to produce soybeans following identity preserved (IP) production protocols. IP is a production and management practice which involves segregating and tracking an agricultural commodity through all stages of production to prevent contamination from other crop types, particularly GM crops, thereby "preserving" the identity trait of the commodity and imparting its premium value.

B2B relationships

Participants describe B2B relationships as mutually beneficial partnerships characterized by trust. While an element of transactional relations is present between contracting companies and farmers due to the use of formal written contracts, a high degree of vertical coordination in the supply chain means that farmers and contractors are aligned in their economic goals. Contracting companies are involved in all stages of production and often act as both input supplier and soybean buyer for farmers. In most contracts, the contracting company will sell the soybean seed with the specific genetics desired by buyers (as well as other inputs, such as chemicals approved for non-GM production) to farmers and will purchase the soybeans back after cultivation, thereby maintaining full chain traceability as required by IP protocols.

> *"…our success depends on the success of the grower. It's no good for us if the grower doesn't have a successful growing year because we sell them the seed but we also buy the*

beans back, we need the beans to be in good quality in order for us to make money when we sell the beans." (Participant 3)

An example of farmers' trust towards contractors is demonstrated when contract provisions are not met due to environmental, production, or biological uncertainties. Contractors find alternate buyers, such as crushing plants that the produce oil, so that both parties are able to recovery some of their investment.

"There's also a trust relationship. Because sometimes you do have the off load that comes out stained… So, if they need to do something else with those beans, at least the buyer that we have seems to try to work through some of the issues when we do have less than perfect beans. There's a trust relationship there that keeps things going. So, they have to trust you to make sure you're doing the right thing. They know every farmer that sells to them. There is that you're working together kind of relationship." (Participant 1)

Contractors also exhibit a strong understanding of the biological and environmental risks and uncertainties present in the production of agricultural commodities and will co-plan with individual farmers to meet their economic goals. This alignment of goals because of vertical coordination may contribute to the general belief of reciprocal trust.

"Yeah, what we're trying to do is provide profit solutions for the grower. The most important thing is making sure that our growers make a decision that makes sense for their operation… So, we're really trying to stress the profitability for each growers' operation and how we can fit in that. So, what we're trying to do is just find a solution that works for every grower that we work with." (Participant 2)

Participants also expressed long-term orientation and commitment to existing relationships. The Ontario food-grade soybean supply chain is considered a small supply chain in comparison to the larger scale operations of GM soybean production. There are few non-GM input suppliers leaving limited options for non-GM farmers which shifts negotiation power towards the supplier. Growers of non-GM soybeans are often smallholder farms with limited financial capital which leaves them susceptible to opportunistic behaviour such as higher prices for chemicals and equipment.

> *"…the sales people pay attention to the big farmers who buy a lot and then those big farmers then get a cheaper price because they're buying bigger quantities. And that's how they get ahead of the little guy. So, it still happens to us as IP growers, we're kind of in that mid sized farm now. We were small. And when we were small, we were paying more for chemicals. We were paying more for equipment, hard to get attention, you call somebody and they wouldn't call you back or they wouldn't come visit you." (Participant 1)*

Farmers expressed long-term commitment to existing relationships with suppliers who had earned their trust in the past through cooperative efforts. Many farmers have worked with the same contracting company for their entire farming career.

> *"We're sticking with the companies that work with us when we were small. They've stuck with us when we've made some mistakes. And so, they've given us no reason to switch as long as they stay competitive on the price side. We're not going to switch. We're gonna maintain that relationship." (Participant 1)*

Use of intangible resources

Contractors have close, long-term relationships with export market buyers, particularly from the Japanese market.

> *"Our primary market is Japan and we started traveling to Japan almost 30 years ago to develop that market. And at that time, it was not as competitive and was much more unknown than what it is today. We were under a different name at that time, we were one of the early goers and really developed that market with the end users." (Participant 3)*

The Japanese market is considered to be the highly knowledgeable in terms of end-use demands and its standards are used as a model for other Asian buyers. There are high quality requirements in terms of physical appearance and cleanliness of the soybeans. Being able to meet these increased quality requirements is believed to increase commitment with buyers from the Japanese market.

> *"I think, as far as for those market for the higher end stuff that's more in Japan, they're really going for the quality side of it. They're more apt to stick with you as long as things are the way they should be." (Participant 2)*

These requirements call for additional planning and field management, specialized harvesting practices, and added cleaning processes. These value-adding activities are accomplished through the strong agronomic skills of farmers (intangible resources) and is supported by contractors through education, training, and information sharing.

"So, with non-GMO soybeans, when you harvest them, there can't be any staining on the soybeans. So, no mud, no weeds, or green weeds that can stain the seed, it can't be harvested in any dew conditions so you can't start until about 11:30 in the morning and you have to stop at 8 pm. So, you're limiting your ability of harvesting to a certain amount of acres in a day because of those parameters whereas if we were just growing crusher soybeans we could start at nine in the morning and run till midnight with the same machine." (Participant 1)

Value co-creation and co-production

As discussed previously, the interrelated institutional arrangements of legislations and export markets encourage and reinforce trust and commitment in the supply chain by maintaining traceability through IP protocols which is valued in export markets. Contractors and farmers manage value co-creation in export markets through the practice of co-production which is facilitated through collaborative relationships. Co-production is reportedly not practiced in the domestic market due to less demand and the absence of such collaborative relationships.

Value co-production

Trust and commitment foster co-production practices between contractors and farmers. Information sharing is described to be transparent, and contractors have a strong understanding of individual farmers' business operation and processes. Co-production is extensively practiced between farmers and contractors through co-planning which is described as a collaborative process with equal input from both parties.

"Most, I would say 95% of the farmers, I have, we sit down in the winter, and we come up with a plan to grow X number of acres of a certain variety of beans that's economically strong for them. And one, that's an economically good for me to sell. So, we'll sign up, we'll sign up acres in the winter for them to grow in the spring. …after that, we stand to the side and we let the farmer do what he does best, which is grow beans… So, it's a collaborative process in the sense that sometimes you tell the farmers what you need and sometimes the farmers will tell you what they'll grow" (Participant 4)

Contractors and Japanese buyers engage in joint strategic co-planning characterized by transparent communication and information sharing. Contractors and buyers engage in collective learning practices to better understand one another's needs, objectives, and business processes. An example of co-planning would be in-person tours of Japanese and Canadian plants and farming operations. Contracting companies regularly send representatives to Japan to observe Japanese farming methods and Japanese buyers travel to Canada to do the same.

"… for our core customers in Japan, we will visit them twice per year, they will visit us at least once or twice per year. We will share various market information, share various thoughts in terms of where the markets going and certain strategies that each party should be looking at." (Participant 3)

"…those standard dozen customers I mentioned earlier, they're year after year. And pre-COVID times they'd be around every summer to tour the field with us and see how the crops are doing and do some face to face. [They come from Japan to do that?] Yep. They like to tour the soybean plant too. Just to have a look at everything and see how the

process works. Some of those overseas customers you get to know fairly well because you see them every year." (Participant 2)

Contractors communicate the information they learn to farmers to improve quality standards, thereby improving whole chain value co-creation.

"...having your growers understand the quality that's required to make food as opposed to harvest something that's not suitable for food. Has to be pleasing to the eye first of all, you know, the farmer gets in the field too early in the day, too late at night. And he contaminates his beans with mud and wheat stains. We always say to them, when your combining beans, would you put these beans in your mouth and eat it?" (Participant 4)

The service-oriented and relational approach was acknowledged by participants. Developing and maintaining trusted and close relationships with buyers is viewed as the dominant competitive advantage of contractors.

"There's a number of processors in the province doing the same thing we're doing with the same soybeans that we're doing. I guess the only influence that we really have is building relationships. Our customers know that the product is consistent. We like to think it's a superior product. But at the end of the day, if you took the product that we plant versus a product that of our competitors, there would be no difference." (Participant 4)

Domestic markets

The domestic market is viewed as less developed compared to the export market. Domestic buyers are viewed as less knowledgeable of the value of value-adding activities, such as IP protocols, and are more sensitive towards price. These relationships are described to be for the purpose of transactional goods-focused exchange.

> *"I would say that the Asian market is far more mature. It's far more knowledgeable on what they want. We try to fit in the same soybeans that are going to Asia, we're trying to fit into the domestic market and it's a difficult job trying to educate the domestic people. As I say that, most of the domestic market are actually Asian individuals that have migrated over and started up their own business." (Participant 4)*

> *"We have a couple in Canada for tofu. But we haven't developed that market that well. And it's also more price competitive market than those overseas typically. ... More of a transactional relationship here in North America. (Participant 3)*

Participants attribute this difference due to the significantly smaller market size of the domestic market in comparison to the much larger export market. The lack of Canadian end-user demand for tofu was another reason cited for this difference.

> *"Well, I think as our society becomes more diverse, it could be more so. But if you take the average white Canadian, they have no interest in eating soy products. ...It probably is a concern but the market is so small, that it's probably not worth a lot of the effort. You know, what I mean? Like, even the whole IP business is small and 99% of that market is*

going to Southeast Asia that's already growing up eating soybeans as their main protein. And the Canadian market, or even the US, is just a sliver of that." (Participant 4)

One participant who owned and operated a small-scale, health-focused tofu production company believed that Canadian interest into alternative sources of protein can improve through increased knowledge and education about health and food.

"I'm aware that today, my customers are a lot more health conscious than, say 20 years ago. And there's certainly been a tremendous change in people's consciousness about food. And when we talk about tofu today, acceptance about soy food in general is a lot higher than my earlier experience 15-20 years ago. [The] Canada Food Guide I think last year they did not make any specific recommendations of any food groups like dairy or meat but instead they list Phaseolus which means all the beans. … See, this is a change in Western society. Western diet, meat and dairy, as you know, are the best foods but for Health Canada to list Phaseolus as a healthy food, that's tremendous progress in the understanding of food." (Participant 6)

This participant maintained a close relationship with their contractor and valued similar soybean qualities as those described in the export market. This participant also engaged in value co-production practices and joint information sharing with their contractors and associated farmers by touring the soybean fields, personally speaking with and engaging with farmers in order to communicate and share knowledge about how their soybeans are utilized in the tofu production process, as well as providing samples of tofu products for the farmers to try. This relationship with their contractor, whose owner was considered to be a personal friend, translated

into superior business performance as they are able to procure the specific variety of soybean to produce tofu with qualities that their end-users desire.

> *"I know for soybeans there's so many varieties, some are designed for extracting oil, that's not the type we want, we want higher protein… So, when we try the soy milk with fully cooked up, the different soybeans, different varieties have a different taste feel, and this variety has been the best one based on our experience. That's why this great relationship basically assures me that I get what I want" (Participant 6)*

A summary of the findings is outlined in the tables below.

Table 2. Service-orientation of cannabis supply chains

Theoretical Concepts	**How the concept manifests in cannabis supply chains**
B2B Relationships	Cannabis has been legalized for two years meaning that trust in relationships is still developing. Interactions between craft licensed producers and private retailers is limited. B2B relationships with the OCS are focused towards transactional exchange. The OCS is considered a competitor to private retailers which constrains the development of trust and goal alignment.
Intangible Resources	The full extent of intangible resources of craft licensed producers is not acknowledged due to the THC focused purchasing model of the OCS. Retailers are restricted in product selection and curation as a result.
Value Co-creation	Opportunities for B2B co-creation between retailers and producers is limited due to the current Ontario regulation model.
Institutional arrangements	Legislation: The OCS acts as the sole online and wholesaler of the province which is detrimental to knowledge transfer and value co-creation for chain members. Markets: End-user demand is evolving with increased demand for higher quality craft cannabis. However, value propositions in the legal market are still lagging behind the legacy market in terms of variety and selection, suggesting a firm-centric approach to value.

Table 3. Service-orientation of food-grade soybean supply chains

Theoretical Concepts	**How the concept manifests in food-grade soybean supply chains**
B2B Relationships	B2B relationships in the supply chain are mutually beneficial partnerships characterized by trust and commitment to the other party.
Intangible Resources	Farmers' agronomic skills are the dominant intangible resource which is supported by contractors through resource sharing, frequent information sharing, and joint co-planning.
Value Co-creation	Value co-creation is customer oriented as co-production is regularly practiced between farmers, contractors, and export market buyers for the purposes of improving value propositions.
Institutional arrangements	Contract farming: A legislative institutional arrangement. Facilitates the use of formal contracts. While transactional, contract stipulations encourage collaboration between farmers and contractors due to the mutual sharing of risk and rewards required to maintain whole chain traceability through IP protocols which is valued by end-consumers in export markets. Markets: The supply chain is oriented towards the export markets of Asia due to greater demand. Co-production is practiced extensively to improve value propositions to the Asian market. Traceability is important to end-consumers in Asian markets, hence the need for contract farming and IP protocols. Relations with the domestic side of the supply chain is underdeveloped due to smaller market share and less end-user demand. Domestic buyers are viewed as having differing value definitions compared to the export market which leads to price-focused transactional relationships.

Chapter 5. Discussion

The findings identify aspects of a service-oriented approach, namely the core concepts of relationships, effective application of intangible resources, and value co-creation (Vargo & Lusch, 2004) in the context of Ontario recreational cannabis and food-grade soybean supply chains. Institutional arrangements provide the context for resource integration (Koskela-Huitari et al., 2016) which is considered a central aspect of value co-creation (Akaka et al., 2013). The institutional arrangements of legislations and markets, which are institutions identified in existing research (e.g., Bellemare & Novak, 2017; Vargo & Lusch, 2016; Pop et al., 2018; Krause & Pullman, 2020) enable or constrain the practice of a service-oriented approach in the respective supply chains.

5.1. Recreational Cannabis Supply Chains

The findings suggest that Ontario recreational cannabis supply chains do not follow a service-oriented approach. Current regulations mandate the OCS as the official supplier of Ontario. According to participants, this diminishes the incentives for collaboration, thus reducing overall interaction, between licensed producers and private retailers as every retailer in the province has access to the same selection of products. This lack of interaction and dialogue between craft licensed producers and retailers limits communication and the transfer of knowledge for the whole chain. Communication is essential in the management of relations and has a variety of performance outcomes, such as improved organizational capabilities (Morgan & Hunt, 1994) as well as increased customer satisfaction (Mohr et al., 1996). Communication has been described as the "glue that holds together a channel of distribution" (Mohr & Nevin, 1994,

p. 36) and strong linkages that facilitate the flow of information between chain members can lead to whole chain benefits (Thomas-Francois et al., 2017a; 2017b). The lack of incentive for collaboration reduces interactions between chain members which may hamper intelligence gathering, coordination, and delay responses to changing market trends and threats, such as competition from the legacy market.

Relational exchange necessitates the establishment of trust and commitment (Morgan & Hunt, 1994) meaning that the interests of both partners must be aligned. Cannabis has been legalized for two years, meaning that the development of trust and commitment between the OCS and chain members is still ongoing. Craft licensed producers and private retailers describe their current relations with the OCS to be transactional. Interactions are primarily for the exchange of goods with little to no instances of collaborative communication. In addition, the direct-to-consumer online distribution channel of the OCS means that private retailers consider the OCS to be their competitor which constrains the development of relational trust. This is a characteristic of transactional relationships wherein attitudes are oriented towards market exploitation, rather than cooperation (Axelsson & Wynstra, 2002) which is exemplified by some retailers choosing a strategy to undercut OCS prices in order to remain competitive.

The OCS's adoption of THC as the primary measurement of quality is another obstacle to service-orientation in the supply chain. Craft licensed producers and retailers affirm that end-user demand is growing for quality-focused craft cannabis products. End-users value cannabis products for attributes beyond merely their THC content, such as terpene flavor, trichrome density, or even lower or moderate levels of THC aimed towards inexperienced cannabis consumers. SDL puts forward that customers are both active participants and the center of the service exchange process (Vargo & Lusch, 2004). According to Grönroos (2011), effective co-

creation is customer-centric as value must be defined by customers through use and context. This suggests that the OCS follows an outdated goods-dominant approach to value, as end-users are viewed as passive recipients of the OCS's offerings rather than active participant in the co-creation process (Vargo & Lusch, 2004). As such, craft licensed producers' knowledge and skills, considered the dominant intangible resource of the chain, are not recognized or rewarded. Notably, it may encourage some producers to misreport or artificially inflate THC levels. Quality cheating can impede the development of trust (Raynaud et al., 2009) thus deteriorating the reputation, integrity, and respect of chain members and end-users towards the OCS's capabilities to manage the legal market. Consequently, retailers are unable to acquire certain in-demand products which limits the selection of products available in the legal cannabis market. This may continue to drive end-users towards the legacy market which is perceived by chain members to be more customer-oriented because unregulated retailers and sellers are able to respond faster to evolving end-user demands. The legacy market has a more curated selection of products and thus offers more competitive value propositions compared to the legal market. This aligns with the demand-side findings of Charlebois, Music, Sterling, and Somogyi (2020) who found that many Canadian end-users still maintained their former illicit channels of distribution despite the legal status of cannabis.

RQ1: What are the opportunities to strengthen the cannabis supply chain in Ontario using a service-oriented approach?

The findings suggest that the service-oriented approach can strengthen Ontario cannabis supply chains. Customer-centric supply chains, or value chains, should incorporate the consumer as a member of the chain to increase the customers' ability to convey their needs and demands

(La Londe & Masters, 1994). This moves away from the traditional, firm-centric goods-dominant perspective of supply chain management towards a service-oriented and customer-centric approach wherein the entire chain is aligned towards a common goal (Vargo & Lusch, 2004; 2008). Collaboration between chain members towards value co-creation may improve performance and profits but collaboration necessitates interaction (Prahald & Ramaswamy, 2004; Tanev et al., 2011; Zhang & Chen, 2008), which is limited in the cannabis supply chain.

These findings align with those of Pullman and Krause (2020), who found that goal aligned interaction between supply chain members is critical to supply chain performance. Relational and human-focused operand resources (e.g., social network access) were the greatest predictor of success in the turbulent regulatory environment of the Oregon cannabis industry. Managers of SME cannabis firms who frequently interacted and worked with industry associations, other producers and suppliers, and regulators towards the common goal of improving the regulatory environment were more successful than those managers that focused solely on optimizing their productive capabilities.

The findings also highlight the importance of active, interdependent, and collaborative interaction between members. Ngugi (2019) found that collaborative interactions in the agri-food sector between SME suppliers and larger customers can result in both monetary (e.g., financial performance) and non-monetary benefits (e.g., improved reputation, increased competencies and skills).

5.2. Food-grade Soybean Supply Chains

The Ontario food-grade soybean supply chain aligns with the definition of the value chain as chain members share the same goal of maximizing value to the end-user (Baltagiou et al., 2007). B2B relationships are viewed as mutually beneficial partnerships characterized by trust and commitment to the other party. Farmers, contractors, and export market buyers have long term and satisfactory relationships. Supply chain members demonstrate strong understandings of the risks and uncertainties of agricultural production (Sporleder & Boland, 2011) and made coordinated efforts to address them. Multiple examples of collaborative practices, such as information transfer, transparent communication, and cooperative joint-planning (Lindgreen et al., 2012) was applied by members in the chain to improve value propositions to the end-user. Notably, members regularly engaged in value co-production practices which suggests a high degree of cooperation and goal alignment between chain members (Vargo & Lusch, 2006). Etgar (2008) describes value co-production as a component of value co-creation wherein customers cooperate with suppliers to customize offerings prior to purchase. This is like the concept of customer "needing" (Strandvik et al., 2012) where the seller gains an understanding of the buyer's business model and processes to propose an offering that matches the buyer's specific definition of value. Co-production activities in the supply chain are used to improve understanding of the buyers' needs, such as soybean quality requirements in the production of tofu and educate and support farmers to better fulfil said needs. The facility and field tours that Japanese buyers and Canadian suppliers engage in is an example of value co-production that is both relational and accomplishes these objectives as both parties learn and collaborate to improve one other's business processes.

These service-oriented aspects are facilitated by contract farming, a legislative institutional arrangement. According to Bellemare and Novak (2017), contract farming is an institutional arrangement under which the production of agricultural commodities is contracted to farmers by an agribusiness firm. Contract farming is considered an institutional arrangement as it operates through formal written laws (Pop et al., 2018) and is commonly used in agricultural sectors in which the commodity produced is used for unique activities and has specificities related to quality and production practices (Mugwagwa et al., 2019), such as the practice of identity preservation (IP). Successful implementation of non-GM IP soybean production protocols requires strong agronomic skills and knowledge of farmers (intangible resources). Contractors support farmers through knowledge sharing and information transfer with buyers from the export market. In relational marketing literature, three categories of relational performance outcomes are identified: 1) customer-focused outcomes (i.e. commitment, which is exemplified by the long-term relationships in the supply chain), 2) dyadic outcomes (i.e., customer cooperation, which is observed through co-production practices) and 3) seller-focused outcomes (i.e., improved financial performance, which is assumed due to the satisfactory relationships described by all participants) (Palmatier et al., 2006). As such, the service-oriented and relational approach was observed to benefit all participating parties in the supply chain.

However, the service-oriented approach between farmers, contractors, and buyers was not found for the domestic side of the supply chain. Contractors did not feel a need to develop their relationships with domestic buyers due to its significantly smaller market share in comparison to the export market. Relationships with domestic buyers follow a transactional mode of governance with an emphasis towards price as most buyers in the domestic market were reportedly less knowledgeable about value-adding practices, such as IP production protocols.

However, one domestic side tofu producer whose knowledge and values aligned with those of buyers in export markets also engaged in co-production practices and relational exchanges with their contractor. Both parties benefited from this relationship as the tofu producer was able to procure soybeans of specified quality to produce products attractive to their end-users and the supplier was able to sell more soybeans. While a unique case, it exemplifies how a service-oriented approach may also be adopted in the domestic supply chain.

RQ2: How can a service-oriented approach strengthen linkages between food-grade soybean and hospitality industries in Ontario?

These findings reinforce the importance of understanding institutions and institutional arrangements and their context and industry specific characteristics (Koskela-Huotari & Vargo, 2016). Institutions provide the regulative, normative, cognitive context for resource integration (Koskela-Huotari & Vargo, 2016) which influences how end-users define and use value in co-creation (Vargo & Lusch, 2016). Institutions are the "rules of the game" (North, 1990, p. 3.), and the rules of some games can differ radically from another, which alters the optimal winning strategy. For example, the findings reinforce the conclusions of Folkerts and Koehorst (1997) who found that supply chain coordination in agri-food supply chains is dependent on historical, cultural, and regulatory context. Handayati et al., (2015) also emphasizes that in agri-food supply chains, assets with high quality requirements from customers necessitates high interaction, high information sharing and high contract specificity (use of formal written contracts) between actors. However, coordination to produce assets which do not have such quality requirements from customers require only basic market mechanisms (transactions) between buyers and

suppliers to maintain. This aligns with the findings, as buyers in the domestic market may not have the same quality requirements as those in the export market, leading to transactional relations. Strengthening linkages in the domestic market may require domestic buyers to share the high-quality requirements of the export market which requires contextual understanding of industry-specific institutions and institutional arrangements.

Chapter 6. Implications

6.1. Theoretical Implications

The study contributes to extant literature in the following ways. It advances the theoretical powers of SDL by applying the concepts of valued relationships, use of intangible resources, and value co-creation to the context of two agri-food supply chains. Agri-food supply chains are traditionally focused towards the mass production of homogenous commodities (Sporleder & Boyer, 2011), suggesting an outdated goods-dominant approach to their management. Existing research that intersects SCM with SDL have primarily been conducted in the industries of manufacturing, retail, and IT/technology (Vural, 2017), indicating that few studies investigate agri-food supply chains from a service-oriented perspective. However, consumers are increasingly valuing agri-food products for specific qualities and the protocols used in their production (Thomas-Francois et al., 2018) suggesting that the customer-centric perspective offered by SDL may be a viable strategy to achieving competitive advantages. Specifically, the findings provide insights into how a service-oriented approach can strengthen and align a supply chain towards end-user satisfaction by improving value propositions through collaborative practices, such as co-production, knowledge sharing, and collective learning, resulting in whole chain benefits, such as the case for Ontario food-grade soybean supply chains. It also highlights how its absence can be detrimental in certain supply chains, such as in recreational cannabis, as the lack of interaction between chain members and a goods-dominant approach to value can setback timely and coordinated responses to market trends and threats. A service-oriented supply chain in which B2B relationships are characterized by trust and commitment and its members' intangible resources are acknowledged and rewarded can foster collaborative co-creation and co-productive practices, thus aligning with the conceptual tenants of SDL (Vargo & Lusch, 2004).

The study also contributes to the recent conceptualization of institutions to SDL (Vargo & Lusch, 2016) by identifying the impact of the institutional arrangements of markets and legislations. The service eco-system perspective views supply chains as embedded within a greater constellation of actors and resources in which institutional arrangements govern the behaviour of actors and provide the heuristics for value co-creation (Akaka et al., 2013; Hein et al., 2019). Institutional arrangements are industry specific meaning that they are determined based on context (Koskela-Huotari et al., 2016). Vargo & Lusch (2016) put forward that in order for managers to understand markets, they must have a greater understanding of the complexity of context which is informed by institutions and institutional arrangements. Krause and Pullman (2020) and Pop et al., (2018) identify legislations as an institutional arrangement that can be manipulated by managers to increase both firm and whole chain performance. Institutions and institutional arrangements necessitate additional research as they can be considered resources that extend beyond the conceptualization of supply chain management (Vargo & Lusch, 2016) which traditionally focuses on the exchange and flow of goods, information, and buyer-supplier relations (Monczka et al., 2002).

6.2. Practical Implications

This research was motivated by a practical need to strengthen the supply chains of recreational cannabis and food-grade soybean in Ontario. The two research questions generated from this research problem will be answered in the following section.

Strengthening Ontario recreational cannabis supply chains

There are several practical opportunities to strengthen the Ontario recreational cannabis supply chain using a service-oriented approach. In regards to the development of trust towards the OCS, this may be developed over time through repeated transactions (La Londe & Masters, 1994) as the cannabis industry is still emerging and relationships are still developing. The OCS may facilitate the development of trust by providing opportunities for collaboration that extend beyond transactional exchanges. For example, barring a switch towards a purely wholesale distribution role, the issues of goal alignment from private retailers due to the OCS's online store OCS could be addressed by increasing transparency on the decision-making processes of their pricing strategies. The Ontario government could look towards the models adopted in other provinces, such as Alberta, which employs a fully open free market system and has a 93% customer satisfaction rating two years after legalization (Alberta Gaming, Liquor & Cannabis, 2020) to identify issues with the Ontario model. The OCS could also employ third parties to gather information and feedback from chain members or analyze and share intelligence about market trends beyond sales analytics for more inclusive stakeholder participation. Participants acknowledged the challenges that the OCS were operating under, such as the bureaucratic procedures of large governmental entities or the short time frame before the rapid rollout of legalization and were welcoming and willing to collaborate with the OCS and policy makers in the future.

To address to the lack of dialogue between licensed producers and private retailers, the Ontario government should facilitate or provide opportunities that encourage communication and information sharing between chain members. This could be accomplished through investments into information technology infrastructures that promote a clear flow of information from private

retailers to licensed producers. For example, the online platform currently used by private retailers to purchase products from the OCS could also include a channel for feedback or an option to send messages directly to representatives from the licensed producer within the platform itself. This would provide a centralized hub for communication which could be managed by the OCS. While this would be an optional feature which may not be adopted by all chain members, it would provide an option that is available to licensed producers and private retailers should they seek additional feedback on new end-user demands and market trends. It would also facilitate and provide the opportunity for smaller licensed craft producers, who are generally individuals that specialize in cannabis cultivation and may not have marketing experience or resources to expend on marketing, to interact with private retail stores or other chain members and share market intelligence.

After over a year of consultation and research, the OCS recently implemented a channel for small craft licensed producers to promote and quickly bring their products to market through their craft cannabis designation as of April 2021 (Israel, 2021). This suggests a change from a goods-dominant approach to value towards a service and consumer-centered perspective which also acknowledges the intangible resources of craft licensed producers. Nevertheless, a relational service model which favors frequent information transfer and communication between parties as suggested by this study may lead to increased agility and adaptability towards addressing the needs of end-users and responding to new market trends and threats.

Strengthening linkages between food-grade soybean supply chains and domestic hospitality

In order to strengthen linkages between food-grade soybean and Ontario hospitality businesses, such as restaurants or grocery stores which sell or promote Ontario produced soy products (i.e., tofu), there must be sufficient demand for Ontario soybean contractors to seek to develop relationships with buyers in the domestic market. Tofu is the primary end-use for soybeans and chain members identified many tofu consumers to be from Asian cultures. While the demand in Asian export markets is significantly greater, the Asian population of Ontario is also rapidly growing, with over 6 million or 17% of people in Canada reported to have Asian heritage as of 2016 and projections of over 55% of immigrants to be born in Asia by 2036 (Statistics Canada, 2021). One of the strengths of the Canadian food-grade soybean industry, is its value-adding IP protocols due to its assurances of whole chain traceability which chain members report is highly desirable by Asian end-users. This claim is affirmed in existing research regarding Asian consumer food preference choices, with traceable tag certification information and food processing information ranked as high priorities for Chinese consumers (Hou et al., 2019; Liu et al., 2018). Furthermore, Chinese consumers are increasingly placing value on the health functions of foods (Nielson, 2016) with quality certification from trusted organizations being one of the most important attributes in terms of food labeling (Wu et al., 2015). Willingness to pay for foods with health functions was also found to increase for consumers depending on the country of origin *(*Hirogaki, 2013), suggesting that food labeling should leverage the strong reputation of Canada's soy production systems (Soy Canada, 2020). As such, this study recommends that government organizations, such as Health Canada or OMAFRA, should look towards managing the institutions that influence consumer purchasing behaviour in order to increase purchasing and consumption of Canadian produced soy products.

Additional promotions and education of alternative protein sources should be made to the general public. Particular focus should be made towards local Asian communities by including Chinese language translations in addition to English. Examples could include further publications and promotions to consume more alternative protein sources, such as those recommended in the food dietary guidelines published by Health Canada (Health Canada, 2021). OMAFRA could also create clearly identifiable labels for Ontario produced soy food products to promote the consumption and purchase of local foods. One of the reasons expressed by contractors contributing towards their hesitancy to develop relations with domestic buyers was that they did not share the same attitude or knowledge towards value-adding activities as those in export markets, leading to price-focused transactional relationships. By increasing domestic demand for locally produced soy products that emphasize traceability, this may incentive domestic buyers to align their goals and values with the Ontario food-grade soybean supply chain. The export side of the supply chain displays qualities that elevate it into a value chain to the benefit of all its members and the sharing of goals by all chain members towards fulfilling the demands of the end-user is a necessary prerequisite for this evolution.

Chapter 7. Limitations and Future Studies

This study has several limitations which provide opportunities for future research. First, the sample size of the study is small, with 10 interviews across two agri-food supply chains. As this is a qualitative study which is exploratory in nature, subsequent studies should employ a quantitative approach with larger data sets to provide empirical confirmation of our findings. Further, because this study recruited participants through a snow-ball sampling method, the cannabis related finding is relevant only for small enterprise craft licensed producers and future studies should also investigate larger enterprise licensed producers. Similarly, due to language barriers, access to the buyer side of soybean supply chains for both the export and domestic market was limited and future studies should aim to recruit participants from the full soybean supply chain.

The contextual background of the respective supply chains also differs greatly in terms of their level of development, maturity and in their organization and structure due to the policies and regulations of their respective industries, which impacts the generalizability of the findings. Specifically, in regards to supply chains in the emergent Ontario cannabis industry, the timing of data collection may have directed participants' responses towards their challenges in navigating regulations over other issues in the supply chain. Cannabis has been legalized in Canada for only two years and the industry is experiencing turbulent regulatory churn. For example, at the provincial level, the change in Ontario government from Liberal to Conservative during the rollout of legalization may have temporarily created market conditions that favour the legacy market due to delays in the opening of new private retail stores thus limiting consumer access of legal distribution channels. This was a consequence of the short timeframe in which the province

switched from its original plan of a province-controlled retail model to a private retail store model, followed by a switch from a lottery licensing system to an open application system (Jeffords & Ligya, 2019). Due to these conditions and the unique context of the Ontario cannabis industry, future studies should employ a cross-sectional, multiple case study approach to investigate the longitudinal impacts of the hybrid government-private retail model approach similar to the study by Pullman and Krause (2020) conducted in the Oregon cannabis industry.

This study investigated the institutional arrangements of legislations and markets and their impact on collaborative relationships, use of intangible resources, and value co-creation on agri-food supply chains. However, these institutions are not exhaustive and many other normative and social institutions exist which both inter- and intra-organizational impacts (Vargo & Lusch, 2016). Future studies could investigate the influence of other institutional arrangements, such as those described in the typology of institutions put forward by Pop et al. (2018).

Chapter 8. Conclusion

This study examined how service-oriented aspects related to relationships, use of intangible resources, and value co-creation as described by SDL (Vargo & Lusch, 2004) manifest in the agri-food supply chains of Ontario recreational cannabis and food-grade soybeans. The institutional arrangements guiding value co-creation and resource integration, namely legislations and markets, were identified to limit the practice of a service-oriented approach in the case of recreational cannabis and enable their practice for food-grade soybeans which elevated the soybean supply chain into a value chain with benefits for all its chain members.

The theoretical contributions of this study arise from its contextual background as it applied SDL to the traditionally goods-dominant focused agri-food industry (Sporleder & Boland, 2011) background of which few studies investigate from a service-oriented perspective (Vural, 2017). Further, it contributed to the development of SDL by identifying institutions and institutional arrangements in the unique industries of agri-food industry, as institutions are context specific (Koskela-Huitari et al., 2016) and additional research is needed on how their unique manifestations influence value co-creation and resource integration in different industries (Pop et al., 2018).

By exploring these concepts, the aim was to investigate how a service-oriented approach could strengthen these respective supply chains. From this practical need, the following two research questions were derived: 1) What are the opportunities to strengthen the cannabis supply chain in Ontario using a service-oriented approach? And 2) What are the opportunities of using a

service-oriented approach to strengthen linkages between the food-grade soybean and foodservice industries in Ontario?

In regards to the former research question, this study found that current Ontario legislations limited interactions between craft licensed producers and private retailers which disrupts communication and knowledge sharing of the chain. Furthermore, the OCS was found to have a transactional relationship with chain members and relational trust between retailers and the OCS was constrained due to opposing interests arising from the OCS's online store. The OCS was also found to adopt a goods-dominant approach to value which did not acknowledge nor reward the intangible resources of licensed producers which impaired co-creation. As such, the illicit legacy market was perceived to be more consumer-oriented than the legal market as unregulated sellers and retailers did not experience such restrictions. This study proposes that the OCS should foster interactions in the chain, such as facilitating and centralizing communication channels through the adoption of new information technology processes. Further, the OCS should engage in collaborative intelligence sharing, joint co-planning, and increased transparency regarding decision making and policy creation to increase relational trust in the chain. While the OCS has implemented changes to their craft cannabis channels that acknowledge and promote the intangible resources of small licensed producers, a service-centered and relational approach to supply chain management may increase the competitiveness of supply chains in the legal market to address the evolving demands of end-users as well as respond to new market trends and threats from the legacy market.

Regarding the latter research question, this study found that Ontario food-grade soybean supply chains are oriented towards export markets with suppliers expressing little interest in

developing relations with domestic market buyers due to significantly lower market demand. This study recommends that governmental agencies, such as Health Canada or OMAFRA, should increase promotion of consumption of local soy food products, particularly emphasizing the strengths of the Canadian food-grade soybean supply chain, such as traceability, towards local Asian communities. Suppliers expressed that domestic buyers lacked knowledge of the advantages of value-adding activities, such as IP production protocols, and this incongruency towards goal alignment led to transactional price focused relationships. By aligning end-user demands of local markets with export markets, this may encourage local buyers to share the same goals as the farmer and contractor side of the supply chain, which may extend the benefits of the export-focused value chain towards local chain members.

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Appendices

Appendix 1. Question Guide

Introduction:

My name is Michael Yu, and I am a Masters student at the University of Guelph. As part of my thesis, I am working with OMAFRA to learn more about the current barriers and drivers in the supply chain of your industry. I would like to discuss about your daily operations and how you conduct business with your buyers and suppliers, in particular your relationships with them.

First, I would like to start with some information about your company's background.

Demographic

a. Please provide a brief description of your company. What does your company do?
b. How many years have you been in business?
c. How many locations of operations do you have?
d. How many employees do you have?
e. Where does your company fit in the supply chain?

For the next set of questions, I want to talk about your business and daily operation. First, we are going to talk about...

Section 1:

1.1. What is your business strategy?

1.2. What are your product offerings?

- What attributes in your product offerings do you think your target customers (B2B) like or will like?

1.3. What do you offer/promise to your customers (B2B) that differentiates you from your competitors?

- How do you manage to meet the needs of your customers (B2B)?
- Do you know what these needs are? Why do you think they buy from you?

1.4. What additional value can you offer to your customers (B2B)?

- What actions will be needed to offer this additional value?

1.5. What are the most important resources in your company?

1.6. What skills do your employees possess that improve the product offering?

1.7. How does your company influence the final product that is sold to end consumers?

Section 2:

The next set of questions will be about your business relationships and your role as a supplier and as a buyer (customer). Let's start with you as a supplier.

A. As a supplier

2.1. How many buyers do you have and how many would you consider to be important or big customers?

- How did you find them or how did they find you?
- Do you have a customer segmentation strategy? Marketing strategy?

2.2. Do you have any long-term business relationships with a customer?

- What do you value in these relationships? (i.e., trust, commitment, length, profitability?) Why?

2.3. How would you describe your relationships with your buyers?

- Do you have more personal relationships or are they strictly business?
- Which do you prefer?
- Who do you contact in regard to decision making?

2.4. Do you have confidence in your relationships?

- How loyal is your customer base and what are the main reasons in your opinion?
- What increases your confidence?

2.5. Do you cooperate with your customers?

- If so, how do you cooperate? (Collaboration, information sharing, co-plan)
- If not, why is the relationship distant?
- Do you have any expectations in this regard?

B. As a buyer/customer

2.1. How many suppliers do you have? Any you would consider big or important?

- How did you find them?
- Are you satisfied with your current suppliers?

2.2. Do you try to build or have long term relationships with your suppliers or do you change suppliers often?

- What do you value in relationships? (i.e., trust, commitment, length, profitability)
- If you change suppliers often, why do you change?
- Do you attempt to work out difficulties with your suppliers?

2.3. How would you describe your relationships with your suppliers?

- Do you have more personal relationships or are they strictly business?
- Which do you prefer?
- Who do you contact regarding decision making?

2.4. Do you have confidence in your relationships?

- What increases your confidence? Could you provide an example?

2.5. Are you or your suppliers involved in each other's businesses beyond purchasing?

- Collaboration, information sharing, daily operation, joint planning?
- Do you have any expectations for your suppliers in this regard?

Section 3:

For the next few questions, I want to ask about the industry and business environment

3.1. What are your sentiments about growth of the current industry (i.e., steady, increasing, thriving, or struggling?)

- Do you think others (competitors, business partners) share your sentiments?
- What do you think needs to be done?

3.2. Can you give me an example of significant changes to this industry (regulations, climate, etc.) and how your company has adjusted or adapted?

3.3. Are there any other scenarios?

3.4. Do you associate with any organizations or other businesses in regards to industry trends?

- What would you consider the strengths and weaknesses of these respective organizations?

3.5. What are your targets or goals now and for the future?

- Do you have any metrics to measure your progress?

3.6. What are your biggest concerns for the future of your business?

- The industry as a whole?

Appendix 2. REB approval letter

UNIVERSITY of GUELPH

RESEARCH ETHICS BOARDS

Certification of Ethical Acceptability of Research Involving Human Participants

APPROVAL PERIOD:	April 6, 2021
EXPIRY DATE:	April 5, 2022
REB:	G
REB NUMBER:	21-02-001
TYPE OF REVIEW:	Delegated
PRINCIPAL INVESTIGATOR:	Somogyi, Simon (ssomogyi@uoguelph.ca)
DEPARTMENT:	School of Hospitality, Food and Tourism Management
SPONSOR(S):	OMAFRA
TITLE OF PROJECT:	A service-oriented approach to Ontario food-grade soybeans and cannabis supply chains.

The members of the University of Guelph Research Ethics Board have examined the protocol which describes the participation of the human participants in the above-named research project and considers the procedures, as described by the applicant, to conform to the University's ethical standards and the Tri-Council Policy Statement, 2nd Edition.

The REB requires that researchers:

- Adhere to the protocol as last reviewed and **approved** by the REB.
- Receive approval from the REB for any **modifications** before they can be implemented.
- Report any **change in the source of funding.**
- Report **unexpected events or incidental findings** to the REB as soon as possible with an indication of how these events affect, in the view of the Principal Investigator, the safety of the participants, and the continuation of the protocol.
- Are responsible for **ascertaining and complying with all applicable legal and regulatory requirements** with respect to consent and the protection of privacy of participants in the jurisdiction of the research project.

The Principal Investigator must:

- Ensure that the ethical guidelines and approvals of facilities or institutions involved in the research are obtained and filed with the REB prior to the initiation of any research protocols.
- Submit an **Annual Renewal** to the REB upon completion of the project. If the research is a multi-year project, a status report must be submitted annually prior to the expiry date. Failure to submit an annual status report will lead to your study being suspended and potentially terminated.

The approval for this protocol terminates on the **EXPIRY DATE**, or the term of your appointment or employment at the University of Guelph whichever comes first.

Signature: Date: April 6, 2021

Stephen P. Lewis
Chair, Research Ethics Board-General