



2018 – The Year of Recreational Cannabis

What Are the Risks? How Is Industry Managing Them?

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Executive Summary

The cannabis industry shares clear similarities with agriculture, food, tobacco and pharmaceuticals: it is grown as a crop, may be consumed as a food or ingredient, often inhaled as smoke or vapour, and is a psychoactive drug. As Canada moves towards legalizing recreational cannabis, this paper proposes a common framework that businesses operating in this emerging industry can utilize to mitigate the myriad of risks that they face. The framework provides a means to guide dialogue and debate on factors that will impact all industry stakeholders, including the wider public.

The financial and fiduciary risks faced by businesses, the speculative risks faced by investors, and the risks of unintended consequences impacting users and public alike is heightened by Canada being the first federated country to legalize recreational cannabis top down. Decisions at the federal, provincial and territorial level are occurring simultaneously. However, due to the Canadian constitution dividing functional aspects of implementation between the three levels of government, many of these decisions are not occurring in unison. Disjointed decisions will inevitably result in businesses operating in a complex, tumultuous environment, at least in the short to medium term. Introduction of “after the fact” policies and regulations are forcing businesses to re-engineer their business models.

To mitigate risks and succeed in the tumultuous environment that typifies emerging industries, businesses must possess the ability to quickly respond to market conditions effectively and efficiently. To achieve this, they need to implement documented, auditable and sustainable processes that focus on:

- Consumer safety,
- Traceability and transparency along the value chain, and
- Product security.

The paper discusses these issues that will be a central part of the dialogue surrounding the legalization of recreational cannabis in Canada. It also discusses economic and financial aspects that are currently being debated less, though will undoubtedly feature heavily in future debate. Unless the legal production, distribution and retailing of cannabis and its associated products are financially viable, the unintended consequence of legalized cannabis could be the sustainment (potentially even expansion) of the black market.

For reasons cited in the report, the Canadian cannabis industry needs to take a collaborative approach towards creating and sustaining market-driven value chain relationships. This will enable businesses to 1) identify where risks exist, 2) determine how to manage and control those risks, and 3) deliver the required controls to mitigate said risks. Businesses that adopt the collaborative value chain approach will be better able to lower risks, reduce operating costs, optimize market opportunities, and increase margins in ways that are not otherwise possible.

Taking a collaborative approach will also enable individual cannabis businesses to present a unified voice, to help counter pressures that will inevitably be placed on them by regulators, consumers and large scale retailers.

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1 Introduction

This paper discusses consumer safety and value chain transparency issues that are a central part of the legal cannabis debate. It also discusses economic and financial aspects that are currently being debated less, yet will undoubtedly feature seriously in future dialogue. Unless the legal production, distribution and retailing of cannabis and its associated products are financially viable, the unintended consequence of legalized cannabis could be the sustainment (potentially even expansion) of the black market.¹

The authors propose a common framework as a means to guide dialogue and debate about consumer safety, value chain transparency and economic viability – each of which will impact all stakeholders of the legal cannabis industry.

The recreational cannabis industry shares clear similarities with agriculture, food, tobacco and pharmaceuticals: it is grown as a crop, may be consumed as a food or ingredient, often inhaled as smoke or vapour, and is considered a psychoactive drug. Policy makers and regulators will primarily focus on the control and enforcement aspects of public safety and health. Businesses will primarily focus on increasing profitability by more efficient production, streamlining value chains to lower costs, mitigating business risk, and leveraging commercial advantage through the development of unique proprietary products.²

The legalization of cannabis in Canada is following a different route compared to countries such as the Netherlands, or US states such as Colorado.³ In Canada, legalization (anticipated on July 1, 2018) is being implemented at the national level, within a relatively short timeframe. The Canadian

A mix of jurisdictions gives rise to potentially unexpected outcomes (and consequently risk) from business, legislative policy and consumer perspectives.

constitution separates federal and provincial responsibilities in a manner which divides functional aspects of implementation, and makes the transition to a legal recreational cannabis industry arguably more complex than elsewhere. A mix of jurisdictions gives rise to potentially unexpected outcomes (and consequently risk) from business, legislative policy and consumer perspectives.

2 Perspective on the Cannabis Value Chain

Every business succeeds by creating greater value than its costs, while simultaneously delivering value to customers. Fundamental elements for sustainable competitive advantage are: 1) a strategic business orientation focused on delivering customer value, 2) operating within a value chain that is responsive to the needs and wants of the final consumer, and 3) strictly adhering to regulatory requirements. This is particularly true in the unpredictable commercial environment that exists for cannabis at this time.

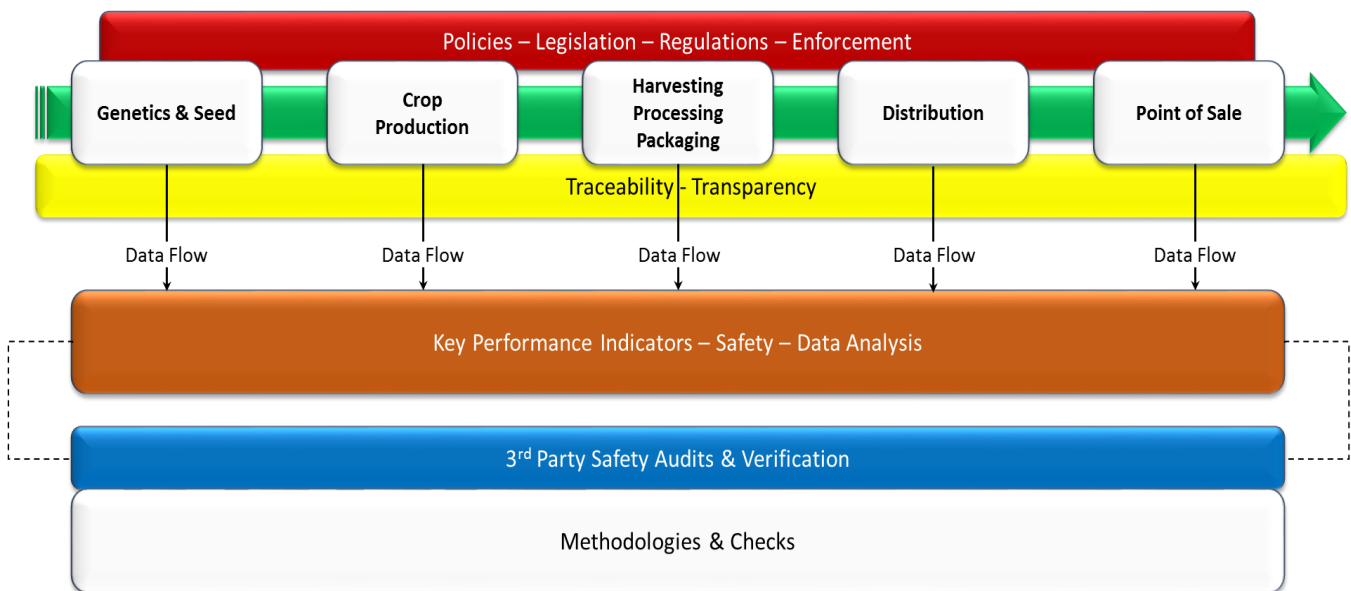
Every business operates within at least one value chain. An industry comprises multiple value chains. Therefore, the determinants of commercial success for legal cannabis can be viewed from a market-driven, value chain perspective. How the chain operates from a systems perspective will strengthen or weaken a cannabis business's ability to profit from satisfying consumer demands ahead of its competitors.

A value chain contains three sub-systems: 1) physical products and technologies, 2) communications and information, and 3) governance of external (e.g. regulated) and internal (e.g. contracted) relationships. How these sub-systems operate and interact can impact a business’s competitiveness. These factors apply whether the value chain comprises separately-owned businesses or a single, vertically-integrated business.^a

Understanding the issues and challenges facing the legal cannabis industry begins by recognizing the components and interactions of individual businesses in their value chains that they can exploit to their commercial advantage.⁴ This includes the ability to respond to a changing business and regulatory environment by implementing good management practices, protocols and processes that 1) drive continuous operational improvements, and 2) promote effective and efficient information management and communication.

The latter is critical to supporting the value chain transparency needed to meet compliance standards proposed by the Canadian federal and provincial governments.⁵ Figure 2-1 below presents a simplified view of the cannabis industry value chain.

Figure 2-1: Cannabis Value Chain



In Canada, the legalized production of recreational cannabis and associated products will be an emerging industry for years. The key factors that typify emerging industries are:⁶

- 1) Lack of reliable, relevant and readily accessible information;
- 2) Lack of market orientation and consumer understanding; and
- 3) Lack of cooperative behaviour between businesses.

^a Value chains vary in terms of structure and operating mode. There are four categories of value chains that exist in an industry: fragmented, cooperative, coordinated and collaborative. A “collaborative” value chain enables involved businesses to create sustainable competitive advantage in unique ways: Gooch, M., Felfel, A. (2008); Gooch, M., Marenick, N. (2012); Sterling, B. et al. (2015). Spekman, R. E., Kamauff Jr, J. W., Niklas, M. (1998).

Emerging industries are often also buffeted by changing government policies, legislation and regulations. This can lead to waste, excess and delays, characterized by resource deficiencies, ineffective reporting and management systems, and risky capital investments. A business's ability to manage the value chains in which they operate can be severely challenged.⁷ This results in an inefficient industry, with resultant loss of vitality and viability.

Businesses possessing more efficient and adaptive operations can aggressively pursue weaker competitors – resulting in significant consolidation and further upheaval that typifies emerging

The speculative nature of investments in the cannabis industry is being heightened by rapidly evolving federal and provincial government regulations forcing “after the fact” changes to business models and strategies.

industries. One example of this is the evolution of the downloadable music industry, which went from entrepreneurial start-ups, to litigation surrounding Napster and other companies, to the huge commercial success of iTunes, Spotify, and others. In natural health, the tea tree industry went through a similar evolution – with initial investments returning little if any profit for early, speculative investors. The speculative nature of investments in the Canadian cannabis

industry is being heightened by rapidly evolving federal and provincial government regulations forcing “after the fact” changes to business models and strategies.

In food and pharmaceuticals products, safety programs, traceability and continuous improvement processes are essential to mitigating risk, including the prevention of harmful usage. The consumer safety and public health requirements placed on the cannabis industry will be substantial. They may include creation and enforcement of regulations concerning psychoactive component concentration levels, dosages, purity/quality, process controls, packaging and labelling. Businesses will also have to prove themselves capable of meeting comprehensive recall protocols.

These factors will drive businesses to develop systems that are harmonized with common, recognized standards that encompass the value chain, and that are verifiable and enforceable. Having such systems will enable businesses to mitigate regulatory risks, by focusing their resources on eliminating repetition, delays, redundancies and data errors. Common requirements and protocols also make sense for regulators and consumers.⁸

For reasons described in the next sections, international standards are the benchmark against which safety and traceability should be viewed. These empower businesses to verify and validate

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performance from a global best-in-class perspective, with third party audits assuring stakeholders of a business's integrity and professionalism, while driving continuous improvements in business practices.

3 Value Chain Traceability & Transparency

Traceability is not about technology. Traceability is the systematic ability to access any or all information relating to that which is under consideration, throughout its entire life cycle, by means of recorded identifications.⁹ How a value chain is structured will govern the effectiveness of the

The structure and capabilities of a value chain will directly impact a business’s ability to profit from traceability and related information systems.

technologies implemented by businesses that are intended to provide transparency and drive better decision making.¹⁰ This is because the effectiveness of any information system and the commercial value it can deliver is determined by its interaction with individual functions and processes occurring within and between companies that form a value chain.¹¹ The structure and

capabilities of a value chain will directly impact a business’s ability to profit from traceability and related information systems.¹²

Devising purposeful traceability requires an ability to access information that is relevant to the product in a timely way. The information must clearly be reliable and, as our definition states, readily accessible. Consider these the “3Rs” of traceability. They are the basis on which traceability is built, and the factors required to monitor product quality and safety.¹³ The 3Rs also provide businesses with the tools to utilize key information to drive process improvements, adapt to customer/consumer demands, and meet regulatory requirements.¹⁴

There are clear similarities between the cannabis value chain and the Canadian food system, including the operation of greenhouses for production and the use of products for food ingredients. The

The cannabis industry can utilize already existing traceability and food safety programs.

cannabis industry can therefore utilize already existing traceability and food safety programs. This includes CanadaGAP,^b a national safety program for companies operating in the produce industry. The program would be a useful starting point

for cannabis value chain dialogue, since it incorporates Good Manufacturing Practices (GMPs) and Hazardous Analysis and Critical Control Point (HACCP) protocols. GMPs are an important part of pharmaceutical quality and safety programs. CanadaGAP guides best practices of effective supplier management and product traceability, and is aligned with international protocols and standards, including the Global Food Safety Initiative (GFSI).^c

3.1 Recalls

Should questionable products find their way into the legal value chain, traceability is fundamental for enabling producers, brokers, distributors and retailers to segregate and withdraw potentially injurious products through recalls. The most common food recalls involve biological contamination, followed by foreign matter contamination.¹⁵

Three recent recall examples illustrate the benefits of implementing recognized consumer safety and value chain traceability protocols for protecting the general population from unexpected

^b <http://www.canadagap.ca>

^c <https://www.mygfsi.com/>

contamination. Two of the examples pertain to products sold through the Liquor Control Board of Ontario (LCBO).¹⁶

In 2016, a flour processor recalled 4.5 million kilograms of flour that was linked to an outbreak of *E. coli*. The flour sold at approximately \$1.15/kg, resulting in over \$5 million in direct recall costs. Indirect recall costs have no finite period and are more difficult to estimate. These include litigation costs, fines, lost sales and stock market value, loss of brand equity, loss of company and industry reputation, and brand avoidance by consumers. These are effects which last for years.¹⁷

In 2017, alcohol (another rigorously-controlled consumer product) was recalled twice from LCBO^d stores and warehouses:

- In March, a production batch of Georgian Bay vodka was bottled and labelled before it was diluted, resulting in a product that was 81% alcohol by volume, compared to the 40% alcohol by volume indicated on the label.¹⁸
- In May, Bombay Sapphire gin was recalled for the same reasons.¹⁹

Both recalls occurred after product made it to store shelves; however, a solid traceability system enabled quick withdrawal of products.

Benefits of consistent and harmonized safety and traceability approaches go beyond one stakeholder.

Preventing contamination, along with monitoring psychoactive ingredient levels and communicating safe use to consumers, is a distinct challenge facing the cannabis value chain – not least due to public health and consumer safety concerns. In addition, the benefits of consistent and harmonized safety and traceability approaches go

beyond one stakeholder; they are experienced by all participants in the value chain. These benefits include the following:

- Accreditation against a recognized standard reduces regulatory costs, by avoiding duplicated work and data recording;
- Consistency in third party audits across stakeholders lowers transaction costs, whilst simultaneously improving response accuracy and timeliness – enabling businesses to mitigate financial and reputational risk;
- Strengthens Canadian business opportunities for improved access to global cannabis markets;
- Reduces the cost of enacting recalls, if required; and
- The Government of Canada recognizes the GFSI. This strengthens the consistency of regulatory response and delivers a common “thread” of consumer safety and protection procedures. It also reduces costly regulatory repetition, and further enhances retailer and consumer trust.

^dThe LCBO is a legal retailer of alcoholic beverages in Ontario and one of the world’s largest distributors. It was recently approved as the authorized distributor and seller (including online) of legalized cannabis in the province of Ontario.

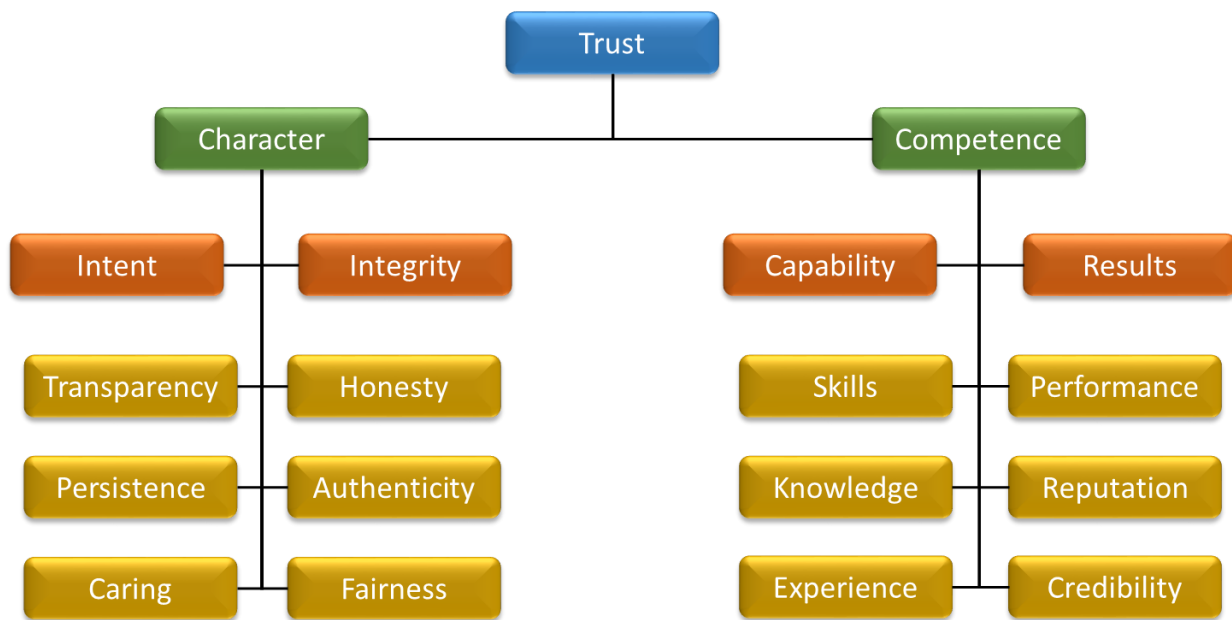
4 Social License

The term social license denotes the existence of stakeholders’ acceptance and support for a business, brand or entire industry. Traceability is vital to building stakeholder trust and brand credibility. Creating trust among commercial partners, consumers, the wider public, and those responsible for enforcing responsible production and consumption will be a challenging undertaking for the Canadian cannabis industry.

Trust is an emergent property of human interaction, built through demonstrating character and competence.²⁰ Competence speaks to a company’s capabilities and its results – things that are objective and measurable. Character is built by conveying to stakeholders a sense of integrity, proving a company’s intentions to “do the right things,” and acting fairly.

For example, how do the psychoactive characteristics of a brand of cannabis compare to a bottle of beer or glass of wine? Contextualizing information in a form to which consumers can readily relate is a basic aspect to building trust. It is also a fundamental requirement for mitigating risk.²¹

Figure 4-1: Social License Built on Trust



Stephen Covey

Character often impacts people’s experience with a business and their perception of trust in a brand. In today’s active social media environment, this often includes “referred” experience. A reasonable way to improve people’s experiences is by demonstrating transparency, integrity and openness about the business, its treatment of consumers, as well as displaying honesty and authenticity in how it deals with stakeholders.

This dynamic can now be seen at play in the global agriculture and food system. As noted by the Center for Food Integrity,^e consumer trust in food companies is growing increasingly fragile, and tends to be inversely proportional to the size of the company.²² The decline in trust is not universal across all demographics, but it is particularly pronounced in those age and income groups that are targets for legal cannabis. A key demographic focus for recreational cannabis businesses, and one that heavily uses social media, is the 25- to 35-year old cadre. Thus, to build trust and brand loyalty, it will be crucial to pay particular attention to the influence of social media communications.²³

5 Assessing Commercial Capabilities

The matrix presented in Table 5-1 illustrates four types of value chains, and the capabilities that each type of chain enables businesses to create in order to mitigate challenges and risks. The fewer of these capabilities a business possesses, the greater their exposure to risks associated with the potentially volatile operating environment that typify emerging industries.

Table 5-1: Relationship between Value Chain Type and Risk Management Options

		COMMERCIAL CAPABILITIES									
		Minimize production costs	Regulatory compliance (production)	Regulatory compliance (supply chain)	Strategic use of traceability	Mitigate supply chain risks	Optimize profitability	Adapt to market demands	New product development	Capture & sustain social license	Sustainable competitive advantage
CHAIN TYPOLOGY	Fragmented	Green	Green	Red	Red	Red	Red	Red	Red	Red	Red
	Cooperative	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Red	Red	Red
	Coordinated	Green	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
	Collaborative	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green

Legend:

- Green = Readily achievable
- Red = Unachievable
- Yellow = Less likely achievable

As has been proven elsewhere,²⁴ businesses that work purposely with other members in their value chain to drive market-focused innovation and create collaborative partnerships will possess the most viable, long-lasting opportunities for success.

Using a collaborative approach will also enable individual cannabis businesses to present a unified voice, to help counter pressures that will inevitably be placed on them by regulators, consumers and large scale retailers.

^e <http://www.foodintegrity.org/>

6 Conclusion

The Canadian cannabis industry will likely remain in a state of flux for some time, and exhibits the characteristics of an emerging industry. This will influence businesses' ability to profit from the production, distribution and sale of cannabis and associated products.

The authors propose using a common framework to help businesses attain competitive advantage by viewing their operations and the Canadian cannabis industry from a value chain perspective. For reasons described above, the cannabis industry shares similarities with other industries – namely agriculture, food and pharmaceuticals. This enables individual businesses to build upon existing programs in those industries, such as CanadaGAP and GMP, to verify their compliance with government regulations, and meet commercial requirements placed upon them by individual customers.

The application of consistent consumer safety standards and value chain traceability protocols provides businesses, partners, regulators and consumers with relevant, reliable and readily accessible information about cannabis products – information that can be trusted. This will be key to attaining and retaining the social licence required to address widespread concerns regarding the creation of an industry, the purpose of which is to profit from the supply of cannabis and associated products for recreational purposes.

Traceability is not about technology, and traceability programs are not a “silver bullet.” Traceability flows from the creation of effective communication and information systems, and is a powerful tool for demonstrating businesses' and an industry's commitment to consumer safety and value chain

The protocols and practices that must exist for effective and efficient traceability to occur also enable businesses to drive continual improvements in operational performance.

transparency. When applied as part of an effective value chain system, traceability provides a practical and proven means for building brand loyalty, fostering commercial collaboration between businesses, and creating consumer preference. The protocols and practices that must exist for effective and efficient traceability to occur also enable businesses to drive continual improvements in operational performance. The same functions

provide governments with the ability to enforce efficient and effective policy and regulatory oversight.

Every business operates within a value chain(s). An industry comprises multiple value chains. How the value chain(s) is structured determines how effectively those businesses can compete and respond to consumer demands and regulatory requirements.

Cannabis businesses need to embrace systemic (value chain) approaches to the market and consumers in order to maximize their commercial opportunities. Businesses that adopt this approach will be better able to mitigate risks, reduce operating costs, optimize market opportunities, and increase margins in ways that are not otherwise possible. In emerging industries, businesses possessing these capabilities can benefit from the extensive consolidation that invariably occurs.

In summary, for a cannabis business to strengthen its competitiveness and compete most effectively and efficiently, it needs to implement documented, auditable and sustainable processes that focus on:

- Consumer safety,
- Traceability and transparency along the value chain, and
- Product security.

The new cannabis industry needs to undertake a collaborative approach towards creating and sustaining market-driven value chain relationships. This will enable businesses to 1) identify where risks exist, 2) determine how to manage and control those risks, and 3) deliver the required controls to manage said risks.

Taking a collaborative approach will also enable individual cannabis businesses to present a unified voice, to help counter pressures that will inevitably be placed on them by regulators, consumers and large scale retailers.

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7 Authors' Bios

Brian Sterling, P.Eng

Brian is founder and President of SCS Consulting, an international management consulting company specializing in food industry issues of traceability and social license. Brian has recently been involved in leading investigations of the global legal cannabis market. Before SCS Consulting, he was the first President and Chief Executive Officer of Safe Food Canada (SFC), a not-for-profit organization dedicated to strengthening the quality and consistency of food safety training and education. From 2013 to mid-2015, he was the Managing Director of the Global Food Traceability Center located in Washington, DC.

Martin Gooch, PhD

Martin is co-founder and CEO of Value Chain Management International, a global consulting company that helps businesses, primarily in the agricultural and food industry, enhance their long-term profitability and environmental sustainability. Martin has 30 years' experience developing commercially successful value chain initiatives that have received domestic and international acclaim. Martin leads his interdisciplinary team to develop value chain alliances and forge innovative solutions that break through the status quo, by incorporating academically rigorous research, six sigma and lean concepts, and cross-functional alliances.

Dan LaPlain

Dan LaPlain, Senior Associate of Value Chain Management International, has a mechanical and production engineering background, with over 30 years' progressive operations, quality and project management experience in a variety of industries. As a lean six sigma master black belt, he is a recognized expert in developing and delivering quality management and process improvement initiatives, with a specific focus on improving the performance of value streams and chains. Dan has led, coached or otherwise been significantly involved in over two thousand business and process improvement projects that have saved clients millions of dollars, reduced operating costs, and significantly increased customer satisfaction.

George Mitges, P.Ag

George is President of George Mitges and Associates, Inc., an Ontario-based agri-food consulting business. George's management experience includes reorganizing, streamlining and strengthening operations through the development of cross-functional teams. Leading a number of organizations, as well as being a director on a number of professional boards, George has significant knowledge and experience in budgeting, governance, as well as the development and execution of strategic and marketing plans. George's experience within the food manufacturing sector includes the implementation of process controls, such as HACCP, food safety protocols and dietary certifications.

8 End Notes

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