Measuring Employee Turnover in Australian Pig Production

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ABSTRACT

Limited availability of competent and motivated staff has been repeatedly cited as one of the major constraints on pig production in Australia. Whilst a considerable effort is put into training staff (Western Australia boasts the most advanced training facility in South-East Asia), practically nothing is known about the rates of employee turnover. Based on a postal survey and case studies of high and low turnover piggeries, this paper provides the first objective measures of staff turnover in the pig industry and explores possible explanatory factors. Measurement of turnover can provide managers with a benchmark to assess their own performance. This study also revealed shortcomings in the standard Separation Method used by the Australian Bureau of Statistics when it is applied to relatively small businesses. Alternative measures were calculated and are discussed.

BACKGROUND

Effective adoption of new technologies requires appropriately skilled staff. Whilst efforts to train staff vary across the Australian pig industry, it is generally agreed that much of this skill is lost annually due to high staff turnover in piggeries. Anecdotal evidence suggests annual turnover of around 20 per cent for piggeries (WAPIT 1997, Bent and Harmon 1999). Published statistics show a turnover of about 8 per cent for agriculture as a whole, but no details for sectors within agriculture (Cully and VandenHeuvel, 1999). Prior to this study no quantitative measures of turnover were recorded for the Australian pig industry.

AIM

The aims of this research were to quantify the turnover rate for the pig industry and explore the factors that affect it.

METHOD

A postal survey was mailed in 2000by Agriculture Western Australia (AgWA) to 100 of the largest pig producers and 50 randomly selected other producers in Western Australia. Information was sought concerning the manager, the piggery and its location and staff who were either currently employed or had left in the last 12 months.

The 46 responses received represented 60% of pig production in WA. Quarter of the piggeries with 100-200 sows and 85% of piggeries with >200 sows responded (Table 1). Seventy percent of piggeries in WA have <50 sows and are unlikely to have specialist pig staff.

Table 1 Distribution of respondents

Herd size (sows)	Population (herds)	Respondents (herds)	% Sows in state
0 - 99	362	12	<10%
100 - 399	61	20	40%
> 400	13	14	85%
Total	436	46	60%

Two of the larger piggeries that were identified from this survey as having either very high or low turnover were later used as case studies to explore qualitative aspects of employee motivation.

TURNOVER RATE

The measure of turnover used by the Australian Bureau of Statistics (ABS) is the Separation Rate. This measure expresses the number of employees leaving during the year as a percentage of the average of the opening and closing number of employees. For example if you start the year with 5 employees and finish with 6, then the average is 5.5. If you lose 2 employees during the year, the separation rate will be 2/5.5 = 36%. (Obviously you must have recruited 3 employees in this example to make up the numbers).

In this study, the average turnover rate was 34.3% for all piggery staff including family members, and 45.8% for all employees excluding family members (Table 2). The average for agriculture in 1996 and 1998 was about 8% (ABS).

Whilst the average turnover in piggeries is nearly six times that of agriculture as a whole, there is a wide distribution of results. Nearly half the piggeries had no turnover in 2000, roughly a quarter had a turnover of 100% or more and the rate went as high as 200% for one business. Figure 1 shows the distribution of turnover rates as well as the average for the survey and the average for agriculture as a whole.

Figure 1: Employee Turnover
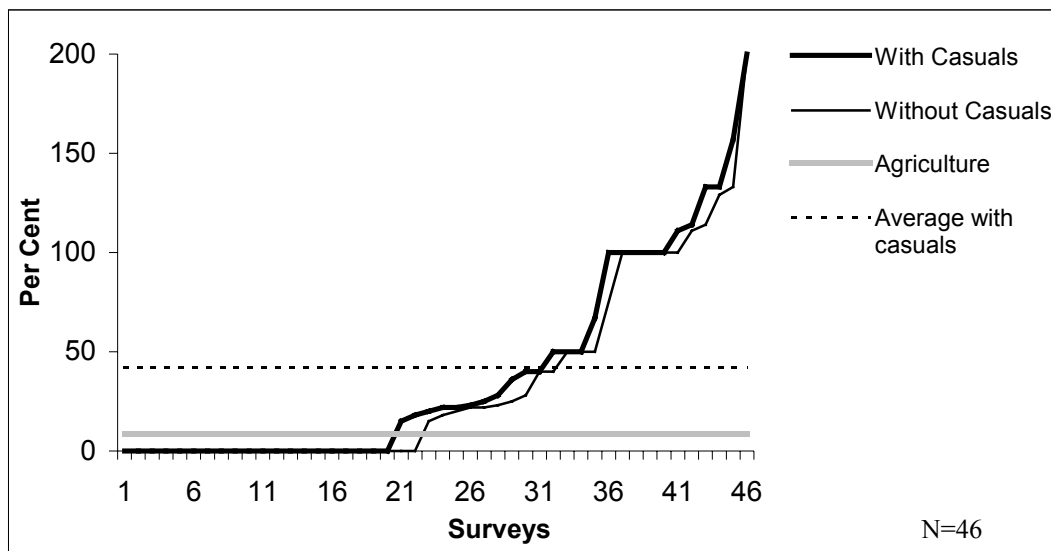
One of the problems with the Separation Rate is that it can change dramatically in businesses with small numbers of staff. The average number of staff for the whole sample was 4.8, and the average for the smaller half of the sample (farms with less than 200 sows) was 2.7. The impact can be quite dramatic when one or two staff leave workforces of this size. This is one reason why there are several results of 50% and 100% in Figure 1.

Calculating turnover by the separation rate allows comparison with other sectors. However it appeared too crude for inter-farm comparisons. Small numbers of employees meant that turnover was often 0, 33, 50 or 100%.

An alternative measure that we examined was Average Length of Service (ALoS). This figure gave a smoother distribution of results, but it too has some limitations. The average length of service was 90 months for all current staff (including family/owners). However for current employees (ie excluding family and owners) it was lower at 33 months. The average length of service for the employees that left in the last year was only 12 months.

Table 2 Staff turnover and length of service

	All staff	Employees
Turnover	34.3 %	45.8 %
Length of Service	90 months	33 months

N=46

FACTORS AFFECTING STAFF TURNOVER

Multi-variate regressions were run to examine the effects on ALoS of ownership, sow numbers, distance and size of nearest town, manager's qualifications and experience.

$$\text{ALoS (in months)} = 247 + 5.27\alpha + 6.92\beta + 2.38\gamma - 0.22\delta - 0.42\varepsilon - 41.76\zeta$$

$$(r^2 = 0.58)$$

Where α = ownership; β = manager's qualifications; γ = manager's experience in years; δ = Ln population of nearest town; ε = km to nearest town and ζ = Ln no of sows.

Average length of service was positively correlated to manager's experience (P<0.027) and negatively correlated to sow numbers (P<0.001). No other variable was statistically significant.

The Australian Bureau of Statistics (*The West Australian* 19/2/00) reported that men in agriculture, forestry and fisheries in Australia earn the lowest of any industry at $547 a week. This is very close to the average wage of $530 that was recorded in this survey. This appears to support the claim that wages in agriculture are relatively low and may be a reason why people are reluctant to take positions in these industries. However the

number of respondents providing this information was too small to allow a statistically reliable conclusion to be drawn on the relationship between pay and turnover.

CASE STUDIES

The case studies of piggeries with very high or low turnover highlighted the importance of relationships between managers and staff as a crucial determinant of employee satisfaction. The high-turnover piggery had a young manager and, although the management practices and facilities could be considered best practice, the relationships between staff and management were clearly not as good as in the low-turnover piggery where facilities were older and the management was more experienced but traditional.

Preliminary conclusions from the case studies indicate that staff are more interested in management style and the way that they were treated rather than wage or financial issues.

BENCH MARKING

Producers taking part in this study were sent a plain English report on the results of the study. They also received a tabulated benchmark report (see Annex 1). These producer reports allowed managers to identify their staff turnover relative to others of a similar size. They could identify whether they were exceptional in terms of turnover but also in terms of the size, geographical location of the piggery and their own age and experience. Given the extremely high levels of turnover in the WA industry, these reports allowed managers with modest rates of turnover to appreciate the relative significance of this issue. Benchmark reports also provided a method of data validation.

FURTHER RESEARCH

This research has highlighted areas for further research in this field. The pig industry could benefit from research into: the effect of wage on turnover; the difference between turnover in indoor and outdoor piggeries; exploring the reasons for the higher turnover in larger piggeries; and the calculation of a turnover rate for the pig industry across Australia.

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BIOGRAPHY

Emma Evans is a recent Honours graduate of Muresk Institute of Agriculture. She has worked for the largest pig producing company in Western Australia and for pig consultants, Portec (Australia).

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Annex 1 Sample benchmark report

	Average	Under 200[1] sows	Your results	Over 200[1] Sows		
				Low third	Middle third	High third
Number of Farms	46	23		7	8	8
All Staff Turnover (%)	34.3%	21.1%	66.7%	62.3%	32.7%	35.1%
Employee Turnover (%)	45.8%	55.8%	100.0%	71.7%	32.7%	51.0%
Farm Descriptives						
Number of Sows	408	87	95	334	1048	809
Number of Weaners	3410	687	700	4806	7243	5680
Size of Piggery (ha)	1637	1719	800	1330	1060	2256
Distance to Town (km)	25	24	70	27	21	29
Population of Nearest Town	6718	6877	12000	3200	11094	4967
Manager Age (years)	48	50	52	43	44	54
Number of Years in Industry	22	23	25	15	15	29
Number of Years with Responsibility	19	21	20	13	17	25
Current Staff						
All Staff (nos)	4.8	2.7	3	4.7	10.9	4.8
Average all staff length of service (months)	90	141	69	16	32	83
Average all staff age (years)	37	41	45	36	31	36
Employee (nos)	4.7	1.8	2	4.1	10.9	3.7
Average employee length of service (months)	33	32	11	19	33	50
Average employee age (years)	37	41	47	40	31	36
Staff Left						
Employee (nos)	2.8	1.5	2	3.2	4.3	2.6
Average employee length of service (months)	12	3	15	18	21	25
Average employee age (years)	31	28	22	34	30	33