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Valuing Feedyard Management Education, Experience, and Expertise

Rik R. Smith
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Summary

This study uses a mail survey to determine the value Nebraska feedyard operators place on education, experience, and area of expertise in new assistant manager hires. Using conjoint analysis, calculations are made that estimate the marginal value of moving from one level of these attributes to another. Results show that operators preferred higher levels of education and experience. However, relevant experience was preferred over formal education. As an area of expertise, animal health was valued highest by operators of feedyards in all size categories for new assistant managers. Personnel management was valued lowest. Results suggest prospective assistant managers can maximize starting salary by gaining moderate levels of education and experience with an expertise in animal health.

Introduction

An individual feedyard must balance the need to attract quality labor through competitive wages with the need to keep labor costs low and the operation profitable. Average salary and compensation levels across Nebraska feedyards indicate that labor costs continue to increase substantially (University of Nebraska—Lincoln Extension Circular EC04-836, *Nebraska Feedyard Labor Cost Benchmarks and Historical Trends*, Smith, R. R., and D. R. Mark). A better understanding of the value placed on employee characteristics such as experience and education levels or an area of expertise will help employers set salary or wage levels appropriate to the skills they seek. Additionally, by understanding the value of skills possessed by potential

new employees, employers could better recognize valuable attributes of job candidates and fit them to available positions in their operation. Further, knowing the value that agricultural employers place on job experience, educational training, and other employee characteristics can enable potential employees to seek positions for which they are best qualified and allow them to target their training and experience to gain employment in particular positions in agricultural operations. People seeking a position as an assistant manager in a feedyard will have a better understanding of the traits and characteristics operators are looking for in new hires so they can target their training and education for an assistant manager position. This study estimates the value that cattle feedyard managers place on education, experience, and expertise for new assistant managers.

Procedure

In March 2004, surveys were mailed to 198 feedyard operators across Nebraska followed by a second mailing two weeks later. Feedyards surveyed ranged in size from less than 1,000 head (one-time capacity) to over 50,000 head and were selected from Nebraska Cattlemen's commercial cattle feeders list. In addition to questions about feedyard demographics and other general questions, respondents were presented a hypothetical situation in which they were asked to consider 16 candidates for an assistant manager position in their feedyards. The hypothetical question was designed to determine feedyard operators' preference for assistant manager attributes. The hypothetical candidates in the experimental question were considered exactly alike except for four areas: Education, Experience, Area of Expertise, and the Salary necessary to hire them. There were

Table 1. Assistant manager candidate attributes and attribute levels.

Attribute	Level
Education	High school
	Some college, no degree
	Two-year degree
	Four-year degree
Experience	No experience
	< 2 years experience
	2-4 years experience
	>4 years experience
Expertise	Nutrition
	Animal health
	Ag Econ/Marketing
	Personnel Management
Salary	\$18,000
	\$24,000
	\$30,000
	\$36,000

four possible levels or areas for each attribute, which are listed in Table 1. Because there are 256 possible combinations of candidates using the four levels of the four attributes, a reduced-form design was used to select 16 candidates with unique combinations of the attributes (no candidates had the same combination of any two given levels of attributes).

The respondents were asked to rank each candidate from 1 to 7 to represent their likelihood of hiring each candidate. A response of 1 indicated the respondent was very unlikely and 7 very likely to hire each candidate. These rankings were then used as a measure of satisfaction that the survey respondent (feedyard operator) placed on each hypothetical candidate. The satisfaction measure for each candidate was then modeled as a function of the education, experience, expertise, and salary requirement attributes that candidate possesses. Ordinary least squares regression was then used to estimate parameters of the model for each attribute level. Additionally, using conjoint analysis and the parameters from this satisfaction model estimated with ordinary least squares regression, dollar values were calculated for

(Continued on next page)

Table 2. Valuation of assistant manager candidate attributes by feedyard operators.

Value of	Relative To	All Yards	Feedlot Capacity		
			Over 12,000	4,000- 12,000	Under 4,000
Some college, no degree	High school	\$6,383	\$10,500	-\$837	\$12,676
Two-year degree	Some college, no degree	\$16,364	\$5,250	\$24,837	\$16,056
Four-year degree	Two-year degree	\$17,176	\$22,500	\$23,442	\$1,690
< 2 years experience	No experience	\$32,959	\$31,500	\$42,419	\$20,282
2-4 years experience	< 2 years experience	\$23,095	\$16,500	\$38,233	\$7,606
>4 years experience	2-4 years experience	\$14,971	\$9,000	\$27,628	\$2,535
Animal health	Nutrition	\$9,632	\$6,000	\$15,907	\$4,225
Ag Econ/Marketing	Animal health	-\$12,418	-\$14,250	-\$9,767	-\$14,366
Personnel management	Ag Econ/Marketing	-\$12,070	-\$3,000	-\$22,326	-\$6,761

the various levels of each attribute. These represent the marginal value of switching between levels of a given attribute. In other words, it is possible to determine how much it is worth as a potential assistant manager to have a four-year college education relative to a two-year college education. Similarly, feedyard managers can determine how much more they will have to pay a new assistant manager with a four-year degree relative to a two-year degree. This is known as the compensating variation or willingness to pay (WTP) to switch between levels of a particular attribute.

Results

Fifty-nine usable surveys from the 198 distributed were returned for a response rate of 29.8%. The average feedyard responding had a maximum capacity of 9,473 head with a current on-feed inventory of 7,699 head and an annual inventory turnover of 2.26 times per year. This resulted in approximately 17,400 head marketed per year for the average feedyard (based on on-feed inventory). The average feedyard had a total annual labor expense of \$354,822 including salaries, benefits, and bonuses. Based on this total labor expenditure, average labor cost per headday produced was about \$0.10. Additional results are available in Smith and Mark.

The parameters estimated using ordinary least squares regression for the different attribute levels were statistically significant at the 0.10 level or better. These parameters were then

used to calculate feedyard managers' WTP for the various attributes, which are listed in Table 2. The results are reported for all feedyards surveyed and are also grouped according to feedyard size. The values represent a salary tradeoff between the job candidate attributes and salary requirement (minimum salary necessary to hire that candidate) and can be interpreted in one of two equivalent ways (Smith, R. R. "An Evaluation of Feedyard Management Training and Experience." *American Journal of Agricultural Economics* 86(Num-ber 5, 2004):1377-1383). First, the values represent how much more a feedyard operator would be willing to pay a candidate with attribute X_2 relative to X_1 (assuming attribute X_2 is more valuable than attribute X_1). Alternatively, a manager would only hire a candidate with attribute X_1 if the salary was lower than the salary of the candidate with attribute X_2 by the value in Table 2. For example, the first row of Table 2 indicates a feedyard operator would pay an assistant manager candidate with some college but no degree \$6,383 more than a candidate with a high school diploma, everything else equal. The alternative interpretation is that the feedyard manager would hire the candidate with the high school education instead of the candidate with some college but no degree if the salary for the former candidate was \$6,383 lower than for the latter. The values are also additive within the same attribute category. For example, managers would be willing to pay a candidate with a

two-year degree \$22,747 (\$6,383 + \$16,364) more than a candidate with a high school education.

Based on Table 2, feedyard managers appeared to place relatively more importance on experience than education in hiring assistant managers. They would pay a candidate with less than two years of experience \$32,959 more than a candidate with no experience. This implies a strong tendency against hiring assistant managers with no experience. As an area of expertise, animal health had the highest value to feedyard managers relative to nutrition, marketing, or human resource management. This supports the idea that assistant managers are most involved in production phases of feedyard management rather than marketing or personnel decisions.

The WTP values met expectations and were fairly intuitive. Based on average salaries reported in Smith and Mark, the WTP values may appear somewhat overstated. Essentially, high WTP values can be viewed as penalties to candidates *not* having a certain attribute. In other words, there is a strong disincentive for hiring the candidate without the attribute having a high WTP. More interesting is the relative magnitudes both within a given attribute and between different attributes or different sizes of feedyards. For example, the largest WTP for experience was from no experience to less than two years. After that, the marginal value decreased for each increase in experience. This pattern held across all sizes of feedyards.

The education attribute showed some variation for feedyards of various sizes. Across all feedyard sizes, operators placed the highest value on a four-year degree. However, operators at feedyards under 4,000 head placed relatively low marginal value on a four-year degree relative to a two-year degree (\$1,690) than did operators at feedyards with capacity of 4,000 to 12,000 and over 12,000 head (\$23,442 and \$22,500 respectively).

Within the expertise category, animal health was valued highest by feedyard operators in all size categories. While personnel management had the lowest value for operators in all size categories, operators of feedyards over 12,000 head placed relatively more value on personnel management than did operators at smaller size feedyards. This result was somewhat intuitive considering larger feedyards have more employees to manage.

One important point to consider in interpreting these size-based results is that in answering the hypothetical

question, respondents were not given a job description as to what responsibilities the new assistant manager would have. This left the perceived role of an assistant manager up to the interpretation of the individual respondents. Therefore, it is quite likely that a respondent at a feedyard of 50,000 head would have different expectations for an assistant manager than a respondent at a feedyard of less than 4,000 head. The variation observed in WTP calculations for feedyards of different sizes, particularly for the expertise variable, can be attributed, at least partially, to the different job expectations respondents would have for an assistant manager at their feedyards.

Implications

The results of this study are important in quantifying the value feedyard operators place on education, experience, and expertise in potential assistant manager hires. The values can

be used by feedyard operators when structuring salary differentials to offer competitive salaries to qualified candidates while discounting salaries for those candidates possessing attributes with lower value. Further, individuals interested in a career in feedyard management can use the results to determine how to best position themselves in order to maximize starting salaries. A good program for doing so may involve a college degree in animal science or animal health with time spent doing internships and working at feedyards to gain valuable experience. Results suggest programs that offer a mix of formal education and relevant experience in animal health may have an advantage in producing students who are well suited to the needs of Nebraska feedyard operators.

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