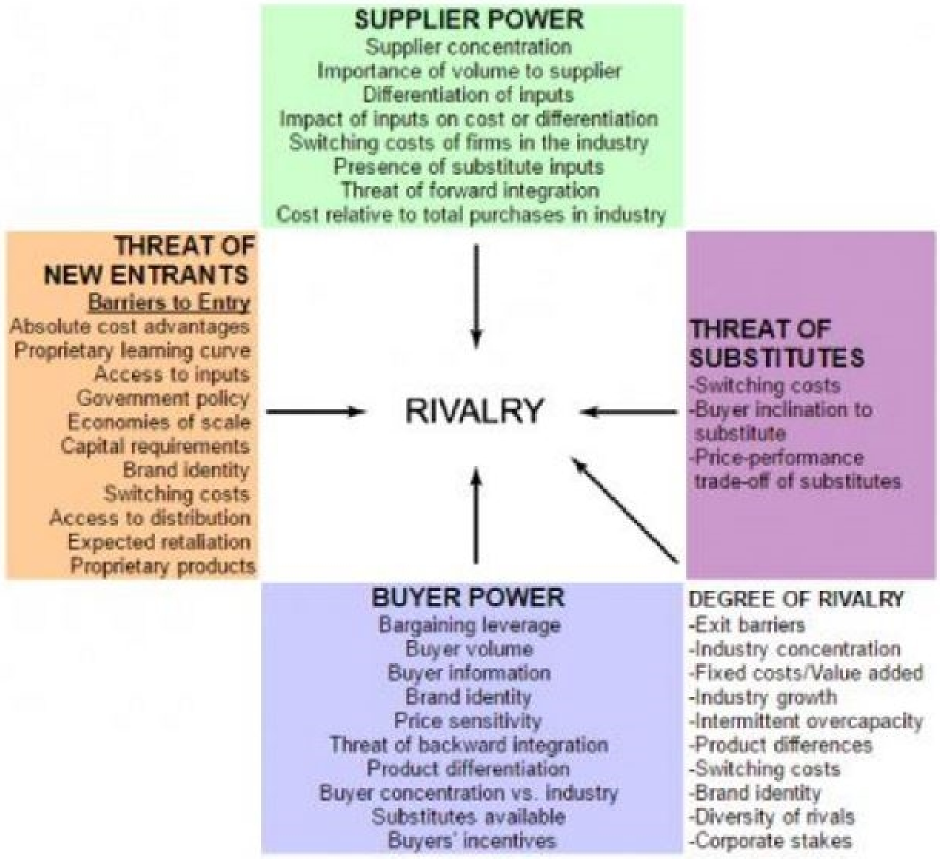
PORTER ANALYSIS OF THE DAIRY SUPPLY CHAIN IN WESTERN AUSTRALIA.

Michael Porter of Harvard University (Wikipedia, 2016) provided a framework that models an industry as being influenced by five forces. The strategic business seeking to develop an edge over rival firms can use this model to better understand the industry context in which the firm operates.



I. Rivalry

Firms strive for a competitive advantage over their rivals. The intensity of rivalry among firms varies across industries, and strategic analysts are interested in these differences.

With only a few firms holding a large market share, the competitive landscape is less competitive.

In pursuing an advantage over its rivals, *a firm can choose from several competitive moves*:

1. Changing prices - raising or lowering prices to gain a temporary advantage.
2. Improving product differentiation - improving features, implementing innovations in the manufacturing process and in the product, itself.
3. Creatively using channels of distributions - using vertical integration or using a distribution channel that is novel to the industry. For example, with high-end jewellery stores reluctant to carry its watches, Timex moved into drugstores and other non-traditional outlets and cornered the low to mid-price watch market.
4. Exploiting relationships with suppliers - for example, from the 1950's to the 1970's Sears Roebuck and Co. dominated the retail household appliance market. Sears set high quality standard sand required suppliers to meet its demands for product specification and price.

(ORZ-L, 2016)

This approach can be applied to other situations.

The following charts discuss various relationships within the Western Australian dairy industry.

	Competitive moves (After Porter, 1979)	WA Retail Sector	WA Processing Sector	WA Farm Sector
1	Changing prices - raising or lowering prices to gain a temporary advantage.	The price of milk has been used as an attractant for customers ever since deregulation in 2000. For drinking milk, there is a three-week cycle where one company is on special (often at $1 per litres every week. This was noted and graphed as far back as 2003	Long term prices for the manufactured product are set by renewable contract, margins are set. The actual commercial agreements are commercial in confidence.	Prices vary from month to month. These are set by the purchasing company. Farmers can only bargain once – at the time contracts are agreed on. These contracts often are set for several years, regardless of world prices. There are instances where both sides of the contact have won or lost. Notable is the instance in Far North Qld where Lion contracted milk at a price of approximately $0.50 per litre for 2 years – JUST BEFORE THE Global financial crisis. The global price dropped significantly (almost ½) but Lion had to pay more for the duration of the period. Now the milk supply in FNQ is approx. 1/3 of its original volume. At other times the Farmers have not benefited from significant price rises – unless they are part of a co-operative.

	Competitive moves (After Porter, 1979)	WA Retail Sector	WA Processing Sector	WA Farm Sector

	Improving product differentiation - improving features, implementing innovations in the manufacturing process and in the product, itself.	The development of private label products is the main competitive move for retailers. One supermarket chain has specific (2 only) farmers milk contract packed – it is branded as such and commands a premium.	The processing sector develops new products and presents them to the distributers purchasing desk. There are occasional packaging differences, and flavour changes in the drinking milk / flavoured milk sector	The only development in the last decade is the development of A2 milk and some breed specific milks such as Jersey milk. The milk quality has developed with measures such as fat and protein for payment. Monitoring Somatic Cell Counts (SCC) which indicate cow health. These have been normal testing and monitoring items for decades.
	Creatively using channels of distributions - using vertical integration or using a distribution channel that is novel to the industry. For example, with high-end jewellery stores reluctant to carry its watches, Timex moved into drugstores and other non-traditional outlets and cornered the low to mid-price watch market.	There has been little change all along the supply chain. The notable differences have been dedicated on farm processing plants and the development of specific brands. Some major distributors now "Cross Dock" cutting out intermediate distribution operators. They also now do home deliveries.	The distribution channels have not changed a lot since deregulation. The number of vendors has reduced significantly.	Not applicable as the farmers are contracted. In some states, supply cooperatives have been set up. Some farms have developed on farm processing, such as pasteurised and packaged milk, Ice cream making and cheese making.

	Competitive moves (After Porter, 1979)	WA Retail Sector	WA Processing Sector	WA Farm Sector

	Exploiting relationships with suppliers - for example, from the 1950's to the 1970's Sears Roebuck and Co. dominated the retail household appliance market. Sears set high quality standards and required suppliers to meet its demands for product specification and price.	Retailers have in house quality system requirements for processors. The companies are regularly audited. Price and quality are the main bargaining points.	Some processors are setting volume limits, chemical composition limits, health limits such as somatic cell counts and microbiological limits.	The farm sector works with the supplementary feed sector and the fertiliser sector, but they are weak compared with the supermarkets.

(ORZ-L, 2016)

The intensity of rivalry is influenced by the following industry characteristics:

COMPETITIVE FORCES SHAPING THE DAIRY PRODUCT MARKET IN WESTERN AUSTRALIA.[1]

	Characteristic (After Porter, 1979)	WA Retail Sector	WA Processing Sector	WA Farm Sector
1	Many firms increase rivalry as they compete for the same customers	The retail concentration, consists of 3 major players, being Metcash, Coles and Woolworths. Metcash has a higher market share in WA than in the nation. Of the 3 chains – 2 have private label milk being Coles and Woolworths. The processors find it difficult to compete with their own branded products and there are reports of preferential shelf space allocation to supermarket branded milk. Therefore, rivalry is low.	Three market milk processors supply a population of 2.6 million people. The competitive nature of this market is shown by <u>the high level of branded milk discounting in WA SINCE DEREGULATION</u>. This was absent in most other markets until 2010 when the $1 per litre milk price was introduced. Several smaller, processors compete with artisan cheese and yoghurts. They compete against four interstate processing groups supplying national brands, supported by national distribution and marketing networks. The WA cheese and yoghurt markets are characterized by frequent discounting and lower average SKU prices. Export markets are skewed to lower than "realistic" prices by policy decisions and subsidization by major players such as the USA and the EU. Since deregulation, Ice-cream, cheese, butter and milk powders are no longer made in the state.	The prices paid by the processors vary, based on the product and sales mix of individual companies. Companies that include market milk in their product mix pay a premium to ensure that they have the correct volumes of milk all year round. This means that they are favoured customers of the farmers by returning a suitable price that rewards the extra costs of year-round supply. The large number of farmers (150) relative to the number of processors (3), coupled with specialized, capital intensive production of a perishable product results in farmers having a weak bargaining position. there is no co-operative processor in WA, so there is no guarantee that all milk will be purchased.

[1] Porter, M. (1979) "How competitive forces shape strategy", *Harvard Business Review*, March/April 1979

	Characteristic (After Porter, 1979)	WA Retail Sector	WA Processing Sector	WA Farm Sector
2	Slow market growth causes firms to fight for market share.	Population growth has slowed to approximately 1.5% per year and milk consumption per capita is approximately 2 litres per person per year, however most of this is in the cheese area and so is imported. New markets for dairy products are not developing via the existing population. Taking market share from other retailers is the most effective method of increasing sales volumes.	Population growth is not equivalent to volumes of milk available. Per capita growth is also small. Therefore, new markets for dairy products are not opening via the existing population. Taking market share from other processors is the most effective method of increasing sales volumes. Processing plants are small in world scale and there is not enough milk to fill them, so they are not competitive and are the first to be dropped when international prices drop.	The farm sector is dependent on the processing sector for demand. Currently the options of milk exports are reducing. There is a local market for cheese and butter which is being supplied from out of state. There is no commercial will to build processing facilities to address this demand. Due to lack of scale, local processors are unable to extract an acceptable return from the export market compared with the large Victorian and NZ companies and co-ops. Corporate processors will pass the benefits of high export prices to shareholders rather than suppliers.

	Characteristic (After Porter, 1979)	WA Retail Sector	WA Processing Sector	WA Farm Sector
3	High fixed costs result in an economy of scale effect that increases rivalry. When total costs are mostly fixed costs, the firm must produce near capacity to attain lowest unit costs. Since the firm must sell this large quantity of product, high levels of production lead to a fight for market share and results in increased rivalry.	Supermarkets rely on volume of traffic and sales to make their profits. Their overheads are land, buildings and equipment. Turnover is paramount in making a profit in this industry. Turnover is measured in $/square metre of store space. Milk is said to provide 4.5% of the turnover of a supermarket.	WA milk processors have large investments in dairy-specific plant. Fixed costs are a major component of their cost structure. Winning high volume house brand milk contracts (often through national tender) is a key strategy to increase throughput and dilute fixed costs. This process is highly competitive and reduces both processor and farmer margins. Introduction of national tenders saw supermarket milk prices fall by nearly 20%. As there are 2 companies asking for house brand products and three processors, one processor misses out regularly. This encourages maximum competition.	Fixed costs represent more than 40% of milk production costs in the farm sector. Diluting fixed costs by increasing production /Ha has been a key strategy on many dairy farms since deregulation. This has maintained milk supply in the face of a reduction in farm numbers from 400 to 150.

	Characteristic (After Porter, 1979)	WA Retail Sector	WA Processing Sector	WA Farm Sector
5	Low switching costs increases rivalry. When a customer can freely switch from one product to another there is a greater struggle to capture customers.	Consumers perceive milk, yoghurt and cheddar cheese as undifferentiated products and readily switch between brands based on price. This is demonstrated by the growth of supermarket house brands' share of the WA fresh milk market from 11% to more than 50% in the three months following deregulation. Retailers have low switching costs – they only receive a different truck from a different processor.	Processors have the option of buying top quality milk from most of WA's 150 dairy farms. There is an oversupply of milk for short shelf life products in Western Australia. Milk trading between dairy processors and collaborative transport arrangements make it easy for processors to switch supply sources, although long term contracts ensure stable supplies. This results in supplier loyalty. Processors have low switching costs – they only change the tanker pickup route. Contracts increase the switching cost.	Dairy farmers can switch processors easily unless bound by contracts. Processing companies have several contractual weapons to lock in supply. These include exclusive supply and specific volume requirements. These change the switching costs for the farmer from low to high.
6	Low levels of product differentiation are associated with higher levels of rivalry. Brand identification, on the other hand, tends to constrain rivalry.	Milk and cheese are "Prescribed" products. This means that most the product characteristics are identical between brands. Rivalry is significant.	High quality milk for drinking and manufacturing is easily obtained from the WA farm sector. Rivalry is significant.	Milk quality is generally high across the Western Australian dairy industry. Rivalry is significant.

	Characteristic (After Porter, 1979)	WA Retail Sector	WA Processing Sector	WA Farm Sector
7	Strategic stakes are high when a firm is losing market position or has potential for great gains. This intensifies rivalry.	Consolidation of the retail sector is less advanced in Western Australia than in other Australian states. Considerable scope remains for the major chains to increase market share, while independents have powerful incentives to maintain market share. This leads to a very competitive marketplace.	Supermarkets are the major outlet for dairy products. Winning and keeping house brand milk contracts is essential for processors to maintain their share of the fresh milk market. Processors contracted to supply house brand milk also receive favourable shelf space allocation for branded milk and manufactured products. Submitting a losing house brand milk tender would have a major impact on processor market share.	Processors' ability to offer access to market milk premiums makes it relatively easy to negotiate favourable contract terms with farmers or to detach individuals from collective negotiation. Farmers who choose not to enter supply arrangements with corporate fresh milk processors risk significant loss of income.

	Characteristic (After Porter, 1979)	WA Retail Sector	WA Processing Sector	WA Farm Sector
8	High Exit barriers place a high cost on abandoning the products. The firm must compete. High exit barriers cause a firm to remain in an industry, even when the venture is not profitable. A common exit barrier is asset specificity. When the plant and equipment required for manufacturing a product that is highly specialized, these assets cannot easily be sold to other buyers in another industry.	The exit costs are LOW for dairy brands. Retailers must maintain a category, but low differentiation between the products means that unprofitable products can be changed easily. Retailers install expensive refrigeration systems to cater for the short shelf life of "fresh milk." A change to long life UHT milk would reduce their costs significantly. Dairy represents approximately 4% of a retailer's turnover. Retailers commit to daily pasteurised milk as a draw card and could function quite well if they did not have any specific brand. The existing refrigerators could be used for other goods with a minimum of cost.	The exit costs are HIGH. The equipment used for processing milk and other dairy products is very specific. There are some other beverages that can be produced in market milk plants. Cheese, butter and powder production plants rarely can be converted to process other products. This results in high exit costs and therefore difficulty in rationalizing current over capacity within the WA processing industry.	The exit costs are HIGH. Total farm investment in dairy production is estimated to be ten times total processing investment for a given volume of milk. Milking sheds and plant is purpose specific and dairy cows unsuited for beef breeding. Falling farm numbers reduces demand for cows or second hand plant, increasing barriers to further exits. Alternative land uses will not generate the cash flow to service the high debt levels found on many dairy farms.

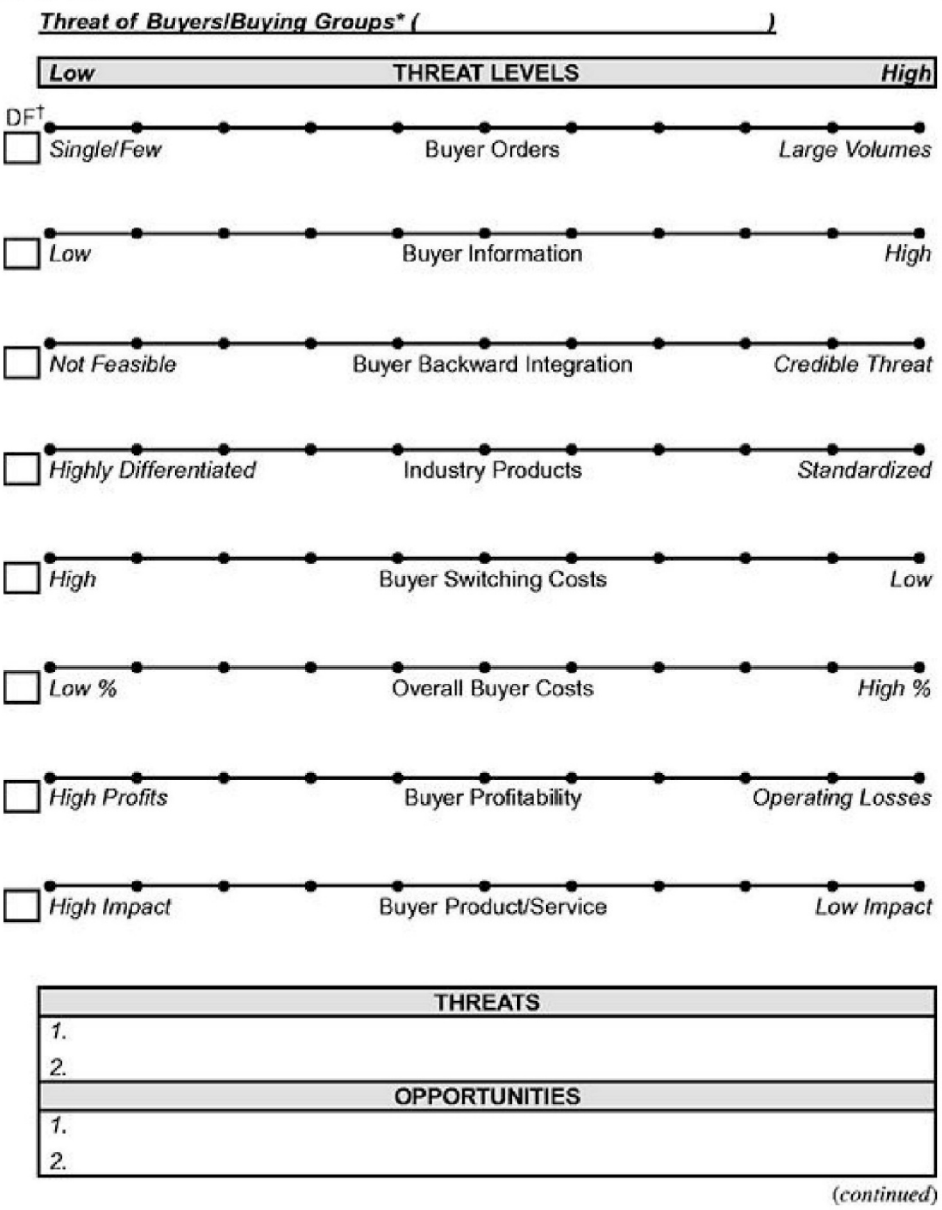
	Characteristic (After Porter, 1979)	WA Retail Sector	WA Processing Sector	WA Farm Sector
9	A diversity of rivals with different cultures, histories and philosophies make an industry unstable. There is greater possibility for mavericks and for misjudging rivals moves. Rivalry is volatile and can be intense.	Rivalry is volatile and intense. This is reflected by intense rivalry between independent grocers and the major supermarket chains. The arrival of Aldi is causing strategic changes in the distribution sector.	Milk processing in WA has moved from predominantly local to predominantly foreign owned. The major players are: 1. A locally based corporate processor wholly owned by a Sydney based Venture capitalist company 2. A national fresh milk processor owned by a brewer from Japan. 3. A national fresh milk processor owned by a French multinational dairy company with an Italian subsidiary. It is likely that differences in philosophy and history will become increasingly apparent between these companies.	There is evidence that the WA farm sector is dividing into two camps. One seeks to deal pragmatically with the existing market environment through productivity gains and business improvement. The other desires government intervention to increase address inequities in the supply chain. The different objectives of these two groups will have important implications for the success of individual and collective price negotiation by dairy farmers.

10	Industry Shakeout. A growing market and the potential for high profits induce new firms to enter a market and incumbent firms to increase production. A point is reached where the industry becomes crowded with competitors, and demand cannot support the new entrants and the resulting increased supply. The industry may become crowded if its growth rate slows and the market becomes saturated, creating a situation of excess capacity with too many goods chasing too few buyers. A shakeout ensures with intense competition, price wars, and company failures	The move by supermarkets to capture wholesale as well as retail margins by the introduction of house brands and their aggressive pricing policies have dramatically changed the fresh milk market.	The potential profits to be made from fresh milk processing saw Harvey Fresh enter that market during the 1990s. The existence of three players in the processing sector seems to be a major factor behind the aggressive discounting of branded milk that characterises the WA marketplace.	Increasing opportunities to supply manufacturing milk encouraged rapid expansion of milk supply by lower cost producers during the 1990s. High cost producers were protected by the quota system. Removal of quota protection lowered fresh milk premiums and effectively spread remaining premiums across a larger production pool. Early predictions of high value export demand growth after deregulation have not been realised. Falling demand, low international prices and a rising Australian dollar all slowed export growth in 2001/02.

(ORZ-L, 2016)

A similar and more graphical analysis tool has been developed by Michael E. Dodds, Assistant Professor of Management, Eastern Illinois University Management, (Google Scholar, 2016)

The original templates follow. These have been transposed into spread sheets and the three sections (Farmer, Processor and Major Domestic Distributor) of the supply chain have been compared and graphed.



Threat of Buyers/Buying Groups* (   )

Low	THREAT LEVELS	High
Single/Few	Buyer Orders	*Large Volumes*
Low	Buyer Information	*High*
Not Feasible	Buyer Backward Integration	*Credible Threat*
Highly Differentiated	Industry Products	*Standardized*
High	Buyer Switching Costs	*Low*
Low %	Overall Buyer Costs	*High %*
High Profits	Buyer Profitability	*Operating Losses*
High Impact	Buyer Product/Service	*Low Impact*

DF†

THREATS
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2.
OPPORTUNITIES
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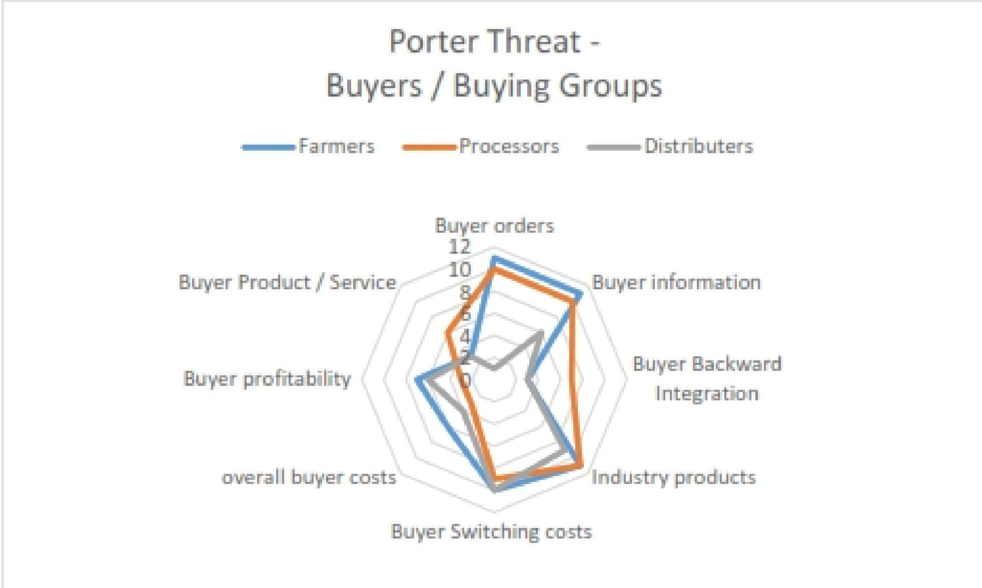
2.

(continued)

(Dobbs, Guidelines for applying Porters five Forces framework: a set of industry anaysis templates., 2014)

Michael E. Dobbs , (2014) "Guidelines for applying Porter's five forces framework: a set of industry analysis templates", Competitiveness Review, Vol. 24 Iss: 1, pp.32 – 45

	Farmers	Processors	Distributers
Buyer orders	11	10	1
Buyer information	11	10	6
Buyer Backward Integration	3	7	3
Industry products	11	11	9
Buyer Switching costs	10	9	10
overall buyer costs	6	3	4
Buyer profitability	7	3	6
Buyer Product / Service	3	6	3



Threat of Suppliers/Supplier Groups* (   )

Low	THREAT LEVELS	*High*

DF†

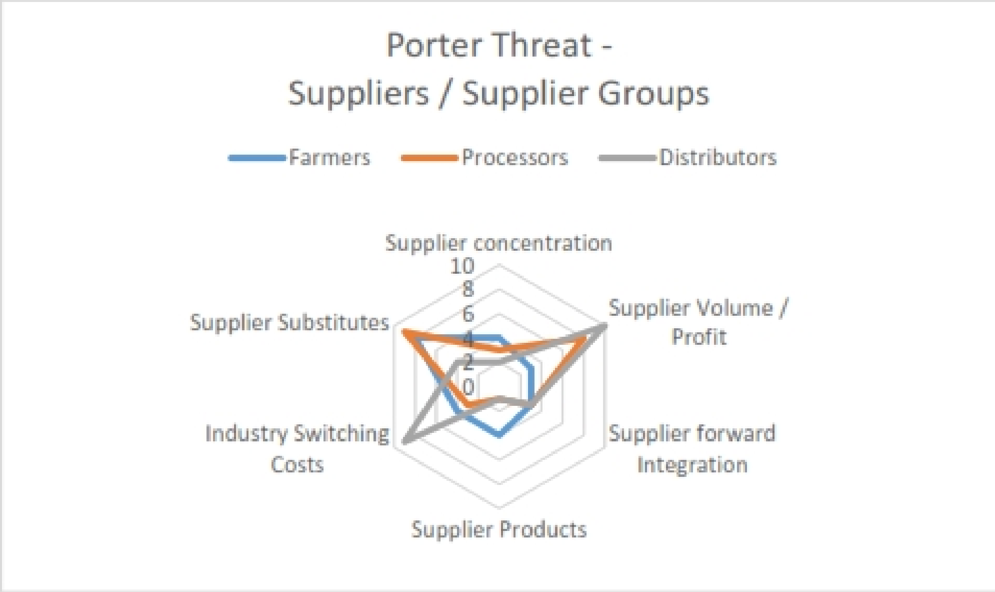
☐	*Many Organizations*	Supplier Concentration	*Few Organization*
☐	*High %*	Supplier Volume/Profit	*Low %*
☐	*Not Feasible*	Supplier Forward Integration	*Credible Threat*
☐	*Standardized*	Supplier Products	*Highly Differentiated*
☐	*Low*	Industry Switching Costs	*High*
☐	*Many Viable Options*	Supplier Substitutes	*No Viable Options*

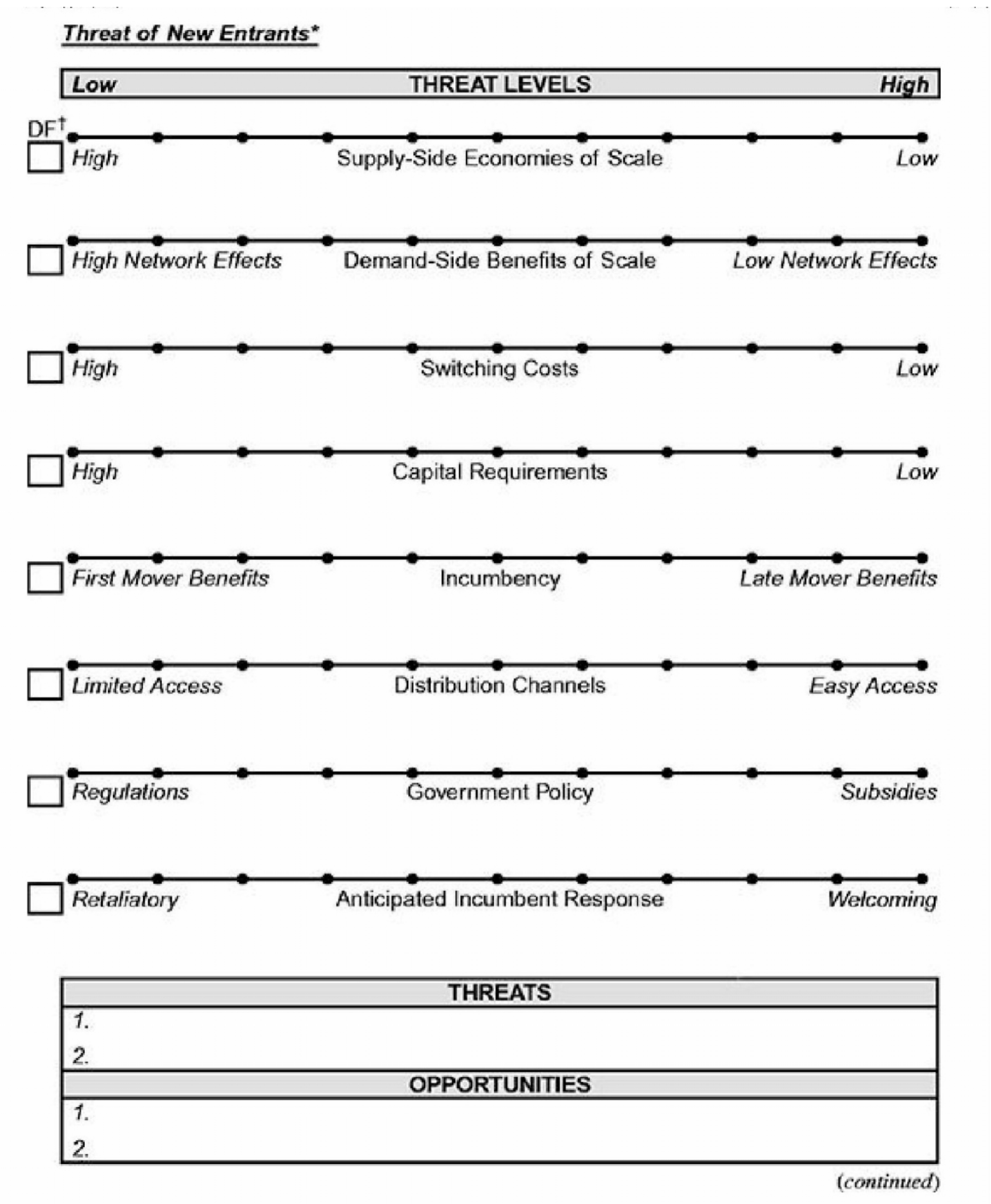
THREATS
1.
2.
OPPORTUNITIES
1.
2.

(continued)

(Dobbs, Guidelines for applying Porters five Forces framework: a set of industry anaysis templates., 2014)

	Farmers	Processors	Distributors
Supplier concentration	4	3	2
Supplier Volume / Profit	3	8	10
Supplier forward Integration	3	3	3
Supplier Products	4	1	1
Industry Switching Costs	4	3	9
Supplier Substitutes	8	9	4





Threat of New Entrants*

Low	**THREAT LEVELS**	**High**

DF†

☐	*High*	Supply-Side Economies of Scale	*Low*
☐	*High Network Effects*	Demand-Side Benefits of Scale	*Low Network Effects*
☐	*High*	Switching Costs	*Low*
☐	*High*	Capital Requirements	*Low*
☐	*First Mover Benefits*	Incumbency	*Late Mover Benefits*
☐	*Limited Access*	Distribution Channels	*Easy Access*
☐	*Regulations*	Government Policy	*Subsidies*
☐	*Retaliatory*	Anticipated Incumbent Response	*Welcoming*

THREATS
1.
2.
OPPORTUNITIES
1.
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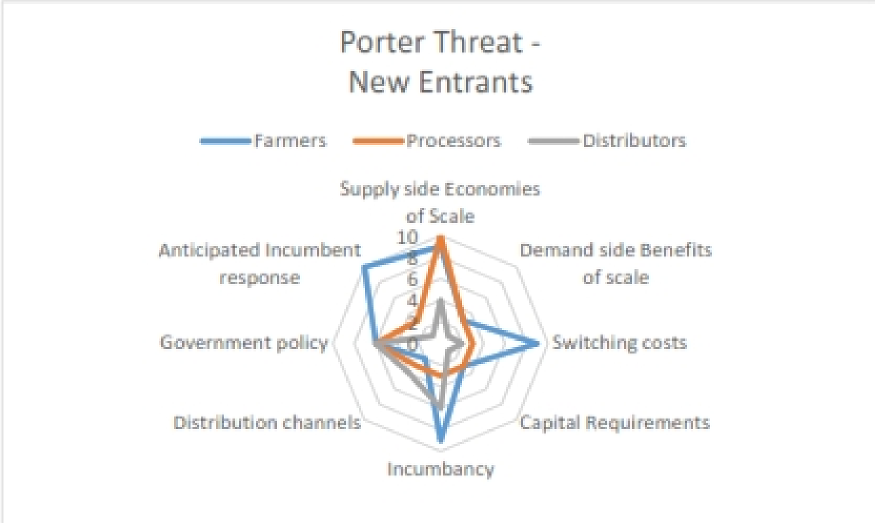
(*continued*)

(Dobbs, Guidelines for applying Porters five Forces framework: a set of industry anaysis templates., 2014)

	Farmers	Processors	Distributors
Supply side Economies of Scale	9	10	4
Demand side Benefits of scale	3	3	1
Switching costs	9	3	2
Capital Requirements	3	3	1
Incumbancy	9	3	6
Distribution channels	2	3	4
Government policy	6	6	6
Anticipated Incumbent response	10	3	1



Threat of Substitutes*(   )

Low	THREAT LEVELS	*High*

DF[†]

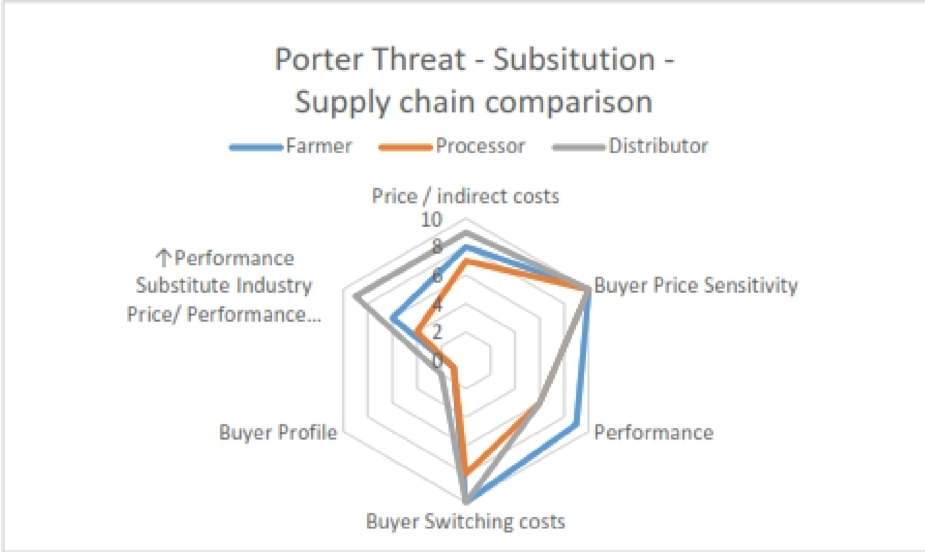
DF			
☐	*More Expensive*	Price/Indirect Costs	*Less Expensive*
☐	*Low*	Buyer Price Sensitivity	*High*
☐	*Lower*	Performance	*Higher*
☐	*High*	Buyer Switching Costs	*Low*
☐	*Risk Avoidance*	Buyer Profile	*Risk Seeking*
☐	↓ *Cost,* ↑*Performance*	Substitute Industry Price/Performance Trends	↓ *Cost,* ↑*Performance*

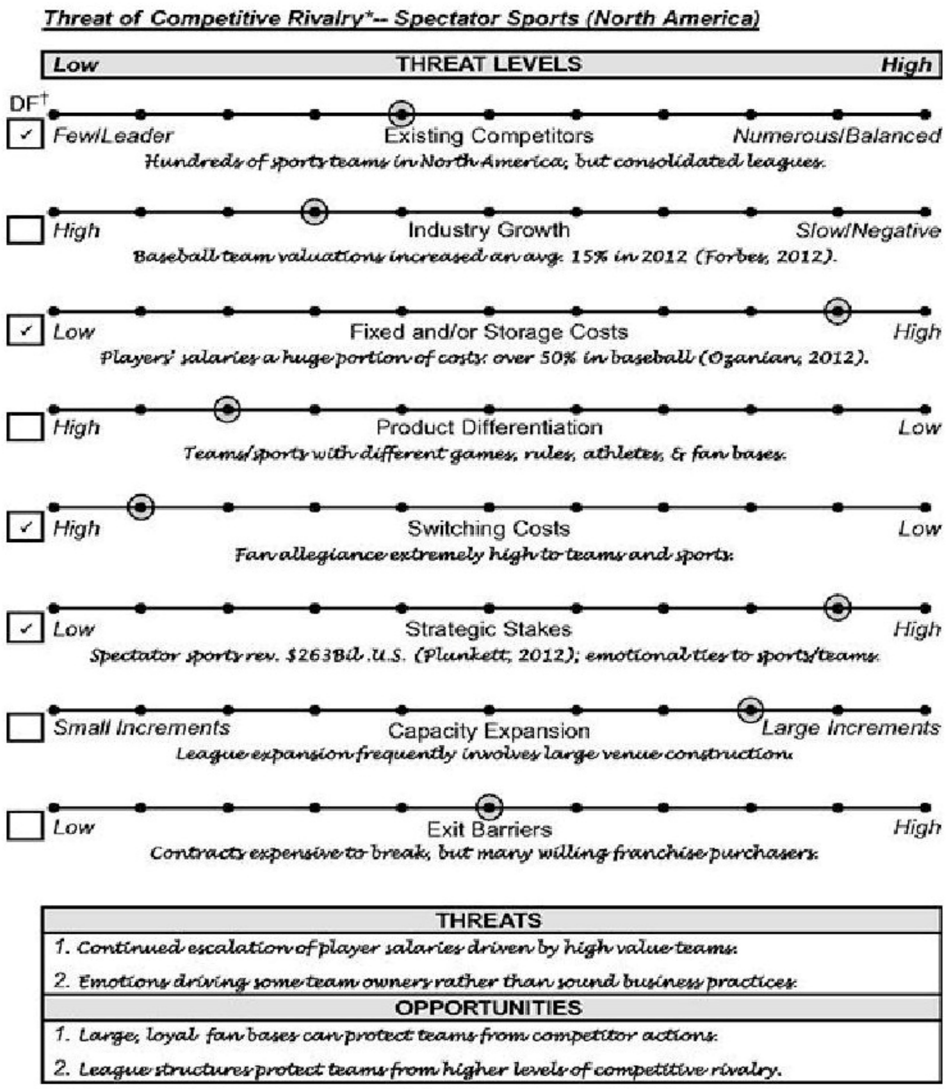
THREATS
1.
2.
OPPORTUNITIES
1.
2.

(*continued*)

(Dobbs, Guidelines for applying Porters five Forces framework: a set of industry anaysis templates., 2014)

	Farmer	Processor	Distributor
Price / indirect costs	8	7	9
Buyer Price Sensitivity	10	10	10
Performance	9	6	6
Buyer Switching costs	10	8	10
Buyer Profile	1	1	2
ʼerformance Trends↓ Cost,	6	4	9

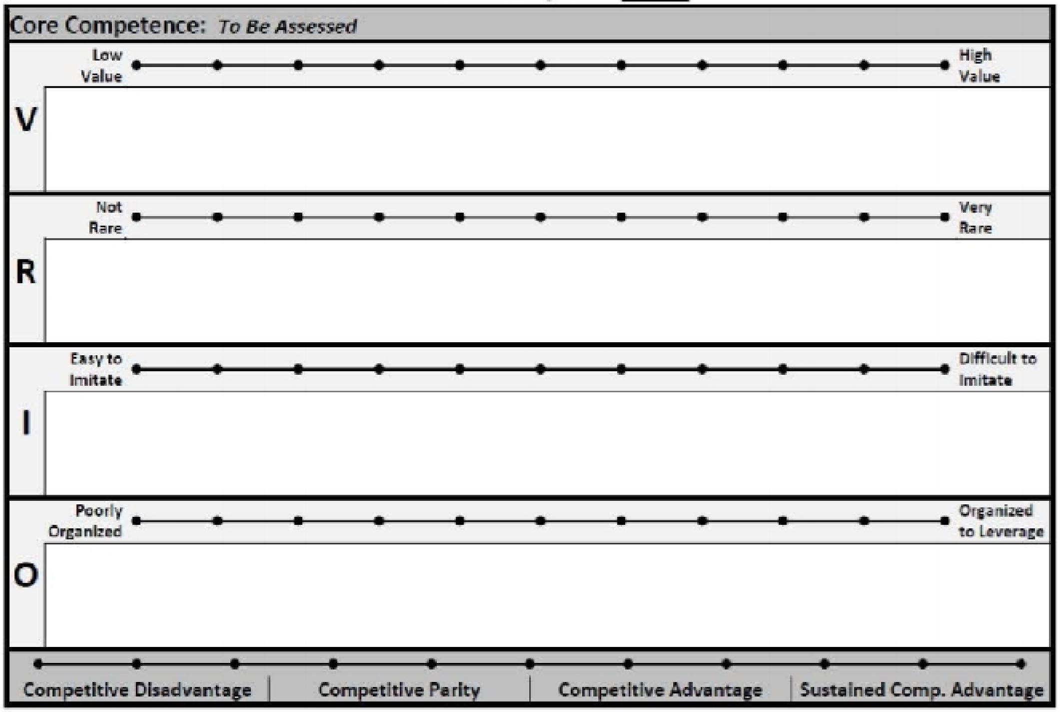




(Dobbs, Guidelines for applying Porters five Forces framework: a set of industry anaysis templates., 2014)

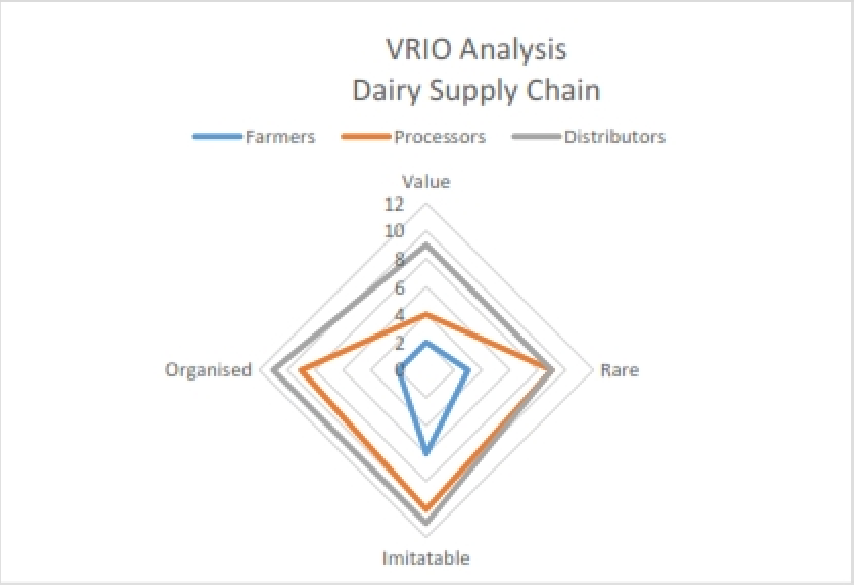
	Farmer	Processor	Distributor
Existing competitors	6	1	2
Industry Growth	10	10	9
Fixed and / or Storage Costs	10	10	10
Product differentiation	11	10	9
Switching Costs	9	10	9
Strategic Stakes	2	9	8
Capacity Expansion	3	2	2
Exit Barriers	10	10	10

Internal Analysis – ***VRIO***



(Dobbs, 2013)

	Farmers	Processors	Distributors
Value	2	4	9
Rare	3	9	9
Imitatable	6	10	11
Organised	2	9	11
Average score	3.25	8	10
	Competitive Disadvantage	Competitive Advantage	Sustained Competitive Advantage



	Farmers	Processors	Distributors
Value (Revenue) Million $	1 to 18	200 to 2,700	38,000 and 59,000
Rare	No	yes	yes
Imitatable	yes	difficult	hard
Organised	No	Internal systems	Major internal systems

VALUE

Farmer value -

Revenue, $1.5 million

Processor revenue -

$ 200 million to 2,700 million (Murray Goulburn)

Distributor Revenue -

Coles 38,000 Million

Woolworths - $59,000 million

RARE

Farmers - Australia - 6000

Processors - Australia - 10 major (Dairy Australia) with a total of 520 (DIAA) dairy listing.

Distributors - 2 major supermarket chains , 3 minor chains, food service, and institutional sales.

IMITABLE

Farmers - capital cost $ 5 million

Processor capital cost - $150 million entry level for world scale processor.

Supermarket - Capital cost very high.
E.G. Aldi have spent $400 million in WA . Currently this is a minor player in Australia
http://www.smh.com.au/business/retail/aldi-unveils-700m-assault-on-western-australia-and-south-australia-20141008-1137fj.html

This investment is not world scale, it is local scale for 2.6 million people.

ORGANISED

Farmers - Individual businesses with some farmer groups. In WA the total number is 155 businesses. Not united in WA. Other areas have co-operatives such as Victoria.

Processors. - Individual processors are organised, but there is no co-operation allowed by Law.

Supermarkets - Well organised with vary large internal procurement and quality systems.

Dobbs, M. E. (2013). Internal Analysis in Practice: Templates for Firm and Case Analysis. *J o u r n a l o f t h e N o r t h A m e r i c a n Management Society, 7*(1), 40 to 53. Retrieved from http://mbaa-nams.org/NAMS/JNAMS_files/jnams6summer2013.pdf#page=41

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Wikipedia. (2016, Nov). Retrieved from https://en.wikipedia.org/wiki/Michael_Porter