





ONLINE LIVESTOCK AUCTIONS:

Australian success, and the potential for New Zealand

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EXECUTIVE SUMMARY

This paper provides a background of the Australian Livestock industry with a specific focus on the rise of an online auctions platform, AuctionsPlus (www.auctionsplus.com.au). My findings show that the use of AuctionsPlus can deliver verifiable economic and social benefits to its users.

During a research trip throughout Australia's rural New South Wales and Victoria I spoke with Farmers, Feedlot operators, Stock Agents, Transport operators, Saleyard managers and Meat buyers about industry dynamics from their unique perspectives. The focus of these discussions was to understand how AuctionsPlus integrated into their business, where the platform worked best for them and where it didn't.

I've then considered the relevance of all these factors in the New Zealand context to understand the potential benefits for our own industry.

AuctionsPlus is neither a fundamentally new method of transacting livestock nor a disruptive technology. It does however harness favourable attributes of traditional sales methods and combine them on a single, highly efficient internet marketplace where vendors, agents and buyers can participate without the need to come together physically.

I've found that tangible economic advantages alone are not enough to drive adoption, and that the social benefits of improved animal welfare and bio-security outcomes can drive adoption even in the absence of any direct financial advantage. Also, stock agents and farmers are more likely to support the platform when existing relationships can be maintained.

The real key to long-term success is the establishment of underlying trust in the platform and its users.

At the time of writing New Zealand does not have a comparable sales method and questions remain as to whether the New Zealand market has the scale to support this business model, or what level of market penetration will be needed to support a sustainable business. At least two companies are looking to fill this market opportunity and my recommendations will give those in this relatively new field a grounding in the lessons learned during AuctionsPlus's journey to success. I believe this success can be replicated in New Zealand for the good of all industry stakeholders.

The most important recommendation I make is that to initially gain traction, a successful online platform will need to have the full support of Stock Agents. While this is an electronic marketplace; people are at its core.



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I hope I can convert skills learned into opportunities for our family in the future.

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Thank you to the New Zealand Rural Leadership Trust for your stewardship of the Kellogg Programme. I think you're adding real value to our primary sector and long may it continue.

To Dr Scott Champion, Dr Patrick Aldwell, Lisa Rogers and Anne Hindson; this has been a fantastic course and I consider it an absolute privilege to have been given the opportunity to participate. Thank you for your dedication and I hope you've enjoyed it as much as I have.

Finally, thank you Kellogg Cohort#39. It's been a blast and I'm looking forward to following your progress and to reminisce in years to come.

FOREWORD

From a childhood on a high country sheep and beef property in Central Otago to a farming career spanning everything from Deer to Dairying, I began work as a livestock agent in Canterbury in 2010.

The subject of this report was born of my belief that better outcomes for Farmers, livestock and Stock Agents are attainable through Internet based innovation. Our Agricultural sector faces ongoing challenges to economic and environmental sustainability, and the industry must find ways to maintain a competitive advantage while upholding a "Social License to Operate".

Incremental efficiencies gained economically at the farm gate or downstream via enhanced animal welfare and bio-security standards unlock value throughout the supply chain and contribute to a sustainable primary export sector, an enhanced New Zealand brand story and a more resilient economy.

CONTENTS

| Executive Summary | |
|--|----|
| Acknowledgements | 2 |
| Foreword | 2 |
| Introduction | 5 |
| Literature Review | 6 |
| Research Methodology | 8 |
| Findings and Discussion | 11 |
| Economic factors: Comparison between Australia and New Zealand | 17 |
| Social factors: Comparison between Australia & New Zealand | 18 |
| AuctionsPlus: Widespread industry impact or a successful niche business? | 19 |
| Conclusions | 20 |
| Recommendations | 20 |
| References | 21 |

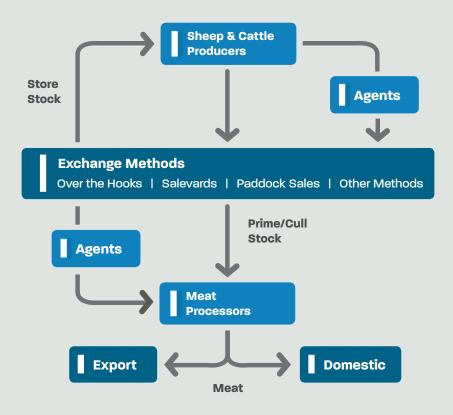


Figure 1. Flow chart diagram of lamb and beef supply chains in $\ensuremath{\text{NZ}}.$

INTRODUCTION

There has been no real innovation in the way livestock are transacted in New Zealand since the arrival of Australian Stock & Station Agencies during the 1850's.

Technologies such as fax, then email and widespread cell phone coverage have led to improvements in efficiency, but the vast majority of commercially farmed livestock continue to be exchanged between Stakeholders via a trusted intermediary through one of 3 channels:

- 1.Paddock sale
- 2. Saleyard Auction
- 3. On the Hooks (Carcass).

The diagram (figure 1.), as shown on the previous page, depicts the general flow of sheep and cattle from producer to consumer. The journey from pasture to plate can be relatively direct involving just producers and processors, or it can involve multiple parties taking ownership of the stock throughout their lifetime. Diverse regional topography and climate combinations along with the scale and financial constraints of any given farming business usually dictate the type of farming enterprise undertaken by that farmer.

As a simple example, extensive high country land lends itself to running breeding stock and selling surplus young-stock at weaning to farmers with better fattening country.

These farmers will either grow the stock out to a killable weight or choose to sell the stock again due to limitations such as feed availability, the need for cash flow, or to protect the structure of heavier soils that can be damaged by larger cattle. And so they are sold again.

This example illustrates how in some cases livestock can be cycled around through multiple farmers before being slaughtered and processed into edible product. With each transaction the farmer will attempt to make a margin between their buy and sell price.

Farmers have the option of different methods of transaction when selling livestock, each with different strengths/weaknesses and costs that must be deducted from their gross price margin.

Farmers have the ability to trade directly among themselves and avoid the associated commission costs inherent with stock agent intermediaries (4-6%). Despite this, stock agents have continued to play a major role within the industry through provision of specialist advice, marketing, payment and financial services. Selling over the Hooks to meat processors is the exception. The majority of sheep and cattle to slaughter are sold direct from farmer to processor.

With the widespread adoption of the internet, now capable of delivering high definition images and video via desktops tablets and smartphones, new marketing channels for livestock have emerged (Agency Websites/ Facebook/My Loading Ramp) and new alternatives to traditional exchange methods have also been developed (Trademe & StockX).

Still, none of these electronic innovations would claim significant impact across the sector of any magnitude and in the absence of viable alternatives the Farmer-Agent intermediary model has proved durable to the present day.

This Kellogg Project investigates a method which combines some elements of these traditional methods into a single online platform. While this sounds like old news, one need only observe the success of Australian Company AuctionsPlus to contend that this concept warrants due consideration.

AuctionsPlus is an online marketplace engaged primarily in the exchange of Livestock. It has evolved with e-commerce over 30 years to become Australia's single biggest livestock marketplace selling more sheep and cattle than any other single marketplace in the country. Access to the platform is via trained and accredited livestock agent "assessors" who are graded on the basis of experience, volume of business and a proactive attitude to dealing with any disputes should they arise.

The title of "A1 Professional Assessor" is reserved only for those accredited agents whose values align with AuctionsPlus and that display continued commitment to the highest standards of conduct.

AuctionsPlus periodically revokes accreditation for agents that fall short of minimum requirements.

Auctions Plus does not provide direct farmer to farmer transactions. Access to the platform and handling of invoicing and payment are via stock agent intermediaries

In this project I will address two areas:

- Investigation of factors behind the success of AuctionsPlus Australia
- Analysis of the relevance of these Australian factors within a New Zealand context.

LITERATURE REVIEW

The emergence of online electronic markets in the early 2000's has spawned a new field of research to better understand the drivers of such factors as trust, adoption/rejection by individuals of innovations and the affect market structures can have on the success or failure of electronic marketplaces.

Critical mass is an essential ingredient for the success of any electronic marketplace and so a deeper appreciation of human behaviour at an economic and social level is needed to understand what conditions would likely encourage the early adoption of a new innovation¹.

The establishment of trust in the presence of the fear of opportunistic behaviour is a prerequisite to adoption and a successful online marketplace¹. This sentiment is equally relevant in the livestock trading context. In the case of AuctionsPlus there is already an established trust relationship between seller and accredited livestock agent and so the remaining challenge is to instil buyers trust in both the individual agent assessor to describe livestock accurately and institutional trust in the platform to:

- Require professional standards of their accredited agents
- Provide robust dispute resolution services and enforce penalties where livestock miss-description is proven.

The history of AuctionsPlus: It was CALM in the beginning

In 1987 the Australian Meat and Livestock Cooperation (AMLC) launched the pre-runner version of AuctionsPlus under the name of Computer Aided Livestock Marketing (CALM).

The purposes of the CALM system were described as:

- to improve operational efficiency, by lowering the costs of sale and of transport, and decreasing livestock stress and meat bruising ²
- to improve market pricing efficiency, by increasing market information, and enabling participation in the market by remote buyers²
- to improve meat quality and the match between product characteristics and market demand, by enabling direct transport of livestock to abattoirs and increasing feedback to producers².

"CALM was an electronic trading platform well ahead of its time, given there was no internet, no mobile phones or on-farm computers at this time. Instead, access was via an Intranet with dial-up access for anyone in Australia using a single telephone number and modem. Computers in these early days were DOS-based 'green screens' and not graphical in their presentations. A Windows based application was released in the mid 1990's before AuctionsPlus developed its software into an Internet ready system that works on all types of platforms" ³.

Throughout the period 1987-2002 the business had suffered financial losses with the greatest loss of AUD\$3 million (AUD\$6 million adjusted for inflation) during the 1989-90 financial year4.

In 1995 four of the main Livestock Agencies; West Farmers, Elders, Landmark and Roberts purchased CALM for a nominal amount, centralized the operation and in 2000 changed the name to AuctionsPlus⁴.

Registered users of the platform rose from 0 to around 27,000 from 1987 to 1991⁵, but then only gradually increased to 34,000 from 1992-2002. Farmer producers continued to favour traditional methods rather than adopt the platform⁴.

A 2005 research paper authored by Driedonks, Gregor, Wassenaar and van Heck is an investigation into the factors that affect the adoption of B2B marketplaces through a case study of AuctionsPlus.

At the time registered users of the platform generally weren't using it and AuctionsPlus hadn't achieved widespread adoption or critical mass despite what were considered as tangible economic benefits to stakeholders. It is important to note that AuctionsPlus at this point in time, met the definition of a B2B marketplace facilitating transactions and handling payments directly between farmers.

The findings of this research were somewhat counterintuitive, given common perception that businesses of any nature would endeavour to utilise technology if an economic benefit was highly predictable. The recommendations that follow are included here as valuable insight into the challenges involved in entering an established marketplace and attempting to replace intermediaries (stock agents) with partial or complete disintermediation by way of an electronic process.

The case study investigated the behaviour of key stakeholders at two levels:

- Level 1: Net benefits for key stakeholder groups.

 At this level, Kambil and van Heck's (2002) economicpolitical process-stakeholder theory shows how
 relative advantage within basic trade and trade context
 processes (eg. providing payment security would
 be considered a "trade context process") for key
 stakeholder groups when using IT-enabled innovation
 (a B2B marketplace) influence adoption and use.
- Level 2: Perception of individual potential users.

 At this level, Rogers's social and political diffusion of innovations theory gives an understanding of how actions and perceptions of individuals and organisations interact in a social process over time to influence the uptake of a B2B marketplace⁶.

At a Level 1 comparison cattle producers have an overall net benefit when using AuctionsPlus as opposed to traditional saleyard auctions. Farmers maintained a considerably stronger negotiating position when able to set reserve prices while maintaining cattle on farm until sold. Transport costs are also avoided. Furthermore, the potential for a greater number of buyers participating from all over Australia can generate more competition for stock in the auction, leading to higher prices.

They found Buyers also benefited from using the system as it was less time consuming and less expensive than attending physical saleyards. Although higher prices may be expected with increased competition among buyers, a major benefit is the delivery of stock in better condition without the stress and associated bruising from the extra yarding and trucking inherent with the saleyard auctions.

A Level 2 investigation of social factors uncovered an interesting view on the influence of stock agents on the rate of adoption of AuctionsPlus. Research findings of IT based trading systems explain this phenomenon:

"Markets are a meeting point for multiple stakeholders: buyers, sellers and intermediaries with conflicting incentives. Given existing market alternatives, no new IT based initiative is likely to succeed if any key stakeholder is worse off after the IT-enabled innovation".

During interviews I discovered that up until 2007 stock agent intermediaries were excluded from earning commission and accredited assessors (non-agents employed by AuctionsPlus) undertook the on-farm objective assessment of stock and loaded details for each sale lot into the AuctionsPlus online interface.

This can be described as an attempt at partial disintermediation. Agents were considerably more worse off and the study found agents had serious concerns about the quality of, and authentication of stock description and also the ability to purchase stock adequately to allow for economical transport to the buyers location. In addition, it was quite obvious stock agents were undermining the technology, discouraging its use.

Driedonks et.al then make four propositions:

electronic process.

- 1. Electronic markets that destroy existing social capital and social information among stakeholders will be less readily adopted by these stakeholders. The importance of Saleyard Auctions as social events where farmers have the opportunity to get off farm and catch up with friends and neighbours shouldn't be under appreciated as a vital factor in considering whether to adopt AuctionsPlus. Likewise the business, and often personal relationship a farmer has with their stock agent cannot be easily exchanged with a purely
- 2. Knowledge exchange of positive experiences among early adopters, opinion leaders and potential leaders will facilitate adoption of B2B electronic markets In the case of AuctionsPlus, early adopters failed to function as opinion leaders. In addition, stock agent intermediaries were acting as negative change agents and had more influence than first expected in their study.
- 3. Industries that have no leading or forcing stakeholders have more difficulty adopting and implementing open B2B electronic markets

 As is the case in Australia, a competitive market exists amongst stakeholders and no stakeholders hold a monopolistic position by which they can control the innovation decisions of others.
- 4. To succeed, electronic markets must quickly achieve critical mass and liquidity

The value of a B2B marketplace has a direct relationship with the number of market participants. If value is not created quickly enough, the marketplace risks being considered unsuccessful and not worth participating in. Early adopters can become disillusioned and reject the innovation altogether.

These lessons from the past should be fully understood and considered when building the foundations for the online marketplaces of the future.

RESEARCH METHODOLOGY

For the initial phase of research I undertook a week long field trip through Australia's rural New South Wales and Victoria.

A diverse range of perspectives from Farmers, Agents, Processor Buyers, Feedlot and Saleyard operators were documented. This complimented knowledge gained on a trip to Victoria a year earlier to participate in a two day AuctionsPlus assessor course, the first requirement to earn accreditation.

Interviews were largely unstructured and the objective was to seek out underlying themes and to identify the net benefits to stakeholders when using AuctionsPlus compared to traditional exchange methods.

Common and consistent themes emerged quickly and with framework borrowed from the earlier work of Driedonks (2005), the research model shown in table 1&2 (pg.12 & 13) was developed to establish the economic

and social factors affecting rate of adoption of the AuctionsPlus electronic marketplace in Australia. Phone calls were then scheduled with targeted individuals to fill gaps in my research as they arose. The main themes apparent were the basis for comparison within the New Zealand context.

The basis for this comparison drew heavily on 10 years of my own experience in the industry as a livestock agent and a lifelong connection to the farming sector. Where required, industry experts were interviewed to test hypothesis, avoid bias and ensure the integrity of my findings.

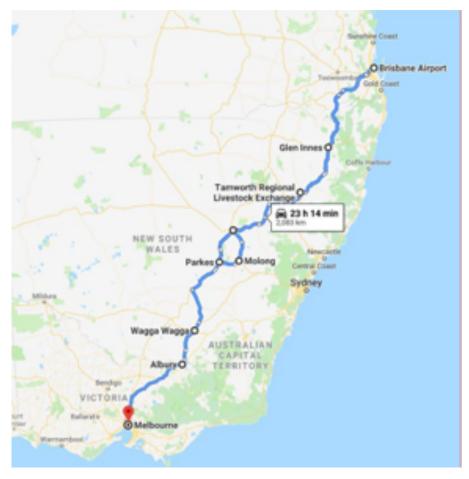


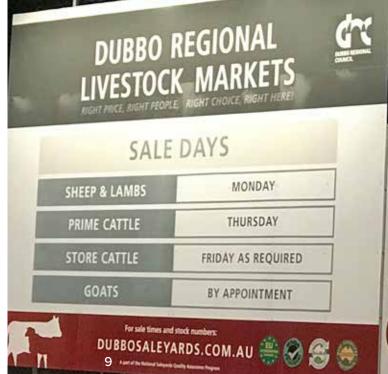
Figure 2. Road trip map.











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Australians Largest Saleyards vs Auctions Plus 2014 - 2017 (Cattle)

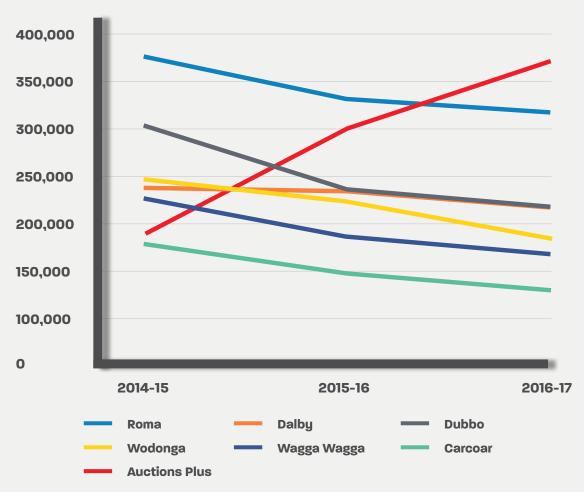


Figure 3.

This graph shows a period of strong growth in the sales of cattle via AuctionsPlus, meanwhile tallies through major saleyards have declined. As I will discuss in the conclusions, we can't presume this decline in saleyard numbers is a direct result of the increase in AuctionsPlus popularity, other factors are present.

FINDINGS AND DISCUSSION

AuctionsPlus: Present Day

Today AuctionsPlus facilitates up to 860 million dollars' worth of livestock transactions with around 17,000 registered farmers and approximately 500 auctions per annum. These include regular commercial sheep and cattle auctions as well as machinery and stud stock auctions.

AuctionsPlus has achieved critical mass and liquidity and has become an important and unique sales channel in the industry. Internet traffic supports an advertising business for third party products and services along with the recent addition of a rural-properties-for-sale marketing portal. Competitors have challenged them for online supremacy but AuctionsPlus have prevailed.

Four factors driving the turn-around in AuctionsPlus adoption rates

During my Australian visit, all stakeholders, regardless of position or speciality were asked the same question....

"In your opinion, what are the main reasons for the increase in adoption of AuctionsPlus?"

They identified the following factors as catalysts in the rise in adoption of AuctionsPlus:

 Assessor training and accreditation was opened up to livestock agents replacing a smaller dedicated team of assessors employed directly by AuctionsPlus.

In 2007 AuctionsPlus opened up livestock assessment training and accreditation to stock agents (industry experts). This killed two birds with one stone. Until then, critical mass and liquidity had been limited to the number of people on the ground accredited to do the job of assessing livestock. Opening up to stock agents gave them instant access to a nationwide network of hundreds of individuals already highly competent in the base skills required and with the relationships to turn those skills into business. Secondly, when no longer excluded the stock agents had no reason to defend their market position and discourage farmer clients from using the platform.

- 2. Circa 2010 was a tipping point in the use and affordability of high resolution digital cameras and the ability of electronic devices and internet speeds to handle the increased data associated with these higher quality photographs. In 2007 Apple launched the iPhone. This and competing cell phones eventually found their way into the hands of the stock agents and farmers I spoke to by around 2010, revolutionising their ability to be reached and to participate in an electronic marketplace. By this time camera quality had reached 5 megapixel (iPhone 4) and so a quality digital camera was placed into the hands of these early users.
- Innovative assessor agents began linking quality video footage to their listings. This was so effective that buy 2014 it was compulsory to include video footage of lots when listing on AuctionsPlus.
 - It was a common opinion of assessors that these technological milestones were vital agents in the level of trust buyers could place in livestock descriptions precluding confidence in their buying decisions and eventual satisfaction in the end result. Pictures and video can convey so much more than words as per the old adage "seeing is believing". One Agent quipped, "Buyers will judge stock based on the quality of photos and six pages of written description won't sell em".
- 4. Generational shift: Traditional methods carry momentum and a common theme of discussion with younger agent's relayed difficulties in convincing senior managers to give AuctionsPlus a go. As AuctionsPlus adoption gained momentum, younger agents (generally speaking and not exclusively) eventually won over senior managers and agency businesses simply had to get on board through fear of missing out.

Economic Comparison between Transaction Methods

When buyers, sellers and agents interact during the transaction of livestock, different components combine and materialise into the execution of a "deal". These components can be separated out and described individually as trade context processes¹.

The table below is a list of economic trade context processes and a summary of the pro's and con's experienced by each market participant during the execution of a deal on AuctionsPlus compared with using traditional saleyard facilities.

Table 1. Economic Comparison: AuctionsPlus v's Saleyard

| TRADE CONTEXT PROCESS | SELLER | STOCK AGENT | BUYER |
|------------------------|---|---|---|
| Market Exposure | Benefit: Access to more buyers. | Neutral/Positive: Access to a bigger market audience. | Benefit: Access more sellers. Potentially reduced costs of procurement activities. |
| Market Value | Higher prices due to more buyer competition | Neutral: Transparent price discovery. | Negative: Higher prices paid. |
| | and stronger negotiating position. | | Benefit: Stock in better condition on arrival/ improved Bio-security & animal welfare. |
| Payments/Settlements | No change. | No Change: Stock Agencies handle funds on delivery +14 days terms. | No change. |
| Product Representation | Cost: Payment to accredited assessor and assessment takes time. | Standardised description system. Cost: Process requires more work. | Neutral: Standardised grading system and photos/video but no visual inspection. |
| Cost of method | Benefit: Saleyard fees compared to listing fees on AuctionsPlus essential cancel each other out. Transport saving dependant on distance to saleyard. Weight loss due to extended period off feed and/or water is avoided. | Neutral: Commission charged to vendor negotiated as normal. Cost: More time to travel to farm. Benefit: No need for junior of casual staff to handle stock at saleyard. | Benefit: Can bid on stock from all over the country from any internet capable device. |
| Dispute Resolution | Through Intermediary. | Stock Agent settles dispute. A+ arbitration panel provided if needed. Avoid judicial court dispute processes. | Through Intermediary. |
| Net Benefit | Positive: Improved negotiating position. No freight costs. | Positive: Additional exchange method, better market exposure, fair price discovery mechanism. Ability to differentiate offering. | Neutral-positive: Remote buying, improved bio- security and animal welfare. Neutral freight costs. Higher prices but better livestock. |

The most important economic advantages in this comparison is the maintenance of a stronger negotiating position resulting in more control over the outcome. Farmers also avoid the unwelcome cost of trucking livestock to the saleyard location.

The same economic trade contexts are now compared between a deal on AuctionsPlus and a paddock sale.

Table 2. Economic Comparison: AuctionsPlus v's Paddock sale

| TRADE CONTEXT PROCESS | SELLER | STOCK AGENT | BUYER |
|------------------------|---|--|---|
| Market Exposure | Benefit: Access to more buyers. | Positive: Access to a bigger market audience. | Benefit: Access more sellers. Potentially reduced costs of procurement activities. |
| Market Value | Higher prices due to more buyer competition. | Benefit: Auction mechanism-true price discovery. | Negative: Higher prices paid. Better bio security/ animal condition at arrival. |
| Payments/Settlements | No change. | No Change: Stock Agencies handle funds on delivery +14 days terms. | No change. |
| Product Representation | Negative: Payment to accredited assessor and assessment takes time. | Standardised description system. Cost: Process requires more work. | Neutral: Standardised grading system and photos. |
| Cost of method | Cost: Access to platform incurs p/head listing fee. | Neutral: Commission charged to vendor negotiated as normal. Benefit: Sole agency period post sale for further negotiation with interested parties/under bidders. | Benefit: Can view and purchase stock from all over the country via description from any location. |
| Dispute Resolution | Benefit. | Stock Agent settles dispute. A+ arbitration panel provided if needed. Avoid judicial court dispute processes. | Benefit. |
| Net Benefit | Neutral/Positive: Increased costs through listing fee but increased market exposure. Maintenance of control of outcome. | Positive: Additional exchange method, better market exposure, fair price discovery mechanism. Ability to differentiate offering. | Neutral-positive: Remote buying, access to more stock. |

The Benefits of AuctionsPlus when compared with paddock selling are less pronounced, as both methods avoid trucking costs and give farmers control over the outcome. The primary advantage for using AuctionsPlus is the increased market exposure and potential for higher prices through increased completion.

The disadvantage of AuctionsPlus in this comparison would be felt by farmers and agents, who could waste time assessing stock but then fail to achieve a sale do to an overly optimistic reserve price or a lack of buyer activity.

Strengths and Weaknesses

Five Situations where AuctionsPlus is most effective.

1. On a Plateau or rising market

Common sentiment among agents was that on a rising "hot" market there was "no better place than AuctionsPlus to sell stock". Regular premiums achieved on AuctionsPlus were claimed and these claims are supported by the graph opposite which shows a comparison between the East Coast Young Cattle Indicator (EYCI) and prices achieved for the same category of cattle on AuctionsPlus.

2. When Target market buyers are using the platform For example in Australia the beef Feedlot industry

For example in Australia the beef Feedlot industry purchase large numbers of cattle and many of these buyers have a "no saleyard" policy due to animal health and performance concerns post arrival. AuctionsPlus is the best way to ensure maximum number of potential buyers have access to your stock.

3. When the vendor can tell a story about the livestock
Listing on AuctionsPlus provides a platform for farmers
to tell the full backstory including breeding, wool
characteristics, recent feeding/animal health history
or predict the performance of their stock. This type of
information helps differentiate the offering from other
lots on the market and could hold the key to a higher
value that might not have otherwise been realised

4. When trucking cost to saleyards is high

when considered at face value.

Livestock must fetch much higher prices to cover the extra cost of cartage when compared to selling on AuctionsPlus. Distance to saleyard doesn't always predict high per/head charges for cartage. Large trucks when fully laden over long distances are more economical calculated on a per head basis than small lots of stock travelling short distances.

5. It's not all about money

When in spite of any direct financial advantage, vendors selling their stock get a "feel good" sense that they are doing what's best for the animals and secondarily for the buyer. They can participate in a modern and progressive marketplace whilst maintaining traditional relationships within their business.

Four situations where AuctionsPlus is less effective.

1. When dominant buyers are not users of the platform If the greatest demand for stock from a particular area or group of stakeholders is such that saleyard selling is preferred, then regardless of the reasons the buyers will rule. (eg. Queensland Farmers and Agents prefer traditional saleyard attendance over online selling. This is a generalisation but a genuine situation that arose in the 2018-19 season when Queensland buyers helped bolster the numbers of livestock sold through saleyards in Northern NSW).

2. On a falling market

Vendors protect their position with a reserve price, and historical figures show low levels of clearance rates for auctions on a falling market with unrealistic reserve prices. This may not be conducive to efficient selling but should be acknowledged as a strength and the ultimate differentiation to saleyard auction selling is the ability for a farmer to protect their position in the market. Anecdotally, significant numbers of stock passed in on AuctionsPlus are sold during immediate post sale negotiations between parties.

3. Prime stock

Meat processors in Australia have not adopted the platform to procure sheep and cattle in any great numbers. Discussion with industry experts gave a range of reasons for this. Meat processor payments or "grids" ("schedules" in NZ jargon) are heavily structured through industry wide standardised carcass measurements. To purchase stock on a live weight or p/head basis would expose them to even only small variations in the accuracy of on farm assessment whereby outlying sheep/cattle within a lot could be purchased for considerably more than their worth to the processor as a carcass. Another point worth mentioning is that in Australia, farmers pay the cost of freight to the processor. The cost of freight to plant would be seen as an unwelcome extra cost for processors if stock were purchased on AuctionsPlus.

4. Drought

Aligning with the point made in point two above, when vendors have committed completely to quitting stock at whatever the market price will bring, and are not interested in holding stock around yards for any longer than necessary then a one way trip to the saleyards is the most effective means for a quick sale.



Figure 4. Comparison of AuctionsPlus and East Coast Steer sales data



ECONOMIC FACTORS:Comparison between Australia and New Zealand

| EXAMPLE 1 | EXAMPLE 2 | NEW ZEALAND EXAMPLE |
|---|--|---|
| Origin: Station country 750km* West of Dubbo Saleyards | Origin: Tamworth Destination: 600km North East of | Origin: Picton Destination: Dunedin, 690km south of |
| Destination: Dubbo Saleyards | Tamworth | Picton |
| B/Double Truck @ \$6.20 p/km (Loaded) \$4.90p/km (total) 120 weaner cattle 300kg avg \$38.75 p/head | B/Double truck @\$5.50 p/km96 Steers @ 307kg avg\$34.36 p/head | Unit @ \$5 p/km* 80 Steers @ 300kg avg \$43 p/head *presuming availability of a backload |
| *plus 200km travel empty | | processing availability of a backward |

Stock Freight Costs

When comparing Australia with New Zealand, we must first deal with size. New Zealand is a long skinny island and Australia is a continent. As shown in table 1, AuctionsPlus is more effective when cartage cost to saleyards is high. So in the context of an online business model where one of the most important and tangible economic benefits for its use is the avoidance of trucking costs to market, we must test and predict these benefits in a smaller, skinnier New Zealand.

These examples show that fully laden trucks over long distances are actually quite economical on a p/head basis when compared to similar scenarios in New Zealand. Even when perfect trucking efficiencies aren't achievable as a consequence of either partially loaded trucks or the absence of any "back-loading" opportunities, transport costs in Australia would be considered as equally significant or slightly less significant as a % of animal value than in New Zealand.

The exception to this rule was some very steep pricing in Australia on small lines (say 20 or less) using smaller single deck trucks over short distances (10-100km). These jobs could cost farmers between \$100-\$300 p/head depending on minimum charge structures and other variables.

The examples above show that despite Australia's size, similar economic advantages exist for both Australian and New Zealand farmers for the adoption of AuctionsPlus when considering the cost of freight. Two main factors contribute to a cost structure comparable to that of New Zealand.

- Regular distribution of saleyards throughout farming regions of Australia. A huge area is covered compared to New Zealand but there are more saleyards so farmers can generally access at least 1 major selling centre within 150-250 km.
- Larger trucks allow lower p/head cartage rates over longer distances compared with New Zealand.

The greatest contrast between the Australian and New Zealand livestock cartage sectors is the practice of charging farmers the freight on livestock delivered to processors.

The prevalence of large farmer owned cooperatives in New Zealand may help explain this divergence from Australia's largely private owned Processor industry, and could be a factor in reluctance of meat buyers to use the platform.

Climate Comparison

Australian's warmer climate is the prevalence of split calving/lambing. In New Zealand our highly defined seasonal climate and colder winters dictate the majority of our farming livestock are mated for a spring calving/lambing to avoid stress on young animals during the colder months.

From a livestock markets perspective this has important implications. With the majority of available livestock within a desired specification becoming available only once a year and with age and weight combinations distributed across only a 2-3 month period, intense competition can result among farmers and meat processors for the available stock. In these situations the increased market exposure and the auction price discovery mechanism enabled by the use of AuctionsPlus will be highly effective in New Zealand.

The remaining economic factors described in tables 1 & 2 are more easily compared with New Zealand. The fundamentals of the Australian supply chain are similar to the point that the strengths and weaknesses of the Australian platform should predict equal outcomes in New Zealand with a high degree of accuracy.

SOCIAL FACTORS: Comparison between Australia and New Zealand

Animal Welfare and Bio-security

Both New Zealand and Australia are actively pursuing better welfare outcomes for livestock in a constructive industry-wide approach (e.g. ban on calving inductions in cattle and pain relief for distressful treatments). New Zealand has not experienced the alarming and illegal militant activity of vegan activists such as raiding private property armed with video cameras as seen in rural Australia¹⁴. Groups such as farm watch have however exposed incidents of animal cruelty in NZ which in some cases have led to prosecutions and improved regulations (eg. bobby calf collection rules).

These incidents represent an extreme minority of our New Zealand agriculture story but point towards the reputational damage that can be done in the eyes of our consumers if participants right throughout the supply chain aren't doing their bit to abide by the highest standards of animal treatment.

The use of AuctionsPlus can play a role in achieving better animal welfare outcomes.

Whilst the Australian RSPCA doesn't have a formal position with regards to the use of AuctionsPlus as opposed to traditional saleyard selling, a senior scientific officer for the organisation stated that: "because of the impact of transport on animals, we encourage direct transport rather than the use of saleyards. Not only does direct transport improve animal welfare, there are also improved outcomes relating to meat quality (e.g. less bruising etc)".

This sentiment is reinforced in the buying policies of some market participants. An unknown proportion of meat buyers and feedlot operators will not purchase livestock stock from saleyards because of concerns based on either meat quality or animal health and performance post arrival.

This position was more common among feedlot buyers than meat processor buyers and links closely with another consideration: Bio-security.

The importance of bio-security in Australia is equally as important in New Zealand, especially in the cattle business with the recent incursion of Mico-plasma Bovis. The transit of cattle through saleyard facilities has led to a genuine increase in the likelihood of contact with an animal of interest to the Ministry for Primary Industries (MPI). Hundreds of these cases have resulted in minor or major disruption to farming businesses and in the worst case, complete "depopulation" of a farm (slaughter of all cattle on hand).

Bio-security is relevant to sheep also. Footrot and lice are spread easily between sheep although it would be difficult to accurately quantify or predict this risk. It is unlikely to be a major cost in real money terms and peace-of-mind is probably the greatest benefit.

Saleyard Culture and Tradition

As already outlined, the importance of Saleyard Auctions as social events where farmers have the opportunity to get off farm and catch up with friends and neighbours shouldn't be under estimated as a vital factor in considering whether to adopt AuctionsPlus.

These Australian findings equally relate to New Zealand, due again to the fundamental similarities between New Zealand and Australia. Pockets of the New Zealand hinterland still cherish the tradition of a family day out at the saleyard as witnessed around the country on sale day. Whilst an important date on some calendars, it has to be acknowledged that these occasions are not as significant as they once were. Even without the influence of an online marketplace, smaller regional saleyards have been closing down throughout provincial New Zealand over the last decade in favour of larger selling centres. With stock being drawn from further afield, weekly sales are usually the domain of stock agents, stock truck drivers and only the most active or enthusiastic livestock traders.

From the perspective of the Farmer-Livestock Agent relationship, as in Australia, attempts to disrupt this mode of transaction in New Zealand on any significant scale have been unsuccessful. The majority of farmers in New Zealand still opt to use the services of a stock agent and meet the associated costs of commission (4-6%). The merits of an online system that maintains these relationships, requires high levels of professionalism from agents along with the benefits mentioned above, has equal potential in the New Zealand market.

AUCTIONSPLUS: Widespread industry impact or a successful niche business?

When working alongside avid users of AuctionsPlus and subscribing to their suite of communication channels (email newsletters, Facebook, YouTube) it's easy to be seduced by the idea the company has transformed the way farmers in Australia are doing business. The raw numbers don't support this.

Commercial sensitivity restricted collection of useful data to publicly available media releases and these indicate that by 2017 AuctionsPlus handled approximately 3% of Australia's cattle market and 7.5% of sheep, well short of publicly targeted aspirations of 20% of Australia's livestock trading market by 20207.

However the company's current achievements shouldn't be under appreciated. Given the growth in raw numbers of livestock sold though AuctionsPlus in recent years, and market share in the likes of New South Wales and Victoria it is highly likely that representations of their market share and user base in the mid 2000's were overly optimistic.

Acknowledgement of the difficulty to collect data across this vast, geographically scattered industry warrants caution when making comparisons of data sets across time.

In 2007 194 saleyards were listed as "operational" ⁸ holding predictable sales usually on a regular basis. By 2018 this number had dropped to 174 ⁹. Some industry experts suggest saleyard throughput has remained relatively stable during the last 25 years ¹¹ and, in defiance of the rising popularity of online auctions new saleyard developments have continued to emerge around Australia.

Independent surveys of saleyard throughput paint a different picture. Comparison of 2017-18 figures with a Hassall & Associates (2007) survey of saleyard throughput indicate a decline in cattle numbers from 6 million to 4.3 million and 19 million to 16.4 million in sheep8. Differences in survey methodology and only a 66% response rate for the 2017-18 study limit the insights provided by these figures to generalisations rather than any statement of fact.

The fluctuation of national sheep and cattle numbers also play a part. During the same 10 year period cattle numbers have varied from 28 million in 2007 to as high as 29.2 million in 2013 and as low as 26.2 million in 2016¹³. Sheep have shown a more stable decline of 90 million in 2007 to 70 million in 2017¹². It is highly probable that these fluctuations, the result of mass stock liquidation then restocking driven by drought and market pricing have more to do with the throughput of Australia's largest saleyards than the rise in adoption of AuctionsPlus.

The real story has been in the closure and consolidation of smaller saleyards into larger more efficient state-of-the-art-regional-selling-centres. On the ground there was a good consensus among agents and farmers that the popularity of AuctionsPlus had accelerated the demise of some smaller regional saleyards but that the new larger saleyard developments had driven the trend.

Investment Company RLX (Regional Livestock Exchanges) has over the 10 years between 2008 and 2017 invested \$262 million into saleyard infrastructure¹¹.

My visit to Tamworth RLX laid bare the quality of these facilities which most certainly provide vastly improved animal welfare and health and safety outcomes when compared to scattered, smaller scale facilities they have replaced over the years.

In response to online competition, management had recently begun live-streaming video of their onsite store stock auctions however this has been met with mixed enthusiasm. The initiative needs more development before being of much use to online buyers. Poor lighting, limited filming vantage points and variable internet connection speeds will need to be overcome. There is also potential for buyers to become disgruntled after making the effort to travel and attend a sale to then be outbid by an online user.

Physical saleyards still hold the keys when establishing the market price for all categories of livestock. On a national and regional basis, saleyards collectively transact more stock than any other means by which data can be accurately and regularly collected. This data is consolidated and represented to market participant's via media or paid subscription services.

The Saleyard sector after a period of rationalisation is in good shape, however saleyard selling is only one of the alternative methods to AuctionsPlus. Paddock sales occur within the privacy of the people directly involved with the transaction and no data exists to accurately quantify this method of transaction.

CONCLUSIONS

Despite fundamental differences in rural Australia's scale and climate, any differences in industry dynamics and social structures are only subtle.

The future of an internet based livestock auctions platform in New Zealand is exciting and the Australian case study shows that a healthy balance can exist between traditional sales channels and this new innovation.

The Livestock market can be a combative trading environment, although one method need not seek to wipe out the other. In any case, available data only points to a loose relationship between reductions in saleyard numbers with the growth of AuctionsPlus. Competition should drive efficiencies and innovation right across the livestock supply chain to deliver industry wide benefits.

The days of measuring business success in the New Zealand Primary sector purely in economic terms are over. Social, environmental and cultural values are increasingly important and the Australian RSPCA has sent a clear message that if farmers want the best possible animal welfare and performance outcomes for their stock then direct farm to farm transport is a positive step in the right direction. Largescale feedlot operators back this up with their buying decisions, and all buyers have consistently chosen to pay more for their livestock when using Australia's online saleyard.

Growth in adoption will need to be carefully managed to ensure a quality user experience for all parties. Pursuit of rapid growth in livestock sales in a race for dominance could compromise standards, user experiences and lead to counterproductive delays in the establishment of institutional trust.

The challenge for a New Zealand version of the platform is to achieve critical mass with a business model that can sustain ongoing capital investment in technology and human resources and pay a dividend to its shareholders.

Australia has been able to achieve this critical mass even at relatively low levels of market adoption, the question is whether a high quality New Zealand platform can get enough market penetration before the money runs out.

RECOMMENDATIONS

Quantify

Investigate where the opportunity lies within the New Zealand market.

- · Which class and age of livestock to target?
- · When to target them?
- · Who will be the buyers?
- How big is this market and what is a realistic market share?

Engage the Stock Agencies

Establish relationships with key agencies at board level because initially adoption will not be farmer led, it will be agent led. Some agents will fear change, others will embrace it. Get these early adopters on board and build on their existing skills base with additional training in objective livestock assessment.

Promote and Educate

Build awareness through targeted marketing campaigns using print, television and social media. If a market is to be widely adopted then it will need to be visible. In time farmers will become more active in moving their trading activities toward this online market.

REFERENCES

- 1. Kanbil, A., and van Heck, E. Making Markets. Boston: Havard Business School Press. 2002.
- Rickards, P., Lacey, R. and Griffith, J. "Report on the feasibility and economics of establishing a network for Electronic Sale of Sheep and Cattle Throughout Australia", in Agricultural Business Research Institute Working Paper, University of New England, Armidale, NSW, Australia, 1983.
- 3. Auctions Plus, retrieved 15/3/2019 https://auctionsplus.com.au/auctionsplus/about
- Driedonks, Gregor, Wassenaar and van Heck, Economic and Social Analysis of the adoption of B2B Electronic Marketplaces: A Case study in the Australian Beef Industry, International Journal of Electronic Commerce, Vol. 9 No.3 (Spring 2005)
- Roger Clarke and Michael Jenkins 1991, 1992, 1993 Journal of Strategic Information Systems 2, 1 (March 1993) 57-76
- 6. Rogers, E.M. Diffusion of Innovations, 4th ed. New York: Free Press, 1995.
- 7. https://farmersweekly.co.nz/section/sheep/view/online-auctions-see-massive-growth April 19th 2017, retrieved 10/4/2019
- Paul A. Pavlou, David Gefen, (2004) Building Effective Online Marketplaces with Institution-Based Trust, Institute for Operations Research and Management Sciences (INFORMS)
- Meat and Livestock Australia, retrieved May 2019, www.mla.com.au/prices-markets/market-news/saleyard-surveyinsights/
- 10. Hassall and Associates, "A Review and Analysis of Saleyard Marketing in Australia" (2007)
- 11. Beef Central 2018, Retrieved 15/5/2019 https://www.beefcentral.com/markets/multi-million-dollar-investments-point-to-strong-future-for-saleyard-selling/
- 12. Australian Wool Innovation Ltd, 2018 Retrieved 10/5/2019 https://www.wool.com/market-intelligence/sheep-numbers-by-state/
- 13. Meat and livestock Australia, retrieved May 2019 https://www.mla.com.au/globalassets/mla-corporate/prices-markets/documents/trends--analysis/fast-facts--maps/mla_beef-fast-facts-2018.pdf
- 14. News Hub retrieved May 2019 https://www.newshub.co.nz/home/lifestyle/2019/03/meat-the-victims-hundreds-of-vegans-trespass-australian-farm-in-protest.html

