

Background

- Role of farmer as a manager: to control use of resources to achieve goals of farming
 - Part of the variation in performance of farms should be allocated to management
 - Efficiency and profitability
- Management as the fourth factor of production with nature, labor and capital



Definitions for management

- Harsh et al. (1981), James and Eberle (2000), Turner and Taylor (1998), Olson (2004)
 - Management is about allocation of resources to achieve the goals of farming
- Castle et al. (1987)
 - Management is about decisions to affect farm profitability
- Kay et al. (2008):
 - Management defined as functions of planning, implementation, control and adjustment

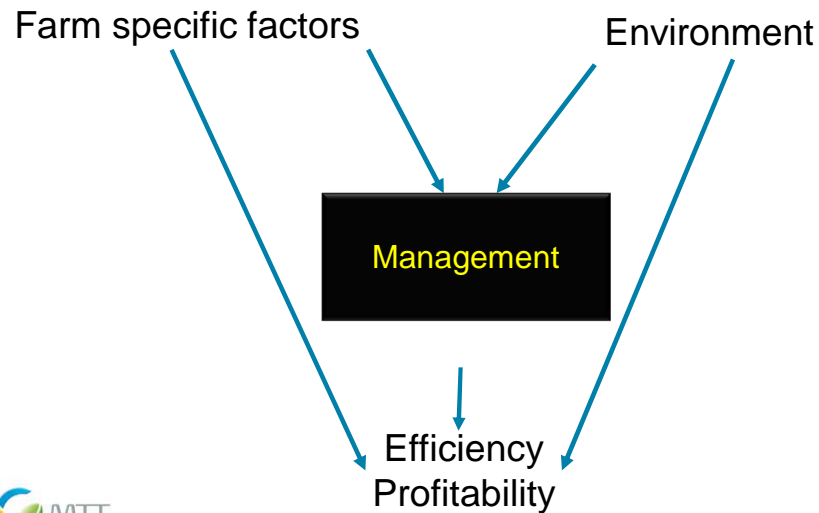


Researching farm management

- Importance of management is recognized, but how to measure it?
 - Typically used
 - factors relating to farmer's biography: age education, experience, background
 - proxies of production methods and choices
- These are usually not very good as explaining factors of farm performance



Management as a factor of performance



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Management capacity

- On farm management textbooks...
 - lot of attention to production and cost theory, resource allocation, optimal input/output mixes
 - management accounting tools to aid the manager in decision making and assess the performance are comprehensively covered
- The manager and his capacities and abilities is a key factor
 - determine how well these tools, principles and information is utilized in decision making situations
- Management capacity includes manager and the management process: *"having the appropriate personal characteristics and skills to deal with the right problems and opportunities in the right moment and in the right way"* (Rougoor et al. 2008)



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Typical in research of farm management

- “how do certain management practices affect performance?”
- “what aspects of farm or farmer can explain certain managerial behavior?”
- Productivity and efficiency as the dependent variables
- Not much attention to profitability as the dependent variable!



Goal of this study

- to advance understanding of the composition of management capacity and its role on achieving the financial goals of farming
- to analyze how farmers' **managerial thinking** and **management process effectiveness** as components of management capacity contribute to **profitability**

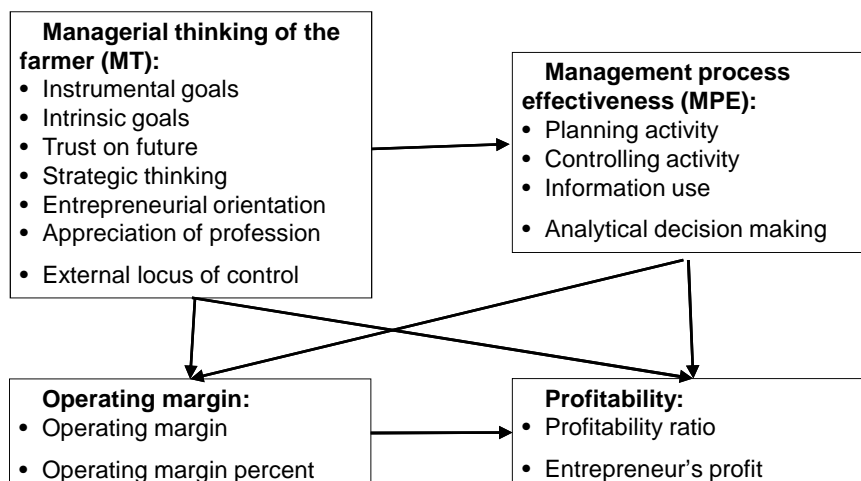


Main concepts

- Two components of management capacity defined:
 - Managerial thinking (MT):
 - farmer's thinking and personal position as regards to the business activities and management of farm
 - Management process effectiveness (MPE):
 - planning, control and information –related activities of farmer's management process.
- Financial success of farms in two viewpoints
 - Operating margin – short term importance
 - Profitability – long term importance



Theoretical proposition



Data

- Survey on bookkeeping farms 2010
 - Scales to measure components of management capacity
- 117 dairy farmers answered
 - Response rate 32%
 - Small data □ simple statistical model
- Bookkeeping data: averages of 2008 – 2009 results

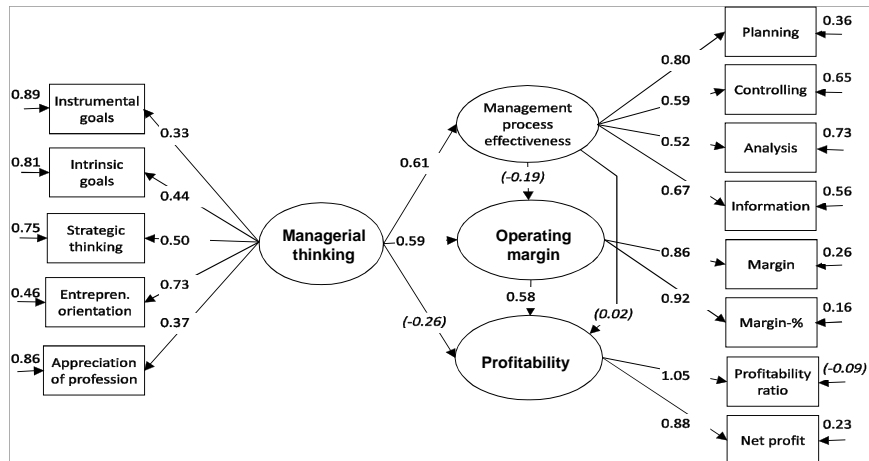


Operationalization and analyses

- Factor analysis
 - summated scales of variables that measure components of management capacity
- Structural equation model (SEM)
 - measurement part: manifest (observed) variables as reflections of latent constructs
 - structural part: theory-implied causal relations between latent constructs



Results: the structural model



Model fit : $\chi^2=87.05$ (df=59, $\chi^2/df=1.48$, $p=0.0102$), RMSEA=0.064 (0.032 – 0.091), CFI=0.931, SRMR=0.0799



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... results

- R-squared: how much of variance of dependent constructs can be explained with independent constructs?
 - 37% of variance of MPE could be explained by MT.
 - 25% of operating margin could be explained by MT and MPE together
 - 26% of profitability could be explained by MT, MPE and operating margin together



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...results

- The first component, managerial thinking (MT):
 - connected to profitability of farm both in short and long term indicators:
 - connection to the long term profitability goes via the short term operating margin
 - farmers scoring highly on managerial thinking have received higher operating margin than farmers with lower level of managerial thinking

- The second component, management process effectiveness (MPE):
 - clearly connected to managerial thinking -component
 - farmers scoring highly on managerial thinking were active in tasks relating to management process: information gathering, data analyzing, planning and controlling
 - **Not connected to financial performance indicators!**



Conclusions

- Connection between management thinking and financial performance of farm: how would it work?
 - managerial thinking -factor is a latent trait of manager
 - not a set of actions or decisions
 - **properties of the farmer** behind the decision making and implementation of decisions.
 - a mindset that contributes to decision making and farming actions so that it advances good financial result



...conclusions

- Essential for a relatively good performance is that farmer:
 - has a clear vision how to develop farming in the long run
 - has a recognized business plan, investment plans and identified short term goals
 - has a firm confidence on his managerial skills
 - sees the farm as an entrepreneurial business unit
 - follows principles of business management
 - has a strong emphasis on instrumental and intrinsic values of farming
 - has a high appreciation of his occupation, proud of being a farmer



...conclusions

- MPE was not connected to financial results of farm (earlier studies show mixed results):
 - management capacity has been operationalized in different studies in many different ways
 - generalisations must be made with caution
 - relatively safe to argue, that especially personal aspects of manager play an important role in management capacity and success of farming.
 - Öhlmér and Lönnstedt 2004: analytical and intuitive processes are both present in decision making procedures
 - analytical thinking and working alone do not necessarily make differences in farm performance
 - the intuitive part of decision making should be taken into account



...conclusions

- Other explanations for weak connection between management process effectiveness and farm performance:
 - quality:
 - amount of doing doesn't guarantee correct outcomes
 - more important to perform the decision making correctly with selected information
 - life cycle of farm business and long time development of farming:
 - Recent investments or changes in farming system lead to decreased performance
 - at the same time farming system requires lots of managerial activity
 - increased managerial activity may be a consequence of poor performance of the farm:
 - necessary to find out reasons and search for solutions
 - combination of low performance and high managerial activity.



Evaluating the study

- The framework utilized in this study provides a good base for analyzing the role of management capacity.
 - Would be better to model managerial thinking as individual latent traits
→ *more data...*
 - long term development of financial performance should be covered
 - development of management capacity should be covered:
 - shapes up along experiences and learning
 - other aspects of the farmer should be covered:
 - biographic factors, intelligence and psychological traits.
- A more holistic analysis of farmer, management, farm, environment, and time span would be desirable!
- → **better theory, better models!**



We need high quality data
combined with well developed theoretical models!

Thank you!



Survey items for managerial thinking of farmer

Instrumental goals: How important are the following in your farming

- high income
- increasing farm equity
- high return on investments

Intrinsic goals: How important are the following in your farming

- safe and steady income
- possible to be a full time farmer
- leisure time and hobbies
- working with plants and animals
- good place to raise children
- ensuring welfare of animals

Trust on future

- I am expecting better economical conditions for farming in 10 years
- I am expecting better financial result for the farm in 10 years
- I am expecting better livelihood for the family in 10 years



Strategic thinking

- I have a vision how to develop the farm in the long run.
- I have plans for investments on machines and buildings.
- I can describe my business plan easily with few sentences.
- As an entrepreneur, I have clear goals that guide the way of farming.
- It is difficult to set goals for a period of a couple of years. (reversed)

Entrepreneurial orientation

- A farmer today can be regarded as a business manager.
- A farm should be managed like any other business.
- My managerial skills are good.
- I follow business principles in managing my farm.

**Appreciation of profession**

- A farmer can be proud of his job.
- Agriculture is appreciated in Finland.
- Young people should not be encouraged to a farming career. (reversed)
- To quit farming is an attractive option. (reversed)
- Farming in Finland doesn't pay. (reversed)
- It is depressing to be a farmer. (reversed)
- It is rewarding to be a farmer.

Locus of control

- Agricultural policy is the key limiting factor in successful farming.
- Success of my farm is very much dependent on the companies that buy the products.
- Success of my farm depends very much on the development of the surrounding region.
- Natural conditions largely determine how well farms can perform.
- Uncertainty of agricultural policy is a problem in making decisions about farming.
- Financial situation of my farm depends more on agricultural policy than my own decisions.



Survey items for management process effectiveness

Planning activity

- I make different calculations to aid decision making for the coming year operations.
- Planning of farming activities and finances are based on long-term financial plan
- It is necessary to think what are the ultimate goals of farming.
- Interim financial statement is an important part of farm planning and control.
- I make gross margin calculations for different production lines.
- I usually make a budget for the coming year.
- I actively search for new information that may relate to farm development.
- I usually think ahead and prioritize tasks of the near future.

Controlling activity

- I compare latest bookkeeping results with earlier ones.
- After implementing a decision on farming, I try to analyze how successful it was.
- I compare the budget with actual outcomes of farming.
- I try to find reasons for different financial outcomes between years.



Analytical decision making

How much do you utilise the following in your decision making:

- Computer and common software
- Bookkeeping software
- Field plot management software
- Other agricultural software
- Information systems integrated into machinery
- Pen, paper and calculator

Information use

- How much do you use the following information sources in your decision making:
(- 17 different sources to assess)

