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ORIGINAL ARTICLE

The links between management's critical success factors and farm level economic performance on dairy farms in Sweden

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Abstract

Management's critical success factors (MCSFs) are used to indicate how farm profits develop, but their usefulness as profitability predictors has previously not been analyzed statistically. This paper explores the usefulness of some commonly used MCSFs in Swedish dairy farms, by investigating whether the MCSFs are significant predictors of economic efficiency. Further, the paper takes a comprehensive view of evaluating farm level efficiency, in that all major input and output efficiency scores are estimated. Previous literature has focused on only one score, or on only one perspective. Our results show that cost efficiency is the more problematic part of the profitability process. Especially the allocative part needs to be improved. Moreover, the results show that the MCSFs milk quality, herd fertility and involuntary culls ratio may

not work as indicators of economic performance, whereas milk yield per cow and the mastitis ratio are significant indicators.

Keywords:

- Allocative efficiency
- bootstrapping
- data envelopment analysis
- economic efficiency
- logistic regression
- technical efficiency

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Notes

1. Of course, it can be argued that a loss of information occurs when the cost and revenue efficiency scores are transformed into 0–1 variables and that this would influence the results. Even though not applicable to the third group, i.e. to being both cost and revenue efficient, a Tobit regression could be used to determine the impact of the MCSFs on cost and revenue efficiency in turn. When this was done, only the impact of milk yield was found to be significant at conventional levels of significance. This impact was positive and counted for both cases. Thus, neither the impact of the mastitis ratio nor the impacts of the protein content, herd fertility or involuntary culls ratio were significantly different from zero in the Tobit regressions.

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