



Adding Value to Lamb

The Canadian lamb industry has significant market opportunities. Martin Gooch, Dan Laplain and Abdel Fefel from the Value Chain Management Centre took a Total Quality Management approach to identify ways a lamb value chain could capitalize on those opportunities and improve its performance. The cooperation of the value chain participants and the industry experts who provided feedback during the research is greatly appreciated.

BACKGROUND

In an effort to identify opportunities to capture greater value from the production, processing and retailing of fresh lamb, the Value Chain Management Centre undertook a high level study of the current state of a fresh lamb value chain, stretching from farm to consumer. Information gathered from the recent 'Consumer Data for Farmers' project was then used to determine ways the chain could benefit by working cohesively to create greater value for consumers.

PURPOSE

Fresh lamb's journey from farms to consumers involves several steps. If any step is not sufficiently focused on maximizing the value proposition of fresh lamb from the consumers' perspective, the cumulative impact on the profitability of individual businesses, and the entire value chain, can be significant.

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The purpose of this study is not to apportion blame or to criticize. Rather, it seeks to present an objective assessment of current operations performed along the chain, and to propose ways individual elements of the lamb value chain could work together more effectively to deliver increased value to consumers.

The study and review were developed by observing a chain supplying fresh lamb to a specific market. For commercially sensitive reasons, the chain observed for this study is anonymous. To ensure that the incidents and opportunities described are of value to the wider industry, they have been validated through discussions with representatives from other chains and the Canadian lamb industry.

INTRODUCTION

Significantly improving the performance of a lamb value chain may require only minor improvements at multiple points of the value chain. The summation of those improvements could enable the participants to capture greater value from their activities and improve their profitability. While opportunities to enhance performance can often be easily identified, sustaining any advancement relies on the existence and application of an improved performance reporting system. It also relies on the chain possessing the discipline to reward those who are performing beyond minimal requirements while penalizing those who are not.

Issues that impact the chain's performance:

- While livestock auctions can provide a valuable service by acting as a clearing house for many types of lamb, the combined impact of visually grading live animals and spot market pricing limits the entire chain's ability to capture value and continually improve performance;
- A combination of the auction barn's design, along with the buying, selling, transportation and handling practices, has a direct negative impact on the quality of approximately 3% of lambs;
- The present structure and operation of the value chain leads to inconsistency in the condition, size, quality and overall composition of lambs flowing through the system. This can severely increase processing costs and, simultaneously, limit opportunities to capture additional revenue;
- Live lambs sourced from the U.S. are often more consistent in size and meat quality than most Canadian lambs. The same applies to processed lamb sourced from New Zealand and Australia;
- The chain is limited in its ability to target lambs to specific markets according to their composition and ability to meet specifications, which further impacts its ability to capture value;
- Operations at multiple points along the chain are managed according to transactional measures that have little correlation to consumer demands toward meats they choose to consume;
- Key participants of the chain possess information that, if shared, could guide improvements at multiple levels of the chain;

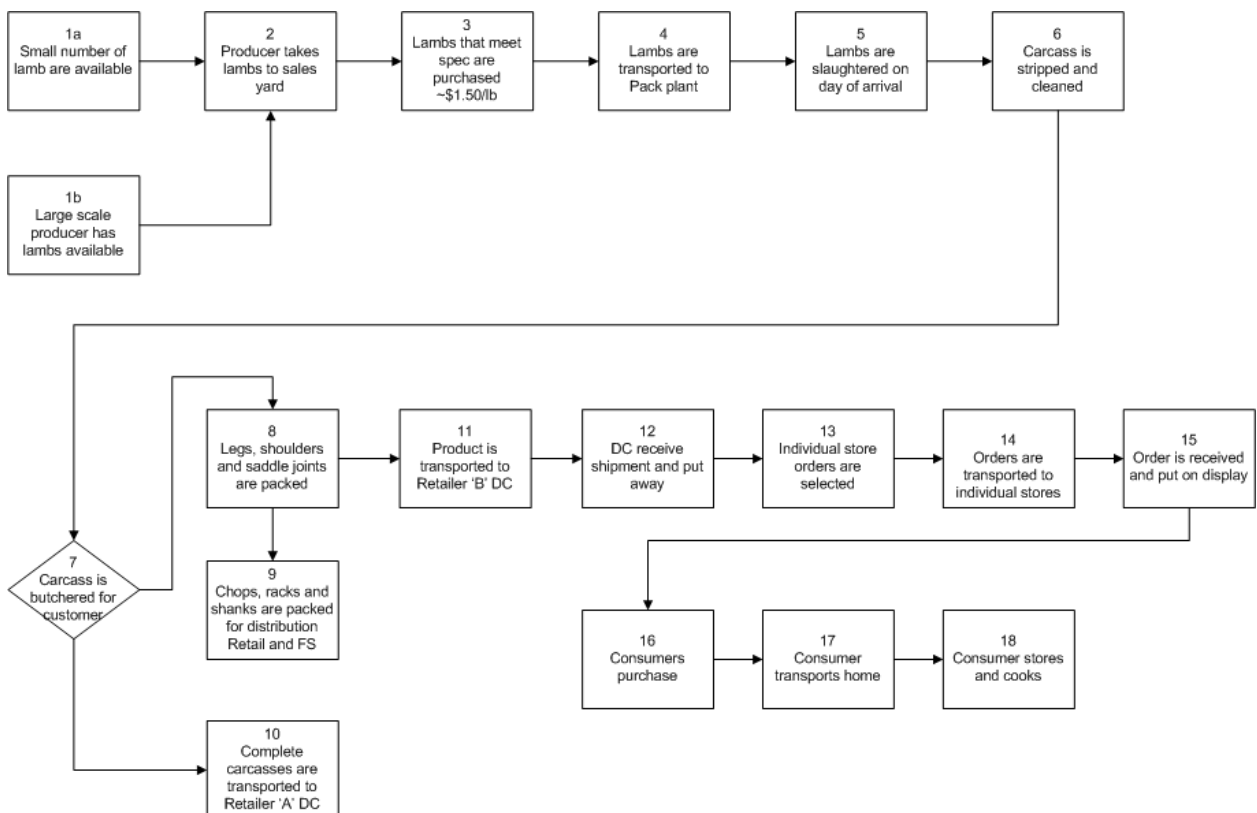
- Many producers do not adequately consider market or customer requirements when determining the flock's genetics or production systems. This is largely due to lack of information and capabilities necessary to make informed management decisions;
- Opportunities exist, but are not realized, to capture potentially significant added value through developing more detailed insights into consumers' desires and behaviours. Those insights could then be used to establish more effective performance criteria along the value chain and encourage increased lamb production;
- An overall lack of supply severely limits the market opportunities for Canadian lamb.

Together, these factors negatively impact the overall chain's efficiency and effectiveness. As a result, participants experience what, at times, are significant and unnecessary costs and, simultaneously, miss what can be enormous opportunities to capture greater value. The chain is also precluded from securing export markets. Strategically aligning operations would provide the entire chain with the ability to deliver added value to consumers, while simultaneously increasing revenues and margins.

"The Canadian lamb industry is a success story waiting to happen" CEO, Lamb processor

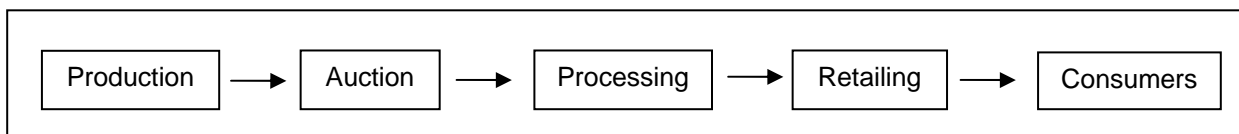
VALUE CHAIN MAP

Figure 1 presents a schematic of the lamb value chain used as the basis of this study. It involves multiple lamb producers, a livestock auction, a processor with the capacity to annually slaughter in excess of 150,000 lambs and a retailer.



While this map has 18 major steps, each a summation of many interrelated activities, Figure 2 shows that the chain essentially operates as five distinctly different units. While overlaps occur between each of the five units, our observations suggest that many of the management processes at each unit along the chain operate in relative isolation to the others.

Figure 2: Operational Units



Interviews with members of this and other lamb value chains suggested that the present situation is the result of a number of factors:

- Primary producers, buying and selling agents, processors, and retailers each expect the other to exhibit predatory business approaches should they share all but immediate transactional information;
- Each member follows a tendency to sell, rather than market, products;
- Beyond transactional measures such as price and weight, the communication system that exists along the entire chain is ineffective for motivating continual market-focused improvements;
- The physical and cognitive structure of the chain leads to business decisions often being based more on politics and opinion than processes and data.

An example of how these factors translate into unnecessary costs and missed opportunities to capture value is illustrated by the processor's CEO, who stated that "the meat quality of approximately three percent of lambs we receive through the auction is negatively impacted through operations performed while the animals are in or being moved through their system. This includes lack of access to water for perhaps 18-24 hours, and bruising." Along with the inconsistency in lamb size and conformation, this can dramatically increase processing costs. It also leads to the processor having to discount entire lamb carcasses, which reduces processor revenues. These factors impact their propensity to pay higher prices to producers and their willingness to invest in state of the art, federally inspected abattoirs suited to processing lamb.

The combined effect of the industry producing an inconsistent product at limited and fluctuating volumes is that those producers who invest effort in producing premium lamb on a full-time commercial basis have few opportunities to capture the value they otherwise might. The same factors impact the ability of supermarket chains to establish and promote a line of quality assured Canadian lamb.

Chain performance and value-generating opportunities are impacted by the fact that, beyond transactional metrics such as price and weight, little connectivity currently exists along the entire chain, particularly in terms of the information that could be used to capture value from supplying fresh lamb to increasingly discerning consumers. So, while most operations are guided by considerations directly

associated with cost and volume, the attributes that influence consumers' purchase decisions extend beyond factors such as the size of cut and price per kilo. The remainder of this commentary explores opportunities for the value chain to benefit through the introduction of new processes that could lead to an increase in consumers' perceptions that lamb offers a high value proposition. **Producing a higher value product at lesser cost could encourage the wider industry to adopt a more commercially-minded approach than many producers and other stakeholders currently follow.**

CONSUMERS' DEFINITION OF VALUE

Identifying opportunities to improve the performance of a fresh lamb value chain began by evaluating results from the 'Consumer Data for Farmers' project, which tracked consumer perceptions of 16 attributes relating to purchase, preparation and consumption of fresh lamb. Distinct differences were found in the extent to which each of the 16 attributes influences consumers' perceptions toward fresh lamb. These findings enabled researchers to identify how Critical to Satisfaction (CTS) each of the attributes was in defining the value of fresh lamb from consumers' perspectives. The relative importance of each of the 16 factors and consumers' satisfaction that their expectations are being met are summarized below.

The CTS criteria were designed by Ipsos Forward in conjunction with the Value Chain Management Centre and the Canadian Sheep Federation. The 16 attributes are as follows:

- Taste
- Tenderness
- Freshness
- Consistency in quality
- Overall healthiness
- The whole family will eat it
- Affordable price
- Value for money
- Quick to prepare
- Versatile—can be prepared in a number of different ways
- Appropriate sizes of the cuts
- Availability of recipes, preparation and serving instructions in my store
- Availability of the desired cuts in my store
- Availability of quick to prepare products
- Easy to locate in my regular store
- Easy to prepare from scratch

For each of the CTS criteria, responses from lamb consumers in relation to each of the attributes researched have been analyzed to rank the importance of each on a scale of 1 to 10.

- A score of 8, 9 or 10 would be a potential deal breaker – if this requirement cannot be satisfied, consumers will not buy the product.
- A score of 5, 6 or 7 is important - consumers may buy lamb on this occasion, though will likely look more closely at value proposition of lamb versus alternatives in the future.
- A score of 2, 3 or 4 is of lower importance - though in the case of lamb will likely influence consumers' purchase decisions through providing opportunities to 'delight' consumers and secure the retailer as the one of choice.

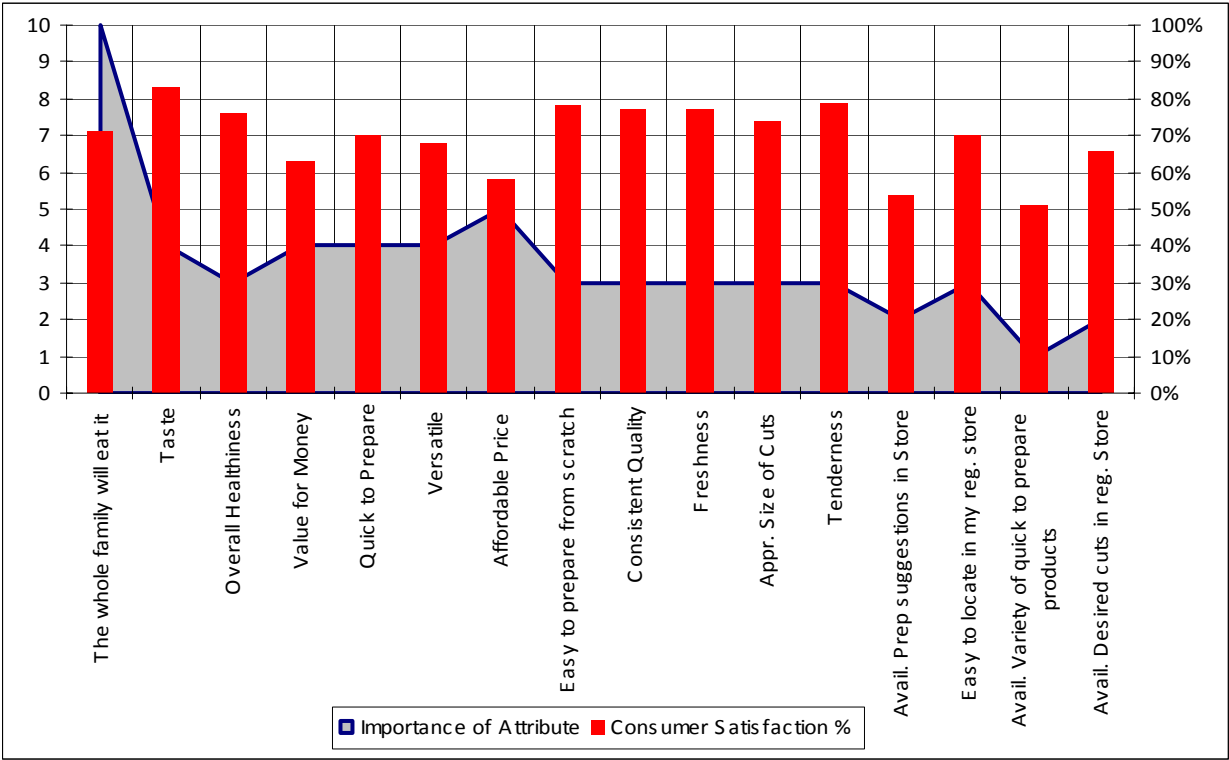
Figure 3 shows the relative importance of each of the 16 attributes tracked. It also shows how well consumers feel fresh lamb currently performs across each of these attributes, compared to their expectations.

Figure 3: Consumers' Critical to Satisfaction and Satisfaction scores for lamb

	The whole family will eat it	Taste	Overall healthiness	Value for money	Quick to prepare	Versatile - can be prepared in a wide variety of ways	Affordable price	Easy to prepare from scratch	Consistency in quality	Freshness	Appropriate sizes of the cuts	Tenderness	Availability of recipes, preparation and serving suggestions in the store	Easy to locate in my regular store	Available in a variety of quick to prepare products	Availability of the desired cuts in my regular store
Critical To Satisfaction	10	4	3	4	4	4	5	3	3	3	3	3	2	3	1	2
Satisfaction	71%	83%	76%	63%	70%	68%	58%	78%	77%	77%	74%	79%	54%	70%	51%	66%

Figure 4 illustrates the same information as above, though schematically. 100% means that lamb consumers are highly satisfied that the attribute is meeting their expectations. The figure shows that a number of the attributes consumers deem most important to engendering a purchase decision are those on which lamb performs least favourably.

Figure 4: Consumers' Critical to Satisfaction and Satisfaction scores for lamb (shown schematically)



Results from the CTS suggest two critical issues exist in relation to consumers' satisfaction with lamb. The first is that the importance of every other attribute pales to relative insignificance when compared with "The whole family will eat it". This is not because other attributes are unimportant. Rather, it is because, in this situation, these attributes simply don't exist to the same extent as for other meats. This should not be confused with the second issue, the impact that seemingly lesser value attributes can have on encouraging consumption of lamb. This latter point means that opportunities to add value to fresh lamb are currently being missed through the chain not having the cohesion and critical mass necessary to encourage the processor to invest in the infrastructure necessary to develop higher value lamb products. It also means that opportunities are being missed for the processor to develop an extensive marketing program for Canadian lamb with retail and foodservice customers.

For simplicity, we have separated specific attributes into 'Must have' (a deal breaker if not provided as an attribute of the product), 'Should have' (a commonly expected attribute whose absence will encourage consumers to purchase alternative meats) and 'Would be nice to have' (a delighter that sets lamb apart from competing products).

'Must have' attributes:

- The whole family will eat it

'Should have' attributes:

- Affordable price

'Nice to have/delighter' attributes:

- Meat attributes
 - * Taste
 - * Consistency in quality
 - * Freshness
 - * Tenderness
 - * Appropriate sizes of the cuts
 - * Overall healthiness
- Retailer/lamb category marketing attributes
 - * Quick to prepare
 - * Versatile – can be prepared in a number of different ways
 - * Easy to prepare from scratch
 - * Availability of recipes, preparation and serving instructions in my store
 - * Easy to locate in my regular store
 - * Availability of desired cuts in my store
 - * Availability of quick to prepare products
 - * Value for money

SUMMARY OF CTS RESULTS

In summary, the CTS results suggest that opportunities to add value to fresh lamb are currently being missed as the chain focuses mostly on transactional elements, particularly costs and price, ahead of determining how it could deliver superior value to fresh lamb consumers.

Purchase drivers most commonly missed by the lamb chain are those that have the greatest influence on determining the value proposition consumers perceive lamb to offer. They include “The whole family will eat it” (importance of 10, satisfaction 71%), “Versatility” (importance 4, satisfaction 70%) and “Quick to prepare” (importance of 4, satisfaction 70%).

The following are also worth noting:

1. This information comes from regular consumers of lamb. Therefore, the current gap between the relative importance of “*The whole family will eat it*” and the other attributes would likely be even greater amongst those who consume lamb less frequently.
 - a. Those who consume lamb less frequently know so little about it that they view the preparation and presentation of lamb as somewhat intimidating.

2. Core lamb consumers exhibit higher than average levels of dissatisfaction toward the availability of recipes and information on preparation methods at the point of sale.

Both points show the extent of market opportunities currently being missed for lamb. Firstly, because the chain is missing an opportunity to encourage non-core consumers to consume lamb more frequently. In fact, most lamb-consuming families have at least one member who does not eat lamb, which leads to non-core consumers eating lamb in restaurants more than at home. Secondly, suppliers are not offering new and innovative recipes or preparation methods, which would encourage core lamb consumers (their most important target market) to increase consumption.

ADDRESSING OPPORTUNITIES

While the analysis has identified opportunities to improve the performance of fresh lamb, **sustaining any improvements will rely on the creation of a more meaningful performance reporting system.** It will also require discipline to reward those along the chain who are performing beyond minimal requirements, while penalizing those who are not.

The matrix in Figure 5 uses the principles of Total Quality Management to illustrate how a value chain might use the information presented to increase sales and capture added value from producing, processing and merchandizing fresh lamb. It illustrates where the research and interviews with chain participants suggest a relationship exists between the tracked CTS attributes and processes performed along the value chain, as well as the potential strength of each association. **Changing how processes are managed, particularly where a strong relationship exists between the process and the CTS attribute, could increase the value proposition that consumers perceive fresh lamb to offer.**

For the purposes of this high level study, the value chain has been deconstructed to encompass 12 separate processes. Unlike the value chain steps described previously, many of these processes will involve more than the individual members of the chain (*for instance the sale/purchase process could include producers, selling and buying agents, and the processor*).

Commencing with the part of the chain that most closely interacts with consumers, the processes used to define how the value chain operates are as follows:

- Store display/meat counter
- Retailer operations
- Retailer procurement
- Distribution of logistics
- Cool chain and transportation
- Cut pack and label
- Post kill cooling and logistics
- Slaughter
- Animal sale/purchase
- Housing and handling
- Animal genetics
- Production system and feed

Keys to understanding Figure 5:

- Where a consumer attribute is affected by a step in the value chain, there is an association.
 - * No score means no defined association exists between a process and a CTS attribute.
 - * The strength of any association between a process and a CTS attribute is scored on a scale of 1 to 10.
 - A score of 1 signifies a very weak association
 - A score of 10 signifies a very strong association
 - Association scores for each cell are multiplied by the consumer CTS score. Row and column scores are totaled.
- Columns with low scores or few association points likely indicate a consumer CTS that is either not addressed, or is addressed at only one or two points along the value chain.
- Rows with low scores or few association points likely indicate a value stream element that is non value added or waste because it does not create much value from the perspective of consumers. In either case, the row represents elements of the value chain that offer an opportunity to reduce cost or increase value for consumers.
- Rows with high scores represent elements of the value chain that have significant impact on consumer CTS. These elements should be controlled and managed carefully.

Figure 5: Relationships between Value Chain Elements and CTS Attributes

	The whole family will eat it	Taste	Overall healthiness	Value for money	Quick to prepare	Versatile - can be prepared in a wide variety of ways	Affordable price	Easy to prepare from scratch	Consistency in quality	Freshness	Appropriate sizes of the cuts	Tenderness	Availability of recipes, preparation and serving suggestions in the store	Easy to locate in my regular store	Available in a variety of quick to prepare products	Availability of the desired cuts in my regular store	VC element association score	% contribution to consumer CTS	
Critical to Satisfaction	10	4	3	4	4	4	5	3	3	3	3	3	2	3	1	2			
Satisfaction	71%	83%	76%	63%	70%	68%	58%	78%	77%	77%	74%	79%	54 %	70%	51%	66%			
Store display/meat counter	7		9	9	7	9	9	6	9	9	6	3	9	9		9	404	15%	
Retailer operations	3	6		9			9		9	9		6		9	9	9	261	10%	
Retailer procurement	7			9		6	9		9	9	8	7			9	9	301	11%	
Distribution and logistics		6		9			6		6	9		3					144	5%	
Cool chain and transportation		6		6			6		7	9		3					135	5%	
Cut pack and label	7	9	6	9	6	6	9	6	9	9	9	7	9		9	9	418	15%	
Post kill cooling and logistics		6		9			6		8	9		6					159	6%	
Slaughter		4	3	5			6		8	3		9					135	5%	
Animal Sale/Purchase	3			9		3	6		6		6	3					153	6%	
Housing and handling	3	9		6		3	6		5		3	6					174	6%	
Animal genetics	4	6	1	6	3	3	6		6		6	6					196	7%	
Production system and feed	5	6	9	9		3	7		6		6	9					247	9%	
	2727	390	232	81	380	64	132	425	36	264	198	132	204	36	54	27	72	2727	100%

The contribution that each value chain element makes to the chain is derived from the far right hand column. Figure 6 schematically illustrates this information and, therefore, the potential impact each element of the value chain has on enabling the chain to capture added value from producing, processing and marketing fresh lamb.

Figure 6: Importance of Each Value Chain Element to Creating Value

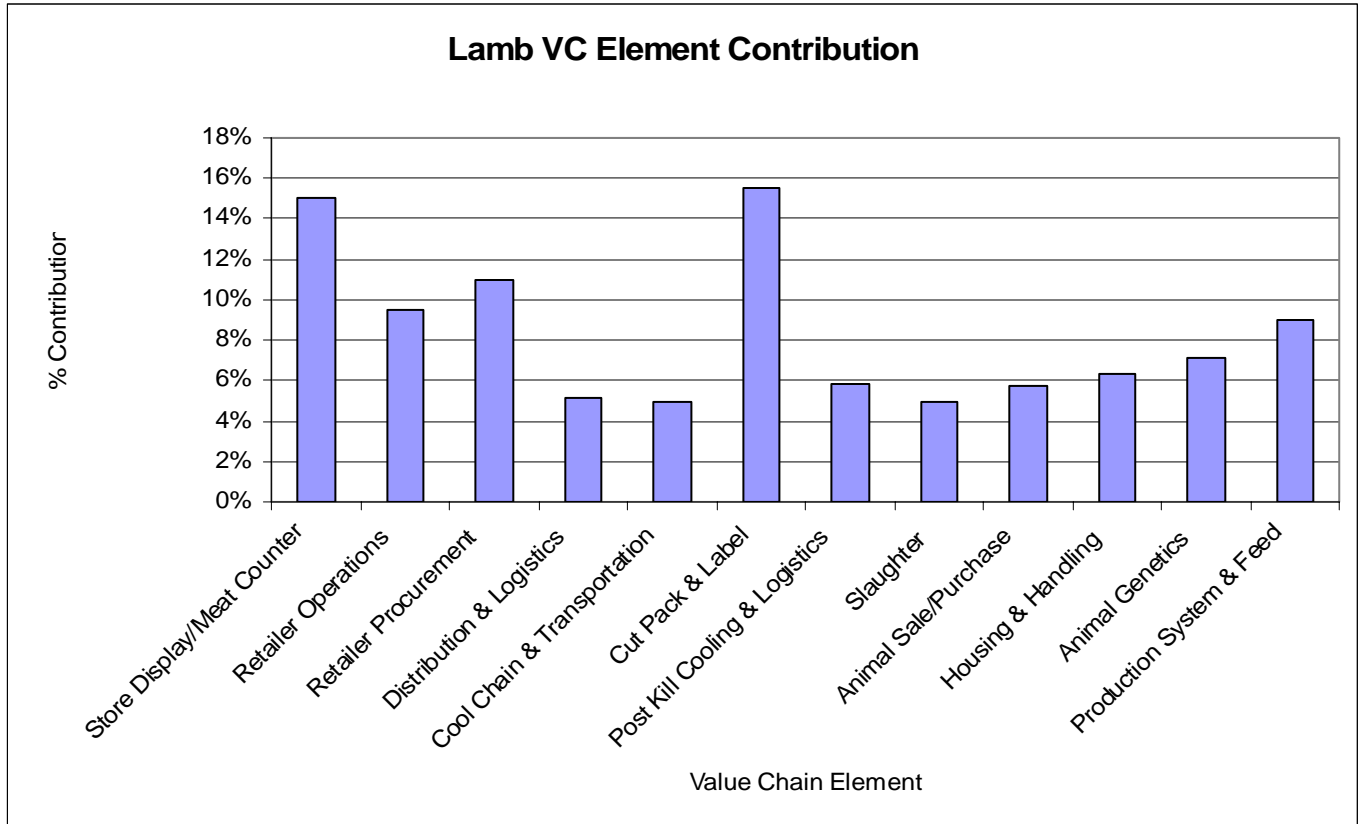


Figure 6 identifies the most important value chain elements:

1. Cut pack and label
2. Store display/meat counter
3. Retailer procurement
4. Retailer operations
5. Grouped factors relating to animal production

The first four value chain elements affect approximately 50% of consumer satisfaction. The fifth value chain element, “Grouped factors relating to animal production”, affects 21% of consumer satisfaction.

Managing and controlling these value chain elements and their supporting processes is critical to success.

In order to create added value, consideration should be given to the processes that feed into or support each of the critical value chain elements. Suggestions follow for ways the chain could evaluate the effectiveness of each of these value chain elements and improve their value generating capability, by answering the questions posed.

1. Cut pack and label

- Does the overall per pack value of lamb (not simply price) compare favourably with competing meats?
- Is packed lamb gas-flushed to extend shelf-life and quality of presentation?
- What percentage of packs do consumers find visually appealing?
- Who determines cut sizes, presentation and packaging format?
- What information is currently used to determine the current configuration?
- Does the processor measure, track and report suppliers' conformance and meat cutters' performance to specifications?
- What useful information other than weight and price do the labels provide?
- What percentage of product is written off as shrinkage?

2. Store display/meat counter

- Most shoppers are female – is the meat counter organized to suit female thoughts and selection criteria, or is it organized from a male perspective?
- Does the method of merchandizing lamb lead consumers to value its consistency of quality and availability within the overall meat category?
- Is the display visually appealing and informative, thereby conveying to consumers that Canadian lamb provides a unique pleasurable eating experience that cannot be measured by price to the same extent as competing 'commodity' products? ,
- Are product information and cooking instructions readily available at the counter?
- Do employees working in the meat category have the ability to assist customers in making an informed purchasing decision? Or does the category rely on the self-service principle?
- Are all packs labeled using the same criteria, including attributes, potential uses, price by weight and source?

3. Retailer procurement

- Do retailers, processors and producers work collaboratively to provide what consumers require?
- Do retailers provide processors with meaningful forecasts and performance reports?
- Are forecasts and confirmed orders received early enough for the processor to plan and balance carcasses, and coordinate supply with producers or sales agents?
- Do forecasts reflect seasonality of supply?
- Are seasonal supply arrangements developed in advance with input from multiple suppliers?
- Do retail buyers have meaningful information on consumer purchasing behavior and attitudes?
- How do consumer perceptions of quality factor into tracking supplier performance?

4. Retailer operations

- Have front line staff members visited a meat processor?
- Are all front line staff members fully familiar with how lamb is packed and should be merchandized?
- Could any front line staff member tell a consumer how to choose, prepare, cook and serve lamb and accompanying options, versus other meats ?
- Does the retailer design and conduct experiments to determine which predictors increase consumer satisfaction and sales of lamb?

5. Grouped factors relating to animal production

While no individual factor relating to animal production has the same level of importance as the factors described above, cumulatively they account for approximately 21% of consumer satisfaction and, therefore, have the potential to significantly impact consumer satisfaction.

- Are producers provided with retail performance and consumer satisfaction information?
- Are experiments undertaken to identify the comparative impact that each stage of the production process (including genetics, breeding and feeding practices) has on the chain's ability to continually improve performance?
- What steps are being taken to produce lamb that meets the quality standards and consistency necessary to encourage the entire family to consume lamb?
- Are similar steps being taken to identify methods to reduce costs along the chain and to provide incentives for chain participants to behave accordingly?
- Are producers provided with feedback on the suitability of their lamb for a particular market?

DISCUSSION ON A SPECIFIC EXAMPLE OF AN OPPORTUNITY TO INCREASE VALUE TO CONSUMERS

Increasing the value proposition of this particular chain will require the producers, the auction system, the processor and the retailer to work together to clearly define which factors influence the CTS attributes of fresh lamb. While accomplishing this would rely on the retailer periodically issuing the processor with a score card indicating the extent to which the processors' products met consumer CTS, the reporting process need not be exhaustive.

Based on indicators developed from the CTS research findings and input from the retailer, the next stage would be for the processor to provide producers with a quarterly scorecard indicating how well their lamb met minimum performance requirements. Ideally, they would also provide producers with one-on-one coaching as to how to improve the quality of the meat they produce. Methods would then need to be developed to use the auction system more effectively than is presently the case.

Improving processes relative to consumer defined CTS would enable the entire chain to reduce costs and increase quality. Along with the opportunity to increase revenues by reacting to consumer defined CTS, this would enable the producers, processor and retailer to increase their profit margins. Taking on the role of facilitator, rather than abettor, could enable the auction system (or buying / selling agents) to increase the value of its contribution to the chain, and potentially its profitability. Making the change sustainable would depend on everyone receiving sufficient financial incentives to remain loyal to the process, and designing experiments to test new products and processes to determine whether they increase the value of fresh lamb from the perspective of consumers.

The CTS criteria for Affordable Price scored 5 out of 10. As the relationship between “The whole family will eat it” and most other attributes is so vast compared to other products such as pork and chicken, a score of 4 or 5 is tantamount to a deal breaker. Consumer satisfaction with the current price of lamb is only 58%. The matrix shows that every step in the value chain has a reasonably to extremely strong association to this consumer-defined attribute. This is due to the researchers observing clear opportunities to reduce costs through reducing often significant variations in product and process that currently impact the value chain’s performance. Improvements could be achieved through implementing a system that allowed managers to use key performance indicators (KPIs) and data to make more informed decisions. It would undoubtedly reduce costs. It would also enable the chain to address issues (such as ‘taste’, ‘ease of preparation’, and ‘appropriate cut size’) that together negatively impact the value consumers perceive lamb to offer compared to alternative meats and proteins.

At the present time, the chain is unable to take on such challenges as no information is taken from multiple points along the chain, and information that does exist is not statistically tracked to identify inefficiencies. Neither does the chain test methods to improve quality from the consumers’ perspective. Nor is information shared between members of the value chain in a manner conducive to encouraging the implementation of more effective processes, or identifying genetics suited to producing the type of lamb desired by specific market(s). Figure 7 suggests reporting templates that can be used to provide regular feedback along the chain. They are in keeping with those used in other industries to improve the value chain’s performance in relation to market demands and competing products.

Figure 7: Suggested Value Chain Report Cards

Retailer Report to Processor/Packer	
Attribute	Measure
Past Performance	
Total volume	Kg trend
Shrinkage	Kg trend
Sales	\$ trend
Placement in category	Rank or %
On time deliveries	%
Consumer complaints	#
Store complaints	#
DC complaints	#
Objective 1	KPI and trend
Objective 2	KPI and trend
Objective 3	KPI and trend
Future performance	
Forecast for next 3 months	Kg
Quality requirements for next 12 months	Specify
Innovation needs for next 12 months	Specify
Recommendations	Specify

Processor/Packer Report to Producer	
Attribute	Measure
Past Performance	
Total volume	Kg trend
Variation	Kg Standard Deviation
Value	\$ trend
Yield	% and trend
Premium product	% and trend
Downgraded product	% and trend
Position as a supplier	Rank
On time deliveries	%
Objective 1	KPI and trend
Objective 2	KPI and trend
Objective 3	KPI and trend
Future performance	
Forecast for next 3 months	Animals
Quality requirements for next 12 months	Specify
Innovation needs for next 12 months	Specify
Recommendations	Specify

Closer coordination of the chain's operations would lead to less variation in meat quality and could undoubtedly increase the value proposition consumers perceive Canadian lamb to offer. It would also provide an opportunity for participants along the chain to increase their margins and profitability.

Figure 8 is a check list that a retailer and/or value chain member could use to gauge the extent of information shared along the value chain, and the healthiness of inter-business relationships in identifying improvement opportunities. While not exhaustive, it will help translate diagnosis into action by making each of the partners accountable through identified roles, responsibilities, and timelines.

