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Identifying Farm Management 'Best Practices' in Canada: Heuristics and Insights from Qualitative Research

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IDENTIFYING FARM MANAGEMENT "BEST PRACTICES" IN CANADA:
HEURISTICS AND INSIGHTS FROM QUALITATIVE RESEARCH

"For it seemed to me that I could discover much more truth in the reasonings that each person makes concerning matters that are important to him, whose outcome ought to cost him dearly later on if he has judged incorrectly, than in those reasonings that a man of letters makes in his private room, which ... have no other consequence." Descartes, 1637

For close to a century, farm management researchers have tried to identify factors critical to a farm and/or farmer's success in order to develop recommendations for how less successful farmers could become more successful. Studies have examined a broad range of factors, including farm size, debt structure, production efficiency, rates of technology adoption, and personal and management characteristics, and used several methods to determine which factors are critical for a farm's or farmer's success. Two observations emerge from a review of these farm management studies: i) there is no single factor necessary and sufficient for a farm to be successful, but there are factors that are associated with financially successful farms; and ii) methodologies used were grounded in positivism and specific methods were mostly quantitative (Howard and Brinkman 1994).

Agricultural economists, who do the great majority of farm management research, are trained in the positivist tradition dating back to Galileo: the world is an ordered place, governed by identifiable rules, and identifying and quantifying the orders and rules of the world allows us to explain and predict phenomena. Hence, there is a causal relationship between

identifiable characteristics and management practices and farm financial success. Moreover, the characteristics can be quantified, and the management practices simplified, generalized and categorized, so that optimum behaviour, in financial terms, can be determined.

This positivist orientation means that management is a science with well defined rules: if A then B. The problem is that managers operate in complex systems where random occurrences and chance often determine success or failure: if A most likely B. Popperian falsification does not always hold. A hypothesis that keeping good records is necessary for financial success is refuted by the many financially successful farmers who do not keep good records. Never-the-less, keeping good records most likely increases the probability of financial success; record keeping is a heuristic that managers have found to be associated with success. If management does not have immutable laws, but heuristics, it is more an art than a science. As such, the positivist methodology and quantitative methods used by natural scientists may be necessary but not sufficient for identifying heuristics associated with farm financial success. Qualitative methods may provide insights and heuristics not readily identified by a positivist approach using quantitative methods. There have been calls for greater use of qualitative methods, such as case studies, to help identify problems and develop heuristics (McClosky 1983, Just and Rausser 1989), but very few publications report using a qualitative method.

This paper compares management differences between high and

low margin farmers in Canada in order to identify heuristics associated with farm financial success; in effect, the "best practices" of successful farm managers. Moreover, identifying constraints and limitations of less successful farm managers provides insights about institutions and the structure of Canadian agriculture. These heuristics and insights are obtained through case studies of 65 Canadian farm managers. These case studies and subsequent analysis was done using a qualitative method termed "interpretive phenomenology" (IP). Qualitative methods are frequently used by business researchers and social scientists other than economists, but rarely by economists. Hence, in addition to the heuristics and insights about the Canadian agriculture system, this paper also presents qualitative methods, in particular interpretive phenomenology, as an alternative method of farm management research.

This paper proceeds as follows. First, qualitative methods in general and IP in particular are defined, followed by an outline of IP methods. Next, the procedures followed in for the case studies are briefly outline. The case studies are presented and the "best practices" identified in the cases are discussed. The paper ends with concluding comments on the heuristics and insights gained from the case studies.

INTERPRETIVE PHENOMENOLOGY

Research procedures which produce descriptive data and rely more on inductive than deductive analysis are generally referred to as "qualitative methods". There are two main streams of

qualitative methods: i) interpretive methods, which rely upon direct observation of individuals' actions, behaviour, and/or words, and ii) critical methods, which observe and analyze behaviour within the context of a constantly changing society (Neuman, 1991, Ch. 3).

A frequently used interpretive method is interpretive phenomenology (IP), which is based on the philosophy of Edward Husserl. Husserl's view is that objects or phenomena do not exist independently from an observer: the observer gives both meaning and interpretation to an object or phenomena (Husserl 1960). Husserl's philosophical paradigm was extended into social science research by Shutz, among others, who viewed the individual not as an actor in an isolated situation, but as person who learns from experience and has a constantly changing view of the world. A person never enters the same situation twice; the external factors may be the same, but the "biographical situation" of the individual, how he or she interprets the world, is constantly changing (Zaner 1973). People interpret the world differently; e.g., a business manager may view a situation as a problem or an opportunity, depending on the manager's perception. Hence, human behaviour is a product of how people interpret their world (Bogdon and Taylor 1975), and a researcher using phenomenological methods attempts to see things from the subject's point of view (van Mannen 1990). This focus on how a subject interprets the world leads to the qualitative nature of phenomenology.

Phenomenology examines how an individual perceives, acts,

and behaves in a given situation or environment, which can lead to the heuristics learned and developed by the individual to succeed, or just exist with a minimum of disutility, in that situation or environment (Wagner 1973). Such a methodology can be particularly useful when trying to discover why some farm managers are more successful than others. All farm managers have a different "biographical situation", which affects perception and hence behaviour, and each manager lives in a different and constantly changing environment. Even though the environment is constantly changing, successful managers have developed strategies for dealing with new situations. By eliciting these strategies, an IP farm management study attempts to discovering the heuristics, practices, and strategies that have lead to success.

INTERPRETIVE PHENOMENOLOGY METHODS

Similar to a positivist study, the specific methods used in an IP study depend on the question being asked and the type of results one hopes to obtain. However, all IP studies have similar methods and follow similar steps as outlined by van Manem (1990).

First is identification of a phenomena or problem that is appropriately addressed using IP. Husserl claimed that phenomenology could provide the basis for all the sciences (Psathas 1973), but some phenomena and/or problems may be more appropriate than others as an IP study. Particularly suitable are complex situations not amenable to simplification and

quantification, such as decision making by managers in a constantly changing environment. Testing of hypotheses in order to establish of universal truths or laws is not an appropriate IP study. Phenomenological truths are admittedly provisional and contingent on ways of knowing and understanding which can change over time (Psathas 1973).

The second step is "bracketing", or suspension of prior beliefs. A research using IP methods should approach a study with as few preconceptions as possible. The researcher must not let prior beliefs affect observation of the subjects of the study. By bracketing prior beliefs, all phenomena receive equal attention; the risk of overlooking a phenomena not deemed important by theory or prior studies is minimized by bracketing (Psathas 1973).

The fourth step, the mechanics of gathering IP data, includes direct observation, such as field research common to anthropologists, interviews, and examining diaries, journals, and letters. There is some debate among phenomenologist about structured interviews. Husserl's transcendental method is pure description, with generalizations and interpretations left to the reader. In an interview, the use of structured questions, rather than letting the subject talk at will, comes close to being a testing or validation of the researcher's prior beliefs; in effect, a qualitative positivist study (van Manen, pp. 22-23). Further discussion of demarcation of methods and methodology is left to others.

Analysis of the data, the fifth step, is done by immersion

in the data and reflection on essential themes which characterize the phenomena. Generalizations emerge out of the specific details observed by the researcher. This inductive approach has been called "grounded theory", because the theory that is developed is grounded or rooted in the observed behaviour (Neuman, 1991 p. 53). Much of the inductive generalizations emerge through writing; the "I don't know what I think until I write it" method espoused by Ladd (1979). The subjective nature of this analysis is its greatest weakness. Done well, IP can yield useful insights and heuristics grounded on observation and "lived experience"; done poorly, it can yield banalities based on assertions.

Qualitative studies can also be validated, but unlike quantitative measures which can be validated to an nth degree, qualitative studies require qualitative validation. First, do the results or final write-up make sense to the person studied; does it "resonate" with them, i.e., are the generalizations from the study consistent with the subjects interpretation of the phenomena. Second, does the study allow others not involved with the study or the subjects to recognize the activities after having seen the study, but with no a priori experience. Lastly, can the "reader" become a "player" by the reading the study. This last validation step is perhaps the most important. It implies that "best practices" can be developed from a valid study.

CASE STUDIES OF CANADIAN FARM MANAGERS

Method

Case studies were made on 65 commercial farm managers from across Canada, representing the major commodity groups in Canadian agriculture. Farmers interviewed represented average or better commercial operators because the focus of the study was to identify management practices associated with successful farmers. Hence, no limited resource/small scale operators were included in the sample. The ratio of high margin to low margin farmers was approximately 70/30. However, even the low margin farmers were doing relatively well; i.e., they were not in danger of going bankrupt.

Regional government agriculturalists and industry leaders were asked to provide names of suitable participants given the requirement that both high margin and low margin producers be included. Each respondent was given a brief description of why they were being contacted and the purpose of the study. Participation was strictly voluntary; only a few farmers declined to be interviewed due to time commitments.

Each case study followed a similar format. Farm and personal characteristics were recorded along with a brief history of the farm operation, and then a mix of open-end and closed questions were asked covering ten management areas that previous studies had identified as critical for farm financial success. (A brief description of each management area and type of questions is in the APPENDIX). The interviews lasted approximately two and a half hours. The interview guidelines are available from the authors.

Classification of Managers

Each manager was classified according to general level of success and business practices used as a "top, good, or average" manager. The criteria used to differentiate the top, good, and average farm managers included:

- * farm performance in terms of income, growth of equity, and return on assets;
- * history of farm growth and development; and
- * effective use (or non-use) of various business practices or skills, e.g., marketing, financial, human resource management practices.

The farmers within the management categories were compared and contrasted using the categorical and descriptive information collected from the case studies to see what additional insights could be gained. In effect, isolating the strengths and weaknesses of each farm and manager allowed key differences to be identified.

Limitations

The case study participants were not necessarily statistically representative. Typically they were contacted as a case study due to considerable prior contact with a government agriculturalist or a commodity group. Moreover, classification of each farmer as a top, good, or average farm manager was based upon a subjective evaluation, and hence subject to interpretation. However, the participants were usually recognized as industry leaders, hence a good source for "best practices", and one team did all the classification and analysis.

Any bias in the analysis is likely to be consistent.

RESULTS

Location and Enterprise Types of Case Studies

Location of the case by major enterprise type is reported in Table 1. Location influences enterprise type; commodity type was dependent to a large degree by geographic region, e.g., grain and livestock in the prairies, dairy in Ontario and Quebec. Dairy/poultry predominated, with 15 cases from all areas except the Prairies. Thirteen cash crop cases (including potatoes in Quebec) and twelve livestock (beef/hogs) cases were done in the Prairies, Ontario and Quebec. Cash crop plus livestock cases (eight) were only in the Prairies and Ontario, while dairy/mixed cases were only in Quebec. Fruit/vegetable (six cases) and specialty (seven cases) were done in British Columbia, Ontario and Atlantic Canada. Speciality operations included greenhouse and nursery operations, and alternative crops.

Demographic and Financial Characteristics

Demographic and financial characteristics are reported in Table 2. Five women and 60 men were interviewed. Average age was 46, but ranged from 30 to 67. On average, the farm managers had been operating their own farm business for 16 years, but the range was from four years to 43 years. A very wide range of asset and income levels were observed, ranging from \$180,000 to \$25 million in assets and from -\$200,000 to \$3 million in net farm income. Debt level also had a wide range, from zero to 67%

of assets.

Characteristics of Top, Good, and Average Managers

The 65 farm managers in the case studies were ranked as either top, good or average farm managers. Top managers were involved in a number of different enterprise types, other than supply managed dairy/poultry enterprises, as reported in Table 3. There were a number of good managers in all enterprise types, and average managers were involved in everything except specialty crops.

A top farm manager typically had farm income of at least \$300,000 (average was \$400,000) and was operating a diversified farm business using a number of management practices in an effective manner.¹ Type of farm operation, geographic location and land base characteristics were considered in each evaluation, as differences in these aspects could affect the level of financial success.

Good managers had farm incomes averaging \$105,000 and were further differentiated from top managers by less effective management practices. Average managers typically earned \$35,000 net farm income and used a limited number of management practices in a limiting manner; e.g., an average manager may have kept financial records, but used them only for tax purposes.

Education

More education has often been associated with a higher level of management ability. The managers interviewed were generally

well educated, as reported in Table 4, with near half of all managers having a university degree. More Top managers had university degrees than did average managers, but by no means was education level a sole indicator of management ability. Three (12%) of the top managers had only a grade school education, and 36% and 40% of the average and good managers had university degrees, respectively.

Production and Technology

Given the wide range of enterprises, it was difficult to objectively measure the productivity and level of technology use on each farm. Hence, each manager was asked to compare their yields to those in their region and industry, and to subjectively assess their technology. Not surprisingly, 92% of the top, 78% of the good managers and 67% of the average managers reported their yields to be above average to high, as reported in Table 5.

Top managers' production technology utilized a combination of proven and state-of-the-art technology, with 38% considering their operation to be state-of-the-art. Top managers often operated very large operations and used specialized, expensive equipment, which meant high capital investments, but also low per unit production costs. Hence, they captured economies of size and scope. Top managers were usually early adopters of new technology but not necessarily innovators; i.e., an early adopter is quick to see the benefits of a new technology, but only after the innovator has developed it.

Several top managers emphasized that they used "appropriate"

technology. If state-of-the-art technology was expected to lower costs, then they would use it. However, two top managers also admitted to having "low tech" operation, which regardless of the technology level were financially successful.

Good and average managers appeared to be strong in production technology, but not necessarily on the leading edge. There was less state-of-the-art technology and more good/proven technology on the good and average managed farms. It may be noteworthy that technology alone did not determine whether a manager was top, good, or average. Adopting "high tech systems" for the sake of being "high tech" is less an indicator of a top manager than is using technology appropriate to the enterprise, location, and resources.

Decision Analysis

More top managers did formal or informal feasibility studies of new enterprises/projects than did the good and average managers, as reported in Table 6. Top managers also had different decision criteria. They tended to look at the expected profitability of a new enterprise/project, how risky it was, and would it add to the farm's overall efficiency. Cost was not a great concern. Good and average managers tended to look less at expected profits and more at the costs of the enterprise. When asked "What is a 'too high' interest rate?", top managers said that it depended on the expected return of the project they were financing. Most good and average managers stated an interest rate ranging between 15-25%.

Debt Management

With few exceptions, top managers did not state an upper limit to their "acceptable level of debt". "Acceptable debt" depended upon the expected returns and financial risks of a project. Top managers also appeared to be more comfortable managing debt. Sixty-five percent of the top managers reported medium to high debt levels, compared to 47% and 63% of the good and average managers, respectively, as reported in Table 7. However, only 15% of the top managers reported financial problems associated with their debt, compared to 39% and 36% of the good and average managers. This difference in attitude is even more pronounced when considering the very large absolute debt top managers have compared to the others.

Human Resource Management

Top managers manage people. Forty-two percent of the top managers reported more than 15 full-time employees (Table 8), with some operations employing up to 120 people at peak activity time. Only 16% of the good managers had seven or more full-time employees, not counting family help and seasonal workers hired in peak activity times, but these good managers had human resource management (HRM) practices similar to those used by top managers. Both groups reported using recommended HRM practices such as formal interviews, job descriptions and titles, periodic performance reviews, and regular staff meetings. Compensation on these farms was often competitive with non-farm compensation, and

extended benefits (dental, glasses, prescriptions, etc.) were common. Several top and good managers had some type of bonus system, ranging from simple profit sharing to rather elaborate incentive programs to motivate their workers.

Average managers and more than half the good managers had less than two full-time employees. Few formal HRM practices were reported. Whether these farms were small in size, and hence did not require much hired labour, or the managers lacked HRM skills, and hence limited the size of the operation, could not be determined.

It may be noteworthy that very few managers gave evidence of Theory X management style (i.e., employees need external motivation in order to perform well), as opposed to the Theory Y management style (i.e., employees are intrinsically motivated to do well). This result is consistent with previous research (Howard et al. 1991). If farm managers receive "psychic income" from farming, it is likely that they perceive their employees to have similar motivations.³ Hence, farm managers, who are generally intrinsically motivated, may tend to view their employees as intrinsically motivated also.

Production and Financial Records

Almost all managers kept production and financial records, but the type and how they were used differentiated the top, good, and average managers. (Table 9). Top managers were more likely to keep accrual accounts, while average managers tended to keep cash accounts. Top managers stressed that their records helped

them make informed marketing and enterprise decisions; e.g., knowing costs of specific operations in an enterprise made decisions about new technologies or enterprises much easier. Good managers tended to stress using records to monitor and reduce costs. Average managers stressed the need for financial records for tax purposes, which in part explains their proclivity for cash accounts.

External Information

Several questions were asked about external information sources and how valuable and important those sources were. Responses again differentiated the top managers. Almost all the managers had accountants and highly valued their advice, but as one moved from top to good to average, the use and value of information from agricultural representatives and veterinarians increased. Top managers also cited agricultural representatives and veterinarians as valuable sources of information, but they also had very wide and divergent networks of personal contacts not often stressed by the other managers.

The extensive use of personal contacts and networks and the value of information these contacts provide to top managers can not be over emphasized. One top manager who had cattle operations spent up to three hours a day on the telephone gathering information about the cattle and beef markets. Other top managers stressed that they gathered information from a multitude of sources, from truck drivers to university researchers. Top managers were usually involved in some type of

farm organization, often in a leadership role, as a means to learn more about what was happening in their industry. The informal information exchanges were reported as often the most valuable aspects of an organization or formal meeting.

Government Programs

All managers had participated in some type of government program and thought that they had benefited from the programs. Top producers were more likely to have participated in an income assistance program, and average managers more likely to have been in a training program. Basically, all managers took advantage of government programs when available.

Marketing Mechanisms

Top managers used a wide range of market mechanisms and involved a high degree of differentiation and value added to the raw farm product, as reported in Table 10. Combining contracting and differentiated products gave top managers premium prices. An example is commodity corn versus seed corn or contract corn for a breakfast cereal: differentiated corn provided a premium for basically the same amount of effort and investment. Top managers used marketing boards the least of the three groups.

Average managers mostly limited their marketing to cash sales, sales after storage or feeding to livestock, and marketing boards. They stated the importance of marketing, but seemed to think that markets were beyond their control or the

responsibility of their marketing board.

Marketing of inputs also differentiated the top managers. Top managers tended to negotiate on everything, both major and minor purchases. Given the size of their operations, minor purchases could easily add up into sizable amounts. Top managers' interpersonal skills appeared to be quite strong, which facilitated marketing and negotiating. Good managers negotiated on a few key inputs (e.g., tractors, fertilizer). Average managers depended to a large degree on industry market forces, e.g., competitive prices and services, to keep their input costs down. A few average managers would negotiate on price for important inputs such as feed, fertilizer and machinery, but most did not.

Planning Horizon and Business Strategy

Planning horizons were mostly three to five years for all three groups. Major expansions and/or enterprise changes depended on if and when children entered the business, which was the child's own decision, and exogenous changes in the market and technology. Time, whether for planning or starting a new enterprise, was a limiting factor.

The managers were asked if they agreed or disagreed with eight statements related to business goals and strategy. Their responses were on a four-point Likert scale. Five of those statements yielded clear differences between the top, good, and average managers, as reported in Table 11. Top managers were

more in agreement that "Profit maximization is my top priority", and that they were "Pleased with [their] farm's performance", and less in agreement that life style is more important than profits, that the farm stay in the family, and that "Agriculture is the basic occupation from which all other economic pursuits depend ...".

ANALYSIS OF THE CASE STUDIES

Analysis of these case studies yielded several heuristics that differentiate the top, good, and average managers. These heuristics are presented as "best practices" that are associated with increased likelihood of financial success. Additionally, three special categories emerged that provide insights about the Canadian agriculture sector.

Best Practices of Top Managers

* Top managers keep and use financial and production records extensively to evaluate profitability of farm enterprises. These records, coupled with strong analytical abilities, help the top managers to quickly evaluate enterprises and adopt new technologies when their records indicate that it would be economically beneficial to do so.

* Market responsiveness is a key element of top managers' ability to generate high farm incomes. They often demonstrate the ability to recognize opportunities with good potential for profit. Shifting production towards more profitable enterprises and away from less profitable ones may be a proxy for managerial ability.

* Top managers have a well developed set of marketing skills and use a number of different marketing mechanisms. These marketing skills are instrumental in adding value to farm produce and generating price premiums.

* Top managers attempt to diversify their operations such that income fluctuations are smoothed out. Diversification may be through adding additional enterprises to the operation which may complement existing ones or fit into work schedules.

* Top managers have extensive personal networks, which they actively maintain and nurture. These networks provide timely and useful information on a multitude of subjects and issues.

* Negotiation and interpersonal skills are abilities top managers rely upon in daily business dealings. These skills ensure low costs are attained and favourable arrangements are agreed upon.

* Top managers can effectively manage their human resources. They may not have intrinsic "people skills", but they have made the effort to establish human resource management practices that enhance their employees' productivity.

Special Categories

In addition to top, good, and average managers, three further categories emerged from further analysis of the cases. These additional categories with common characteristics are "mega-managers", producers of supply managed commodities, and Prairie grain producers.

The "Mega-Manager"

Eight highly successful top managers were designated as "Mega-managers". These mega-managers had assets ranging from \$4 million to \$25 million, and typically earned in excess of \$400,000 per year in net farm income. Their operations were large in terms of resources, people and money, and they often added value and/or receive premiums for their products. They were also diversified, usually in complementary enterprises which made use of slack time and resources.

In part, the success of these mega-managers is attributable to innate characteristics: a combination of entrepreneurial spirit and a desire to succeed. However, they also excelled in the identifiable (and teachable) best practices listed above. It is likely that these mega-managers would have been very successful in any type of business or career and the fact that they chose agriculture, a sector in which incomes and returns traditionally have been low, is a further indicator of their skills and abilities. However, it is too easy to say that the mega-managers have skills and abilities of a level that few others will ever achieve. Rather, the fact that the mega-managers use the standard, recommended business management practices (e.g., keep and use records, use forward planning, look for marketing opportunities, etc.) further reinforces the validity of these practices.

Supply Managed Commodity Managers

Thirteen managers produced supply managed commodities. Two were top managers, nine were good managers and two were average.

Nine were in dairy and four had broiler operations. Given the unique nature of supply managed commodities, assessments were done on the strengths and weaknesses common to this group.

Their strengths included average to good yields, using both good and state-of-the-art technology. Some of these producers were early adopters of the latest technology, and regularly visited the U.S. and Europe to evaluate new and different production methods. They tended to have extensive internal information sources, such as Dairy Herd Improvement records and detailed financial records. The farms with hired employees had human resource management practices that are generally associated with enhanced productivity and profitability.

The primary weakness of these producers was that they usually demonstrated limited marketing abilities, as they had little opportunity to market produce themselves due to the nature of the industry. It is conceivable that their marketing abilities have diminished through lack of use. In effect, the marketing skills of many of these managers may have atrophied due to marketing boards providing the marketing function for the farmer.

Prairie Grain Producers

Seven prairie grain producers participated in this study, with one identified as a top manager, five as good managers, and one as an average manager. These farm managers possessed asset bases of \$1,000,000 to \$1,500,000 and generally earned \$40,000 to \$50,000 in net farm income. This finding was quite consistent

among prairie grain producers, with incomes above this level uncommon. Assessments were completed in the same manner as for the other special category groups.

The strengths of the prairie grain producers included good internal information systems, with computers being used by 73% of the respondents, the highest of any grouping. Their production tended to be quite good, with all reporting above average yields. Either good or state of the art technology was employed.

The weaknesses of this group are similar to the weakness of the supply managed producers. Most of these producers sold wheat and small grains through the Canadian Wheat Board, thus relieving themselves of this particular function. Again, the idea of marketing atrophy is considered to affect these producers. Generally, their marketing skills were poor, with few marketing mechanisms used. Although internal information sources were good, external information sources were not effectively used to bring up-to-date information to the manager, thus limiting decision making.

It is quite possible for a prairie grain producer to be efficiently using all the recommended business practices and yet be unable to generate sufficient returns to cover returns to both labour and capital because of depressed commodity prices. The long-run challenge for these producers is to develop other enterprises and alternatives, including leaving low-return enterprises. Hence, it is possible that the top managers among the prairie grain producers will either diversify their operations away from straight grain production by somehow adding

value to their grains, or leave grain production altogether.

CONCLUDING COMMENTS

This paper has presented interpretive phenomenology (IP) as a qualitative method of farm management research. This method is subjective in two ways: i) the philosophical base of phenomenology is that an object or phenomena does not exist independently of an individual's interpretation of that object or phenomena, hence, an individual's perception is critical; and ii) analysis is inductive. An IP study uses descriptive data, and generalizations, heuristics, and insights emerge from an emersion or "grounding" in the data.

This study identified several widely recommended and accepted business practices associated with top managers and financial success. A criticism of case research is that the results are often "motherhoods"; they are not new and are generally known to be beneficial. The motherhood criticism may be valid for this study. However, given that not all farm managers use the "best practices" found to be common among top managers indicates the continuing importance of identifying and recommending these best practices. Moreover, several heuristics and insights also emerged which have not been explicitly discussed in previous farm management research.

First, networking is a "best practice" associated with financial success. Actively seeking out and maintaining information networks was a common characteristics of the top managers. Networking helps top managers in finding new

enterprises and methods.

Second, top managers negotiate on most input purchases. Negotiating is both an attitude and a skill that can be learned. Programs to teach negotiating would benefit many farmers not currently aware of what they could gain through negotiation.

Third, small and medium sized operations will only be able to grow and take advantage of economies of size through effective and efficient human resource management. Training programs in how to plan, select, direct and monitor human resources will enable farms who do not have those skill to make the transition from managing themselves and their resources to managing both human and capital resources.

Fourth, the importance of marketing skills to long-term farm financial success can not be over emphasized. Lack of marketing skills is a limiting factor for farmers who want to add value to existing enterprises, receive premiums by producing for niche markets, or try new enterprises. This lack of marketing skills is particularly apparent among supply-managed-commodity producers and Prairie grains farmers. Producers of supply-managed commodities and Prairie grain farmers who wish to be more active in the marketing of their products and/or wish to be active members of their marketing boards could benefit from learning more about marketing mechanisms and what being market responsive means.

FOOTNOTES

1. One top manager had a \$200,000 loss due to weather. The loss was an aberration and the manager is expected to survive the temporary downturn.

2. Psychic income refers to the satisfaction an individual receives from a particular activity. The psychic income farmers receive from farming is thought to partially compensate for the low returns most farmers receive.

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Table 1. Study Participants by Region and Enterprise Type

Enterprise Type	Region				
	B.C. Prairie	Ontario	Quebec	Atlantic Canada	
Cash Crop		7	2	4	
Cash Crop + Livestock		5	3		
Livestock (Beef/Hogs)		3	7	2	
Dairy/Poultry	1		7	5	
Dairy/Mixed				4	
Fruit/Veg.	2		2		2
Specialty	3		3		1
Total	6	15	24	15	5

Table 2. Personal and Financial Characteristics.

Characteristic	Average	Range	
		High	Low
Age	46 (7.3) ^a	67	30
Years Farming	16 (9.3)	43	4
Asset Value	\$2,387,000 (4,811,000)	25,000,000	\$180,000
% Debt	25 (18.8)	67	0
Gross Farm Sales	\$1,428,000 (4,377,000)	\$30,000,000	\$90,000
Farm Income	\$215,000 (515,000)	\$3,000,000	\$-200,000

^a Standard deviations are in the parentheses.

Table 3. Top, Good, and Average Managers by Enterprise Type.

Enterprise Type	Management Type			Total
	Top	Good	Average	
Livestock/Crop	10	9	5	25
Dairy/Poultry	2	8	3	13
Dairy/Mixed	1	3	0	4
Horticulture	4	1	1	6
Prairie Grains	3	5	1	9
Speciality	6	2	0	8
Total	26	28	11	65

Table 4. Highest Level of Education by Management Level.

Education Level	Top	Good	Average	All
Grade School	12%	14%	9%	13%
High School	23	18	27	22
College*	19	28	27	24
University	46	40	36	42

* Includes all post-secondary schools other than university.

Table 5. Yields and Technology by Management Level

Characteristics	Top	Good	Ave.	All
Farmers Reporting Above Average Yields	92%	78%	67%	81%
Technology Used on Farm:				
State-of-the-Art	38%	22%	18%	28%
Proven/State-of-Art	35	26	28	30
Good/Proven	19	52	54	39
Low Tech	8	0	0	3

Table 6. Use of Feasibility Studies and Expansion Criteria

Use Feasibility Study	Top	Good	Ave.	All
Yes, formal	73%	57%	46%	62%
Yes, done mentally	15	11	0	28
No	12	33	54	11
<u>Expansion Criteria*</u>				
Risk	65%	50%	36%	54%
Profit	73	57	18	57
Payback	27	25	27	26
Costs	15	25	36	23
Efficiencies	23	14	18	18

* Sums to more than 100; several managers reported more than one criteria.

Table 7. DEBT MANAGEMENT

Level of Debt	Top	Good	Ave.	All
None	12%	25%	18%	19%
Low	23	29	18	25
Medium	42	29	36	35
High	23	18	27	22
"Acceptable level of debt"	na	30%	25%	na
Experienced financial problems	15%	39%	36%	29%

Table 8. Number of Employees and Human Resource Management Type

% of Farms with:	Top	Good	Ave.	All
Less than 2 employees	35%	54%	100%	54%
2 to 7	19	29	0	20
7 to 15	4	8	0	5
15 +	42	8	0	20
% Reporting Management Style				
Type "Y"	96%	87%	100%	93%
Type "X"	4	13	0	7

Table 9. Financcail and Production Records

Type of Record	Top	Good	Ave.	All
Cash Accounts	15%	15%	55%	22%
Accrual Accounts	46	29	9	32
Cash and Accrual	38	57	36	46
Production Records	88	93	82	89

Table 10. Percentage Top, Good, and Average Managers Using Different Marketin Mechanisms

Marketing Mechanism	Top	Good	Ave.	All
Cash Sales	54%	48%	64%	53%
Cash Sales after storing	65	45	36	52
Forward Cash Contracting	27	26	0	22
Hedging Strategy	31	30	0	25
Contract with Processor	50	37	0	36
Marketing Board	27	52	61	43
Feed to Livestock	31	33	27	31
Process and Sell	38	4	9	19
Sell Direct to Consumer	62	23	9	36