Finding the Plot: The Strategic Management of Australian Farms

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In this paper the need for a strategic approach to farm management is argued, together with a proposition that conventional approaches to strategy formulation are flawed. This flaw is argued to apply to strategy formulation in all industries, but to be particularly confounding of attempts to apply strategic management to farming. An alternative approach is identified which seems to provide foundations for a new research agenda in the farm management area.

1. Introduction

Management is typically considered to involve the decisions and actions necessary to maximise the achievement of objectives. It includes the identification of objectives, decisions about actions to be taken (that is, plans) in pursuit of achievement of those objectives, the arrangement of resources to enable these actions and the overseeing of the productive processes using these resources. This overseeing includes the implementation of plans made and the control of performance, which in turn involves attention to the appropriateness over time of the plans.

Conceptually, farm management is no more nor less than the management, as defined, of farms. Yet, there are clear differences in the content of farm management as an academic discipline and that of management as an academic discipline. There is much less attention to organisation design, to personnel management and to strategy in farm management. In part, these differences derive from the nature of farms as firms. The very low numbers of employees typical of farms, and the associated flat organisational hierarchies, can be argued to reduce the significance of organisation design and personnel management as determinants of satisfaction of organisational objectives.

It is not obvious, however, how one might explain the low attention accorded strategy in the farm management discipline. Two possible explanations stand out. One is that strategy is a meaningless construct in the context of farm management practice. This is the case whenever a strategic orientation, defined below, leads to identical outcomes compared to a tactical orientation. Briefly, this is where long-run optimisation is the 'sum' of optimisation over a series of shorter runs.

Another explanation, more plausible than the first, is that the limited attention to strategy reflects the disciplinary orientation of those working in the academic discipline, a proposition consistent with observations made by Malcolm (1990). To the extent that this orientation, amongst agricultural economists, can be described as 'microeconomic analysis and decision analysis' (Giles and Renborg 1990, p.400), one would not expect strategy to be prominent as a topic of enquiry.

Whatever the explanation, it seems apparent that the output of the farm management discipline, as measured by management aids adopted by farmers, has been low for some decades. Particularly, the aids developed to cope in more holistic ways with the complexity of farm management decision making have enjoyed little interest amongst farmers. Since these can be considered as coming closest to aids to strategic or long-run planning, this absence of adoption is provocative. Either strategy is meaningless, farmers (that is, seemingly all of them) do not appreciate what the aids have to offer, or the aids have little to offer.

2. The Farm as Entity to be Managed

A farm is, like any organisation, an instrument for the achievement of objectives. Where the interest in farm management is that of a farm owner, their management thinking notionally begins with the question 'why have a farm?', rather than how best to manage it. The farm is a summary of the plan and arrangement of resources selected to pursue achievement of objectives. Deliberately constructed relationships between the farm and other environmental entities also comprise part of this plan, as do actions designed to modify the environment itself. Farm management is partial if it is perceived to embrace only on-farm production activity, since this comprises only part of the actions undertaken, potentially, to influence performance of the farm as an investment.

To this extent, the very phrase 'farm management' can be misleading. Actions undertaken to modify the environment or to modify the impact of the environment on the farm are part of the management behaviour of the farmer. Moves to co-operate, integrate and exert political influence, for example, can only be excluded from farm management at the price of reducing farm management to 'farm production management', which reduces the scope for relevant advice to farmers.

In the context of such a broad perspective of the management task, it seems most unlikely that strategy is a meaningless construct in farm management, even if this were the case with respect to farm production management, which also seems unlikely.

3. Management Objectives

A significant distinction, rarely discussed, between management contemplated within and without a strategic framework is the implications for the specification of objectives. The use of a strategic perspective implies recognition of the strategic character of decisions which may otherwise be viewed as little more than determinants of 'relevant background'. It also implies recognition of a hierarchy of objectives paralleling and sitting within a hierarchy of plans.

Taking farm management as an example, and assuming we are considering an owner-manager, the decision to invest his or her resources in a farm is strategic. This is an investment decision which has longevity relative to options such as investment in particular instruments on the stock exchange. Action alternatives are constrained. The farmer is no longer a footloose investor. Returns to the investment are no longer a function of investment decision making; they are a function of the management of physical and financial resources applied to the production of goods. This change bespeaks strategy; the constraining of decision options. Subsequent decisions as to what will be produced, how, what development program shall be adopted for the farm, and so on can be seen to form a hierarchy of plans, with each plan in the hierarchy further constraining relevant alternatives for consideration at lower level plans.

Tracking the hierarchy of plans is a hierarchy of objectives specified by the contribution of any given plan to implementation of its immediately superior plan. Thus, ground preparation plans must satisfy objectives emanating from plans as to what will be grown when, which in turn must satisfy objectives emanating from plans related to enterprise mix, and so on. For none of these plans is the relative profitability of alternatives the sole decision criterion. Relative profitability can be expected to be determinant of choice only when alternatives are otherwise identical in their contribution to the plan objectives operating for the decision.

It is not unusual in farm management research to find analyses of decisions where profitability is the principal criterion for choice amongst alternatives. Typically, this is made valid by the imposition of equality of contribution to non-profit objectives. For example, the use of linear programming to identify optimal activity levels captures essentially strategic objectives from higher level plans in the constraints specified within the matrix and for the solution.

The residual question is 'how are the senior decisions made; how are decisions restricting options made?' Importantly, the first of these decisions displaces relative profitability as the sole decision criterion, and that decision is the decision to 'go farming'. Drucker has argued that 'profit is not an objective but ... a requirement' (1979, p.91), that it is feedback, 'the result of doing things right, rather than the purpose of business activity' (1979, p.89). Whatever the incentive to commit resources to farming, once that commitment has been made it is unhelpful to use a general feedback measure as the sole decision criterion in the context of strategic behaviour. Strategy is anticipatory decision making undertaken to achieve objectives in a context of a gap between the pace of relevant, unpredictable environmental change and that of organisational adjustment. Profit maximisation is a bleak, qualitatively empty statement of the objectives, given that strategic behaviour commences with entry into farming. That entry requires strategic objectives and it is unlikely that profitability, or expected profitability, will be a useful criterion for choice amongst alternatives. Indeed, failure to explicitly define the strategic role of a plan at a given level in the hierarchy, coupled with reliance on relative profitability as the sole decision criterion, may confound the strategy.

The requirement for profit is the requirement to survive. Choice criteria are the criteria employed to choose actions within a hierarchy or network of such decisions which comprise judgements about how survival, at the least, can be achieved. 'Objectives ... *are* the fundamental strategy of a business' (Drucker 1979, p.90; emphasis added). While there is recognition in the farm management literature of non-profit 'objectives' active in farmer decision making (e.g. Gasson 1973), these are not strategic objectives. They are not objectives in the hierarchy of specific objectives determined to be instrumental in achievement of the peak objective. Rather, they are components of the peak objective, or policies, in the sense of values which constrain behaviour.

Where a farm is the unit of analysis, the peak objective cannot be characterised as profit maximisation. It cannot be characterised even as constrained profit maximisation. The peak objective must incorporate elements which reflect the strategic choice that the decision to invest in farming constitutes. This may include some more or less precise financial objective, but to describe the peak objective as some qualified form of profit maximisation is to begin analysis by shearing the peak objective of qualitative content endemic in the choice to farm.

Economic theory, and systems theory (see Emery and Trist 1965), provide a key insight into farms as firms. This is that, given the competitive structure of the industry, or industries, in which most farms are located, the control exercised over financial

performance by their managers is not great, ceteris paribus. This is not to suggest that the survival of a given farm is persistently at risk, but it is to say that optimism about the power of a farm manager to achieve precisely-stated financial goals is invalidated by the economic context within which farms operate. This places farmers in a relatively demanding management environment. It also places considerable pressure on strategic planning as the process of identifying appropriate action.

4. Strategic Management - The Conventional Perspective

The central element of strategy, as a particular kind of plan, is that it involves the specification of appropriate action for a period of time long enough for strategically rational behaviour to differ from behaviour which appears rational in the shorter run. If such a plan is meaningless, because no length of perspective is sufficient to indicate the inappropriateness of seemingly rational short-run behaviour, strategy reduces to a sequence of short-run plans and is qualitatively indistinct from short-run, or tactical, plans. This is rarely the case, however. Environmental instability is such that the short run, usefully defined by the length of production cycles, is not persistently representative of the long run.

The qualitative distinction between strategy and shorter-run plans implies that strategy is constraining of shorter-run plans. Strategy provides guidance to shorter-run plans which inhibits seemingly (short-run) rational responses which conflict with the (seemingly) rational long-run plan. Strategy has, therefore, to be comprehensive of all matters to do with the management of the business of the farmer.

As in all organisations, one would expect some benefit to attach to the formal contemplation of strategy by senior management. In fact, this is more a moot point than might be imagined. If the alternative is that the manager reacts in a short-run way to short-run environmental circumstances, formal strategy formulation is very likely to be valuable. This is probably very rare, though, and a self-serving alternative. The more appropriate comparator is *informal* contemplation of strategy. Whether this is less productive of good outcomes than formal contemplation of strategy depends on what 'formality' adds, and subtracts, from the process. Formal approaches may, for instance, enhance the structuring of analysis at the expense of truly valuable intuitive elements of the informal approach a manager uses. This possibility is more real, arguably, to the extent that Minzberg (1981) is correct when he argues that planning, as conventionally viewed academically, is an inaccurate model of the actual behaviour of managers. They may, for example, rationally and productively engage in cognitive

activity which we define as 'planning' in a sporadic, unstructured way, a way that is most appropriate for the environment with which they have to interact through time.

This notwithstanding, a conceptual framework for strategic planning has to be defined if analysts are to devise useful aids for the plan which sits at the apex of the full planning hierarchy. The conventional orientation is that strategic planning involves consideration of objectives, evaluation of threats and opportunities in the environment, evaluation of the resources to hand, the specification of a set of actions, a plan, which will move the organisation toward achievement of objectives, and the implementation and control of this plan. There are problems with this orientation.

These problems have been considered by a variety of analysts, particularly Morgan (1983), Hayes (1985) and Mintzberg (1990). The common thread to their concerns is that the conventional orientation is too optimistic in its implicit assumptions about the reliability of forecasts, of the environment and the future utility of objectives specified now, and therefore of the instrumental value of the approach to strategic planning embodied in the conventional, 'design school' orientation. (Similar concerns were expressed earlier by Rosenhead, Elton and Gupta (1972)). This orientation is basically the same approach adopted for rational decision making and tactical planning, but 'writ large'. More attention has to be paid to fundamental issues such as the identification of 'the business one is in', assessing the environment and resources available for the long run and so on, but in the end the plan is resolved in the same way one would resolve a much more structured decision problem in a much better-specified context.

5. Strategic Management - A Cybernetic Perspective

The essence of a more appropriate approach, as advocated by Morgan (1983) and Hayes (1985), is that the objective(s) of strategy have to be made less precise, consistent with the dynamism of the context in which strategy is pursued, to lend true instrumentality to the strategic planning process. That is, strategy has to be formulated to seek objectives more consistent with the constraints imposed on optimisation by the low reliability of relevant forecasts. An analogy is the nature of advice often given to tertiary students. Few educators, one suspects, advise students to identify a precise career target and orient their behaviour toward its achievement. Rather, they are advised to develop core skills, which have option value (i.e. create strategic flexibility; see Attonaty and Soler 1991, p.428), given that desired opportunities will shift over time due both to changes in the demand for spheres of application of those skills and to

changes in what the student, as graduate employee, will desire over their career lifetime.

So, it is argued, should organisations be managed strategically. The strategic objective is one, not of maximising some well-defined objective function, but of 'positioning' the organisation to be capable of capitalising on opportunities and, more importantly, withstanding fundamentally disadvantageous change in the environment. Instead of survival being subsumed in the maximisation of well-defined objectives, survival becomes a primary focus (see Thompson 1967, p.6) and more finely-defined objectives are used to choose actions from the set of alternatives defined on the survival criterion. That is, finely-defined objectives come into play at a lower level in the hierarchy of plans and, therefore, typically relate to shorter time horizons than strategy.

This approach has superficial similarity to regret minimisation as a decision criterion. It is qualitatively quite distinct, however, because a finely-defined objective function is not used to value outcomes in this approach to strategy formulation. The survival objective is not survival to achieve any specific, well-defined objective function. It is simply survival: the maintenance of the ability to pursue any objective function that might be active in the future. It is the preservation of the potency of the organisation to respond to its environment.

Two, quite distinct perspectives on planning are somewhat consistent with this approach. The first is the perspective which has it that strategic planning processes have intrinsic importance which far exceed the instrumental value of the strategic plan so generated. Eisenhower, for example, is quoted (in a reference long since lost) as saying that 'plans are nothing; planning is everything'. The argument is that the process of introspection by managers about organisational objectives, organisational resources, strengths and weaknesses of the organisation, and the competitive environment contribute to an understanding of the organisation and its environment which has value. Since strategic plans hardly - 'work', they have little value. One way to describe the means by which the value of planning qua process manifests is that the understanding achieved enhances the potency of the organisation. Survival, and the capitalisation on opportunities, is enhanced by this greater understanding. The value derives from the incidental contribution to the (unstated) survival objective made by planning processes.

The other perspective is more elegant and is from cybernetic control theory (Ashby 1956). Here, 'variety' is defined as the number of alternative responses an organism has available, and the number of qualitatively distinct states its environment can take. For total control over the outcomes of interactions between organism and

environment, the organism must have 'requisite variety', the same number of responses as the environment has different states. All plans commit resources and thereby reduce variety available to an organisation qua organism. Indeed, the very formation of an organisation, invariably capitalising on specialisation of labour, reduces the variety of its personnel compared to their variety as independent individuals. The conventional approach to strategic planning is basically oriented to variety reduction, while the approach discussed above can be characterised as being to do with the maintenance of variety, this variety being reduced only when opportunities (which are perceived with confidence) arise.

The reduction of variety is risky to the extent that the variety in the environment is unpredictable. Forging ahead in the conventional approach, trying to meet variety by treating it as probabilistic states, is inappropriate because variety in strategic environments is fundamentally unpredictable.

Nothing in the non-conventional approach to strategy formulation removes the need for the major steps in the planning process. Nor are (finely-defined) objectives or expectations excluded. The difference is one of purpose. Morgan (1983, p.354) describes the purpose as 'avoiding not surviving'. The goals of strategy are a specification of what is to be avoided rather than 'fixed points of reference towards which the organization should orient itself' (Morgan 1983, p.353). The challenging, and joint (Mintzberg 1990), tasks of defining the business of an organisation, its environment and competences, have still to be undertaken. The objectives for which survival of the organisation is instrumental need still to be contemplated. The novelty in the approach is the softening of the instrumentality attributed to strategy as the determinant of the extent of achievement of those objectives.

6. Farm Strategy

A feature of the bulk of Australian farms is that two of the major determinants of financial performance, yield and price, are under low levels of control. Australian farm managers are both price-takers and yield-takers to a significant degree. This reality does not sit easily with conventional approaches to strategic planning. It implies that plans designed to satisfy objectives in which profit figures at all significantly have an alarming chance element associated with their outcomes. Beyond this, and even ignoring the above discussion about an alternative approach to strategy, the probabilistic nature of key determinants of performance raise serious questions as to the implications for farm management of the distinction between strategy and tactics.

If, as argued, the distinction is undeniably real, how is it to be dealt with using maximising algorithms? Earlier research (Wright 1985) has indicated that maximising algorithms, applied to tactical (one-year) enterprise plans and based on plausible price forecast error distributions, are so unreliable as performance maximisers that a strategy of no change to enterprise plans, over a 20 year period, was no less profitable than one of adjustment to changing expected prices. That is, a strategic response, at the level of enterprise plans, of responding to uncertainty about prices, in this case, by assuming total, stultifying ignorance and doing nothing new was effective.

From the perspective of the suggested approach to strategy, this result is not especially surprising. Strategy which is focused on significantly uncontrollable outcomes, and defined using maximising algorithms, is flawed. The lack of control is not something to be accommodated by relying on foresight. It has to be recognised explicitly as an inevitable source of variability in performance and dealt with by strategy, at a higher level, which seeks to maximise the capacity to absorb the variability or reduce it. This may well mean that enterprise decisions rank as much less important decisions than others.

The starting point for farm strategy is the analysis of the 'context' (Morgan 1983, p. 350ff) within which the farm operates. Since survival is the focus, a financial model of the farm can serve as the window on context. Aspects of context are of interest to the extent that they impact on financial outcomes. A useful measure of the importance of aspects of context is their contribution, positive or negative, to financial risk which is defined as the capacity to service fixed financial obligations. Context impacts on this through contributions to variability in net revenue and contributions to fixed financial obligations.

An unusual feature of farms, compared to many other organisations or industries, is that the actions of the individual farm have little impact on relations between major parts of the environment, which relations determine context in major ways (Morgan 1983). This makes it possible for farmers to focus on context in rather more simple ways than managers of other firms. One exception to this is the area of collective farmer activity which seeks to modify the environment through third party (i.e. political) intervention. Apart from this, analysis of the farm context involves the analysis of the determinants of net revenue, and so on.

Since strategic planning theoretically embraces enterprise decisions, the relevant context includes the perceived variability in yield and price of all feasible enterprises, and such correlations as exist among these. Analysis of the context involves more than merely

the characterisation of the distributions of prices and yields of feasible enterprises, however. It includes the specification of the causal systems which underlie them. That is, it includes the identification of the major inputs, qualitatively, into these features of the environment. These are marketing system characteristics, relevant public policy, overseas determinants, and so on. The comprehensiveness of this analysis of context is related to the possible variety of strategies, or elements of strategy, that a farmer may incorporate, such as integration to modify the price environment, or political action, and so on.

Relatedly, expectations about developments in the overall context are pertinent, not simply price and yield expectations per se. The latter would be solely of interest if, and only if, the farmer perceived no ability to modify experienced variability or its impacts. Clearly, this is rarely the case. At the least, farmers have the ability to seek financial commitments which have various degrees of flexibility and which, therefore, have different implications for the impact of variability in production risk on financial risk.

7. Farm Management Research

A new research agenda flows from the above. It is the analysis of ways in which one might assist farmers analyse strategic context and the development of frameworks for the assessment of alternative strategies in terms of their implications for survival potential, as well as frameworks for the analysis of trade-offs between more finely-stated objectives and survival potential of various strategies.

This orientation to research is consistent with calls, for example by Giles and Renborg (1990), for the discipline to attend more comprehensively to the totality of decision making of farmers. The effect is not to deny relevance to earlier work in farm management but to reposition it in terms of its role and significance to overall farm management. A change that can be envisaged, though, is the reduced attention to uncertainty, as distinct from risk, in lower-level planning activity. Uncertainty of the magnitude encountered by farmers, and significant risk, is dealt with first at the strategic level. This 'frees up' lower-level planning and decision making to focus on alternative actions in a more deterministic 'environment', one constructed by strategy. It is uncertainty which creates the need for strategy. The response to uncertainty embodied in strategy does not need to be revisited at lower level plans. Strategy defines the bounds to change, in the activity of the farm permissible in the short term. Uncertainty may be factored into short term decisions, as quasi-risk for example, but appropriate responses fall within constraints to change defined at the strategic level. It

is not necessary, and not efficient, to seek to cope with uncertainty at lower planning levels; at these levels it is not possible to respond appropriately to uncertainty due to their shorter time horizons.

From time to time, the strategic response to uncertainty may be revised as a result of learning the inadequacy of that response, but that change is not most efficiently driven by implicit revisions to strategy being made in 'spot' plans at levels lower in the hierarchy. The integrity of strategy would be put at risk by such an approach.

8. Concluding Comments

The proposition can be put that the theoretical merit of adopting a conventional, business management strategic approach to farm management dissolves when one moves to implement the approach. The dissolvent is uncertainty. This is argued here to require refinement of the conventional strategic approach rather than to justify rejection of the relevance of strategic approaches to the analysis of farm management. The elements of relevant refinement may reside in the cybernetic perspective of Morgan (1983).

His approach can be viewed as one which employs constructs appropriate to the relevant environment. The conventional approach, both to strategy and farm management, employs constructs defined over an assumption of perfect information. These constructs are used in ways designed to cope with the failure of that assumption to obtain, leading, in effect, to the treatment of states of imperfect information as special cases of the state of perfect information.

Explicit identification of survival as the peak strategic objective seems to open the way for a strategic approach to farm management and the generation of aids to on-farm decision making which may be of use to farmers.

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