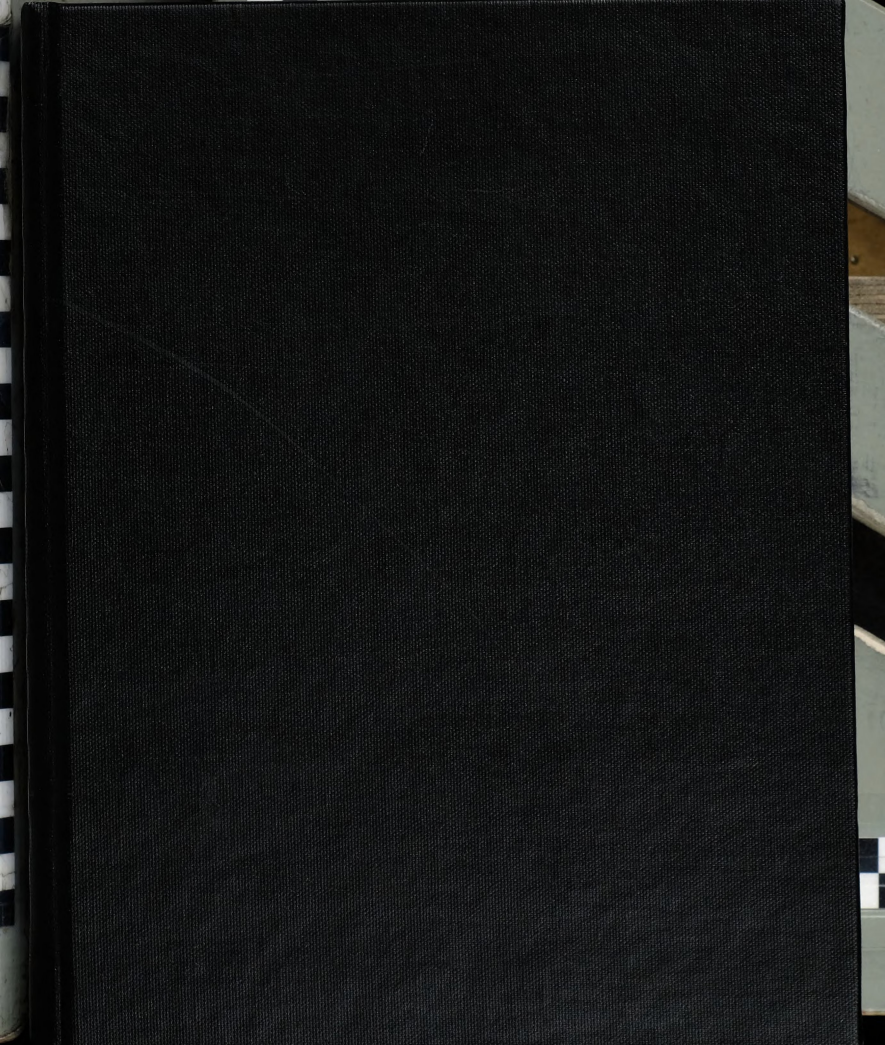






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AN ANALYTICAL FRAMEWORK FOR INDUSTRY STRATEGIC
PLANNING AND COORDINATION

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**AN ANALYTICAL FRAMEWORK FOR
INDUSTRY STRATEGIC PLANNING AND COORDINATION**

By

Conrad Power Lyford

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

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ABSTRACT

AN ANALYTICAL FRAMEWORK FOR INDUSTRY STRATEGIC PLANNING AND COORDINATION

By

Conrad Power Lyford

Commodity industries in agriculture are being challenged to respond to many dynamic changes affecting their competitiveness and economic viability including opportunities for domestic and international demand expansion, changing government regulations, competitive pressures, and customer quality requirements. In order to effectively compete in markets which are increasingly global, very dynamic and often fiercely competitive, commodity industries, as well as the individual firms and organizations within these industries, need to plan for needed strategies for the future. Such an approach can aid an industry to adjust rapidly to changing market and economic conditions as well as improve the industry's overall performance in serving changing customer needs. Some industries, comprised of firms and other organizations within a commodity industry, are pro-actively addressing challenges through planning strategically. As these aspects are addressed then industry performance can be improved. This sort of planning activity with the goal of improving the competitiveness and economic viability of commodity industries is what is termed *industry strategic planning and coordination* (ISPC).

A key purpose of this dissertation is to contribute to the development of a pragmatic, broad-based analysis framework for accomplishing ISPC. As one step toward this goal, a review of theoretical concepts and ideas from several relevant disciplines was developed. These concepts and ideas were subsequently used to develop an ISPC framework as an effective guide for practitioners of ISPC. This ISPC framework was then related to the empirical setting of two

industry case studies which involved industry strategic planning and coordination. Based upon the case studies, the framework was evaluated in relation to these empirical settings. This evaluation indicates that the ISPC framework is a useful model and can be used in other industries.

Experiences studied in this dissertation indicate that ISPC can be effective in helping an industry to develop and implement strategies that are likely to lead to improved industry performance. This indicates that further research on ISPC and applications of ISPC will likely provide useful contributions. This dissertation documents this and further contributes to the development of a comprehensive analytical framework for industry strategic planning and coordination.

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CHAPTER 1

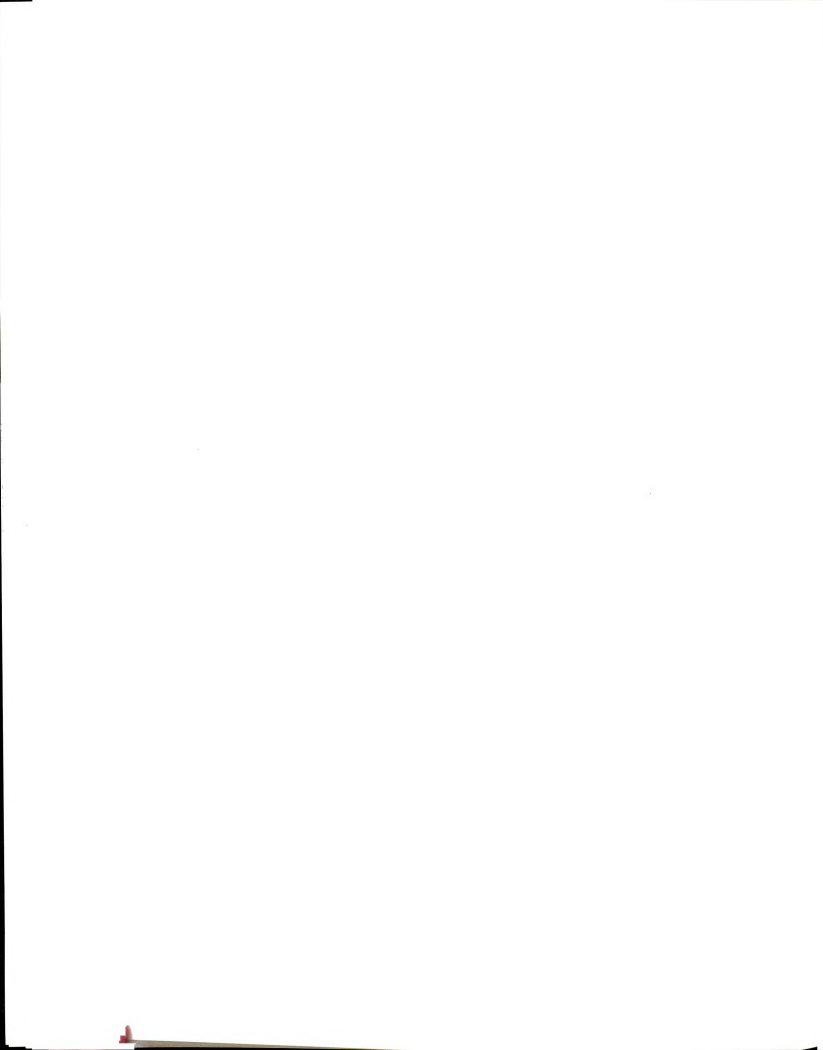
RESEARCH SETTING AND PLAN

Research Setting

Commodity industries¹ play an important role in our economy. They provide important products to food manufacturers (e.g. corn, wheat) and market some products to consumers in non-processed forms (e.g. apples, peaches, oranges). There has been a long public interest in these industries given their important roles in providing food to the nation as well as employment in rural communities. Many dynamic changes are affecting the competitiveness and economic viability of these industries. These include changing government regulations, domestic and international demand expansion or contraction, increased competitive pressures, and greater consumer quality requirements.

At the level of an agricultural firm, industry changes can be systematically identified, their impacts assessed, appropriate strategies developed and implemented through a process of strategic management. However, in addition to firm-level strategic management, there may be significant opportunities to improve industry performance and competitiveness through industry-wide efforts to address certain types of issues that may be most effectively addressed by some coordinated industry responses. This suggests that some form of "industry strategic planning" may be a useful endeavor to improve an industry's competitiveness and economic viability. Such strategic planning and coordinated action for improved industry performance are an important goal of the Michigan apple and U.S./Michigan tart cherry industries.

¹Industry in this setting refers to firms and industry support organizations involved in producing and marketing an agricultural commodity from a particular region.



One example of an industry improvement strategy that can be enhanced through coordinated industry efforts would be to strengthen the industry's reputation in providing high quality products to the market. This strategy could help enable firms in one regional industry to gain market share and develop new markets for their products in competition with other commodity industries. Often an industry's reputation depends on the action of all firms in the industry area. Therefore, improving the shared reputation has some facets that are beyond the capability of any one firm or organization alone, most especially in a commodity industry.

The need for such industry-level strategic planning and coordination is accentuated by the changing role of the public interest in agriculture. Agriculture as a whole has long received substantial support at the public policy level, but this is increasingly less the case. There have been reduced government price and income supports for such farm industries as wheat, corn, and soybeans. Increasing amounts of public regulations affect agriculture in such areas as pesticide and herbicide use, hired labor, and food safety. National public investments through such institutions as land grant universities and cooperative extension are declining under budgetary pressures. Consequently, the public investment in production agriculture seems to be declining while the costs of regulatory compliance by agriculture and food firms are increasingly important. This provides less incentive of motivation for commodity industries to collectively recognize and address these issues.

Industry strategic planning and coordination has or is being used in some industries and has the potential to be useful in a number of other industries. Recent experiences with the Washington apple industry indicate this potential (Woods, 1996). One benefit from this approach is the increased coordination within the industry to enhance and quicken needed adjustments in such areas as production and marketing.

Although relatively little has been written about *industry strategic planning and coordination*, some recent works are quite relevant as a base to build upon. These include current



ment of the area of industry strategic planning and coordination (Ricks and Woods, 1996),
 r analysis (Shaffer, 1980; Marion 1986, Boughton *et al*, 1995), and strategic management
 rm (Porter, 1985; Peterson, 1996). Furthermore, because the Michigan apple and
 higan tart cherry industries are currently engaged in a process of industry strategic
 and coordination, these situations provide a special opportunity to both contribute to and
 n these industry strategic planning and coordination processes. Thus, further exploring
 loping the use of industry strategic planning and coordination concepts and approaches
 ve to be useful as a practical and conceptual contribution.

Industry Strategic Planning and Coordination (ISPC) ²

ne use of strategic planning for an entire industry with related types of coordination has
 widely used than strategic planning for an individual firm or organization. An
 te definition for industry strategic planning is thus a necessary starting point. In
 ng this definition, three key issues will be addressed:

- o What is industry strategic planning and coordination?
- o Why were these particular words chosen to describe this type of activity?
- o What is the most useful way to look at the industry in this context?

ving three sections address these questions.

Process of Strategic Planning at the Industry Level

ategic planning at the industry level is a process where firms and organizations within
 r strategically plan together to take selected coordinated actions to improve industry
 eness, performance, and economic viability. In the Michigan apple industry
 representatives from firms and industry organizations have met periodically in a

his section, ISPC will be used to refer to Industry Strategic Planning and Coordination.

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leadership roundtable format to synergistically develop strategies and plans to set the stage for the future success of the industry. One of the key expected outputs of this type of process is a set of prioritized strategies or action alternatives where industry action can help improve performance.

The participants in the industry planning process selectively work on developing strategies to address certain issues that can supplement strategies of individual firms and can help set the stage for improved performance by both individual firms and the aggregate industry. This process can be expected to focus attention on certain opportunities or problem areas where individual firms and/or support organizations can respond with appropriately identified strategies. Strategic planning at the industry level may involve selected actions or programs, possibly including mandatory regulations such as minimum quality standards or voluntary informational approaches. For the minimum quality standard example, the strategic planning process could raise awareness of the issue and promote effective policy responses by individual firms and industry organizations.

Rationale for the Terminology of Industry Strategic Planning and Coordination

There are a number of potential choices in determining the appropriate terminology to describe strategic planning at an industry level. One obvious choice is to call the activity industry strategic planning. However, strategic planning as a term in the business literature has been used as only part of the needed overall process. Managers generally need to implement as well as plan. This has resulted in the development of the *strategic management* term to describe firm strategic planning and implementation efforts (Hussey, 1994).

Industry strategic management is a potential choice to describe efforts to plan and implement certain kinds of changes for the future at the industry level. However, the use of the term "management" in this context implies a level of implementation control that is clearly beyond what most industries could achieve. A diverse and complex industry of many different organizations, and marketing channels with several vertical levels in the production-distribution chain cannot be "managed" to the degree that is possible within a firm. Therefore, the

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industry strategic management has its drawbacks in the context of a diverse and complex commodity industry.

The goal of integrating strategic planning with implementation suggests that an element of strategic plans can or will be implemented at the industry level should be included in a most appropriate term for this approach. The strategies developed through industry strategic planning most likely require some manner and degree of coordination and cooperation between the firms and organizations in the industry - - although in many cases this may be quite informal and loosely knit. This type of cooperation must largely be achieved through voluntary actions of firms and other organizations comprising the industry. The use of the word *coordination* in the term *industry strategic planning and coordination* arises from this important consideration. Therefore, in this dissertation, the phrase industry strategic planning and coordination (or ISPC) will be used to describe this approach.

The "Industry" in ISPC

ISPC when applied to an agricultural commodity industry focuses on the interrelated firms and industry organizations from the farm level through other phases of the production and marketing system that *identify themselves* as having a common interest in that commodity industry. This common interest may focus around a number of issues often including some common economic basis. For example, the Michigan apple industry includes growers, packers, shippers, processors, and apple industry organizations. These firms and organizations in the Michigan apple industry share to some extent a set of common interests and reputation with Michigan apples as well as common production and marketing problems such as market development, price fluctuation, selection, quality issues, supply-demand balance, etc.

An important distinction about *industry* strategic planning and coordination is that it is not controlled by a centralized planning agency. ISPC is developed largely by the *industry* itself.

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s means that the firms and organizations provide the direction, and thus the strategies and priorities developed will be grounded in and closely linked with the needs of the industry.

From the public policy perspective, some might be concerned that the goal of industry strategic planning and coordination might be to restrict quantity and achieve a higher collusive price for the industry. There are, however, many other prospects and motivations for improved industry performance in a dynamic, highly competitive environment that are much more likely to draw attention in industry strategic planning and coordination. These include developing industry public goods (such as consumer market research), improved vertical coordination, and other benefits with the primary goal of more effectively serving customer needs. The issues of the benefits of industry strategic planning and coordination as well as possible monopoly motivations for these efforts are discussed in Chapter 2 from a theoretical perspective and in Chapter 6 based on experiences in the Michigan apple industry and the U.S./Michigan tart cherry industries.

Research Objectives

ISPC is an approach that offers substantial promise for aiding the competitiveness, performance, and economic viability of industries. The broad objectives of this dissertation are to further analyze and develop the concept of ISPC as well as to develop effective approaches in accomplishing ISPC. In doing this, the dissertation has the following key research objectives:

1. Contribute to the further development of a pragmatic, broad-based analysis framework for accomplishing ISPC.
2. Develop an improved understanding of the potential benefits and limitations of ISPC.
3. Provide evidence, to the extent that data and information are available, that ISPC can be useful in some industry settings.

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4. Apply certain aspects of the ISPC framework developed here and in other recent works to the Michigan apple and U.S./Michigan tart cherry industries to further show the usefulness of the ISPC approach in practical applications.

Research Procedure

To accomplish the above research objectives, it is necessary to develop an appropriate research procedure. This section presents such a procedure by (1) proposing two researchable propositions, and (2) describing the testing procedures that will be used to establish the validity of propositions.

1 Research Propositions

As mentioned earlier, ISPC is a complex, relatively new approach with potentially important economic outcomes. At this point, there has been relatively little research about ISPC which means that developing an exploratory understanding of ISPC and its theory would be appropriate.

Research Objective 1 of this dissertation is to further develop an ISPC analytical framework. This objective leads to the following proposition:

Proposition I

Based on theory from relevant disciplines, a framework of interrelated activities can be specified as an aid for accomplishing ISPC.

This proposition may seem trivial. However, it is not necessarily apparent that established theory provides an adequate source on which to develop an ISPC framework. Economic theory and best practice have historically argued against a legitimate ISPC process while management has been focused on the firm level.

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Proposition I is the theory building phase of the research design. Theory about how to effectively accomplish ISPC from relevant disciplines is integrated in a framework. The relevant literature for building a useful ISPC analytical framework comes from several sources. The literature on firm-level strategic management provides considerable foundation material. Then literature from economics, agricultural economics, management, and other social sciences is used to modify and adapt relevant firm-level concepts for application to the industry level. Insights and relevant aspects for an ISPC framework can also be drawn from the small body of existing literature on ISPC (Ricks and Woods, 1996; Woods, 1996; Ricks, Woods, Boughton, and Woods, 1996).

The empirical phase of the research design of this thesis applies the ISPC framework developed in the context of two industry cases where ISPC is being used. This application addresses Research Objective 4 listed above. Using the specific industry cases in this manner provides considerable empirical information and an inductive emphasis towards illustrating, testing, and validating the proposed ISPC framework. The case studies are used to test a proposition:

Proposition II

An actual ISPC process that follows the framework of Proposition I can substantially contribute to improved industry performance.

Testing of this proposition addresses Research Objectives 2 and 3.

Proposition I can be explored through an extensive literature review and synthesis of key findings from that review into a framework. Investigating Proposition II, however, requires testing the empirical validity of the proposed framework. A design for this testing is needed.

Testing and Empirical Validation of the Framework

As mentioned earlier, the case study approach has been chosen to explore and investigate Proposition II. This is appropriate because the case study approach is particularly useful in developing an

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laboratory understanding of a new area (Yin, 1994) and can be used to develop and test relevant synthesis and theory (Hartley, 1994). Specifically, the framework will be applied in the cases of Michigan apple industry and the U.S./Michigan tart cherry industry to evaluate the effectiveness of the resultant ISPC process and the ISPC framework.

There are several specific measures of validity for the data collection and analysis efforts in the study research. Yin (1994), a prominent authority on case study research, discusses his work on four types of relevant validity for case study research -- construct validity, internal validity, external validity, and reliability. These measures of validity seem appropriate then to the research design in this dissertation. The following considers these measures of validity for this dissertation and maps out how they are addressed in the structure of the dissertation.

Construct Validity

Construct validity is considered one of the most important advances in the science of measurement theory and practice (Kerlinger, 1986). Construct validity is achieved through finding appropriate operational measures for the concepts under investigation. That is, it is important to establish methods to measure the issues under investigation. Two important elements of construct validity are (1) does the theoretical concept have an operational counterpart, and (2) is the operational counterpart by objectively measured.

In this dissertation, the first element of construct validity can be established if the framework can be shown to correspond with the activities that were actually done in an industry. In other words, construct validity can be established if the theoretical constructs of the framework accurately describe what happened in actual setting. In this, the description provides an additional measure of the framework.

Yin argues that the second element of construct validity should be based on using multiple sources of evidence that mutually reinforce the same findings. In the case study of the Michigan apple industry, three main sources of information were used in developing the case. One source

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information was from the author's participant-observation of the activities of the Michigan industry ISPC process. This included attending meetings of the ISPC group as well as developing informational analyses based upon the priorities and suggestions of the group. A second source of information was the minutes of the ISPC group's meeting that established a written record of key discussion points and decisions made in the meetings. A third source of evidence was from interviews and discussions with key informants. Substantial discussion in chapter 4 will focus on evidence of construct validity for the framework provided by the apple industry case.

2 Internal Validity

Another key test of validity is internal validity. Internal validity focuses on establishing a relationship where certain conditions are shown to result in other conditions. That is, certain conditions cause other conditions. The need to establish internal validity is important for the framework and the ISPC approach in general because a key expectation about the framework is that it provides effective methods for carrying out ISPC. This means that the ISPC framework is intended to guide an ISPC process which results in improved industry performance -- the essence of Proposition II.

Internal validity will be pursued within the case studies using three tests. First, it can be argued that applying the framework facilitated the development and implementation of strategy which altered the industry's course from what it would have been and hence could result in improved performance over time. This is a weak test of internal validity, but it is appropriate to use since they are being analyzed as works-in-progress rather than after an extended implementation period.

A second, stronger test of internal validity is to show that the ISPC process actually resulted in improved industry performance and not merely a change in course. This second test will be addressed in the Michigan apple industry case study, but results remain tentative.

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A third test of the framework's internal validity focuses on the fact that the framework is designed to effectively guide ISPC processes. This means that the framework prescribes that certain actions should be accomplished in specific ways in an ISPC process. However, it is likely that in specific situations the actual practice, i.e., what is actually done in an ISPC process, will not entirely parallel or follow the prescribed actions of the framework. In those situations it is not possible to test the specific elements of the framework in which actual practice diverged from the framework's set of prescribed actions. If the divergence from framework results in undesirable outcomes for the ISPC process, this helps confirm the internal validity of the framework.

3 External Validity

External validity is the issue of considering how generalizable are the results or what is the range of situations to which a study's findings can be generalized. A key issue in this is how generalizable is the ISPC framework to be developed to situations beyond the case studies where it has been tested. Results would be generalizable to a particular population if the results were derived from a sample which was expected to represent a particular population. Case study research, by its very nature generally has a small sample size, often with only one or two cases from which to generalize. As such, the generalizeability obtained through case studies is somewhat tentative because there often are unique characteristics in the particular cases studied. This means that, based on this dissertation alone, the external validity of Proposition II can not be established. In the concluding chapter of the dissertation (Chapter 6), the issue of external validity will be revisited for further elaboration.

Reliability

Yin relates another key test of the validity of a case study, reliability. This test is whether another researcher using the same evidence to develop the case study including data collection, analysis, etc. would come to the same conclusions as the case study. For reliability, it is essential that adequate documentation of the case studies to be kept and review received from other relevant

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researchers. In developing the reliability of the case studies in this dissertation several efforts were made. Records were kept of ISPC group meetings and other key events. Furthermore, the studies and conclusions were reviewed by key informants who suggested that the conclusions appear to be reliable.

Organization of the Dissertation

The remainder of the dissertation is organized as follows. The second chapter reviews pertinent literature in the fields of business, agricultural economics, and economics in order to draw upon these conceptual sources in developing an improved framework for ISPC. Some key issues that the ISPC framework will need to address based upon theory are identified. This provides guidance in adapting and modifying existing planning and implementation frameworks to the industry context. Furthermore, a discussion of theoretical benefits of ISPC is developed.

The third chapter develops an ISPC framework that is designed as a generalizable approach or guide to accomplishing ISPC. The framework is based upon integrating relevant concepts from the literature reviewed in Chapter 2.

In Chapter 4, a case study of the strategic planning experiences in the Michigan apple industry is developed. The goal of this case study is to apply the framework and provide an empirical overview of the entire process in one industry that has and is using this type of approach. Evaluation and analysis focus on the extent to which the ISPC process has been used in the Michigan apple industry and to which a causal relationship exists between ISPC and industry performance.

The fifth chapter is a case study of emerging strategic planning efforts in the Michigan tart cherry industry. This chapter describes current efforts in ISPC for the tart cherry industry. An impact analysis of one recently developed industry-wide program, the federal

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The sixth chapter summarizes the entire dissertation. Within this final chapter, the work developed in Chapter 3 is revisited based upon the Michigan apple industry and Michigan tart cherry case studies. These provide some indications for improving the work as well as practical innovations on how to accomplish ISPC. The generalizeability of PC framework is considered. The current state of ISPC research is assessed, and suggestions on some areas and approaches where future research could improve knowledge about are provided.

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CHAPTER 2

THE CONCEPTUAL BASIS OF ISPC AND LITERATURE REVIEW

As called for in Chapter 1, relevant theory and literature need to be reviewed to develop foundation of an ISPC framework. A key part of the effort in this chapter is to review works and concepts of relevance to developing and explaining the use of an ISPC work. The information developed in this chapter represents well established theory that used in further developing an improved framework for ISPC in Chapter 3.

In reviewing literature for ISPC framework development, this chapter reviews literature number of areas. The first section reviews the concept of strategic management and its frameworks for strategic management that have been developed by Thompson and (1995) and Peterson (1996). The second section considers key differences between management and the different needs for an ISPC context. The third section reviews an ISPC framework by Ricks and Woods (1996). Subsequently, subsector, value chain, transactions cost analysis are reviewed as important tools to evaluate the performance of production-marketing systems and consider means to improve performance in a fourth. A fifth section reviews the concept of developing core competencies for an industry. A tion of this chapter reviews the potential benefits of ISPC to an industry from a al perspective. These describe the potential in exploring the ISPC concept and ng an ISPC framework. In the seventh section of the chapter, three important aspects are identified, i.e., group theory, the problem of public goods, and vertical

dination. They are reviewed for the purpose of providing some theoretical aspects for
 identifying and adapting existing firm-level frameworks to the needs of ISPC. A final section
 summarizes the information in the chapter to prepare for the framework development in Chapter

Strategic Management and Strategic Management Frameworks

A key goal of this dissertation is to contribute to the development of an effective
 framework for ISPC. One of the base starting points for ISPC is the various strategic
 management frameworks that have been developed by various analysts and that are designed to
 strategic management for individual firms. Given this goal, it is worthwhile to consider the
 vision, purpose, and method of strategic management and industry strategic planning
 frameworks.

The Evolution of the Concept of Strategic Management

Strategic planning and management at the individual firm or organization level has been
 used as a tool in a wide number of contexts. As will be shown later, there are important
 differences between this firm-level approach and planning strategically at the industry level.
 Nevertheless, strategic planning and management ideas, concepts, and frameworks for individual
 firms should be able to provide important insights relevant to ISPC.

Strategic planning was developed as a planning tool for large businesses in the 1950s.
 Some other organizations, such as, large government and non-profit organizations, have
 used the approach as well. It is a method for firms and organizations to develop strategies or
 action to achieve the goals of the firm or organization, taking into consideration the
 resources and external environment of the firm or organization. Henry Migliore (1990)
 defines strategic planning as:

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... the process of developing direction for an organization. It is both a product and a process. The product is the plan itself. It is in writing and clearly defines where the organization intends to be in the long term, usually three to five years. The plan includes objectives, strategy, and the short-term steps to ensure overall success. The process is the interaction that takes place in developing the plan. Everyone involved in executing the plan should be involved in its development.

A problem with many strategic planning efforts was that "...organizations learned from tactical experience that simple extrapolation of history ... and cadres of professional planners led to lead to innovation, adaption for change, and even survival. Planning processes too easily degenerated into goal-setting exercises, failing to embody any real understanding of competitive advantage". (p. 20, Rumelt *et al*, 1994). It seems from this that it is important to incorporate an understanding of competitive advantage in strategic planning activities.

Strategic planning in itself has empirically often been shown to have limited or no impact on firm performance (Mintzberg, 1994). Given that the general goal of strategic planning is to improve performance, this result is surprising and suggests that strategic planning must be undertaken carefully in a particular firm. In an industry context, it is also important to evaluate and determine how an industry can accomplish strategic planning that will result in improved performance.

Partly to address the problems of strategic planning already mentioned in this section (i.e., strategic plans not having a real understanding of competitiveness, not positively impacting performance, etc.), another term and practice has evolved, referred to as "strategic management". Even though the terms strategic planning and strategic management are sometimes used interchangeably, strategic management encompasses more fully the issue of implementation implied by efforts at strategic planning. That is, strategic management focuses not only on developing an effective strategic plan but implementing the strategic plan as well.

and Buffa (1986), writing in the business firm context, comment:

We cannot plan for everything in great detail, so managers must fill that gap with strategic thinking on a day-to-day basis and manage strategically--strategy

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must be a part of every decision. Strategic issues should not arise only during the strategic planning cycle. (p.231)

In strategic management the goal is that those developing the vision and strategy for the organization are more closely tied to the actual management and implementation processes that exist in the organization than was often the case in earlier strategic planning efforts. In this, developing strategies should not be an activity that is driven by planners and then given to managers to implement.

2 Frameworks in Strategic Management

A review of relevant and well-established strategic management frameworks is important because the ISPC framework to be developed can be based in part on modifying and adapting existing strategic management approaches to ISPC. Michael Porter (1994) comments on the purpose and use of frameworks in strategic management research. He indicates that firms face a highly complex, specific situation that is dynamically changing as the firm, industry, and environment evolve. This applies to industries as well as firms. This complex, dynamic setting strains conventional economic approaches to theory building. Conventional economic theory approaches often focus on isolating a few key variables of interest abstracted from the many real complexities of competition. Economic models have not been able to embody the full complexity of the many economic factors and competition that the firm faces, and are limited to overly abstract situations, such as, where small groups of firms approximate the assumptions of a particular model. The results of these models are further highly influenced by their assumptions that are often quite different from the real world complexities of dynamic and competitive business firms and industries.

Frameworks are especially valuable and useful for explaining real-world economic behavior. Frameworks can seek to encompass the many variables and complexities that exist in the competition and economic setting of the real world. An important part of the

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21.3 The Five Tasks of

Arthur Thompson
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1. Developing a
2. Setting objectives
3. Crafting a strategy
4. Strategy implementation
5. Review and revision

The first three tasks are
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¹ The use of the term
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in each framework is the choice of particular variables to include in the framework and they are organized. Porter further notes that "... as long as the building of frameworks is upon in-depth empirical research, it has the potential not only to inform practice³ but to the development of more rigorous theory" (p. 429).

In the following section two frameworks of strategic management are reviewed. These frameworks are designed to be useful for those engaged in strategic planning and implementation and aid in understanding the many complex and dynamic factors that are relevant for strategic management. An important focus is on the key activities that management theory states should be used by a firm as it prepares for the future, as these activities will likely be in ISPC.

The Five Tasks of Strategic Management

Arthur Thompson and A. J. Strickland (1995) have developed and summarized a framework for the main interrelated tasks of strategic management. One overall goal of the framework is to describe the tasks necessary to making and implementing firm strategy. The tasks that should be completed sequentially are:

1. Developing a strategic vision and business mission
2. Setting objectives
3. Crafting a strategy
4. Strategy implementation and execution
5. Review and re-evaluation

At three tasks are related to the development of the strategic plan while the fourth task is implementation of the plan. The fifth task reviews and re-evaluates the earlier tasks in

³ The use of the term "inform practice" by Porter apparently means to inform those who are engaged in a particular activity. In strategic management, informing practice would likely mean those engaged in strategic management such as managers, executives, analysts, etc.

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of changing circumstances and shows strategic management as an iterative process. The following section discusses each of these tasks.

Developing a Strategic Vision and Business Mission

Developing a strategic vision and business mission for the firm is at the foundation of strategic management. The business mission identifies the main overall direction of the firm, while the strategic vision shows what the firm is working to become. This overall portrayal of the firm and its future plans can provide a motivating description of the firm. It may help employees to have a better understanding of how to serve customers, and a strong organizational culture may be established.

Setting Objectives

To meet the overall business mission and strategic vision, it is necessary to develop short-range objectives or performance targets. These objectives can be usefully employed to change the firm. As the firm seeks to close the gap between current performance and desired performance, it is pushed to be creative in achieving these objectives. A specific timeline to accomplish particular objectives develops a sense of urgency in meeting the objectives.

Formulating a Strategy

Objectives are the desired end results while strategy includes the methods by which the objectives are to be achieved. A situational analysis or a complete evaluation of the firm's internal and external situation provides an important basis for developing strategies. The analysis of the firm's internal situation defines its capabilities and limitations. The analysis of the external environment provides information on key emerging trends, external driving forces, success factors, changes in technology, and other factors that have relevance to the firm. With this information, a set of strategies or an overall strategic plan can be developed that is consistent with the realities facing the firm.

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Strategy Implementation

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2.1.4 A Framework in

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It is important in developing the strategic plan that the strategies selected be flexible to changing circumstances. Over time, as events unfold, the strategies developed will need to be modified in an emergent fashion. The overall strategy actually implemented is usually a departure from the intended strategy from the strategic plan and emergent strategy to respond to changing circumstances.

Strategy Implementation and Execution

Strategies developed need to be implemented if they are to be effective in moving the organization toward its long term objectives. To do this, it is necessary to determine what must be done for the strategy to work and to meet the time schedule for progress identified in the planning process. Within this, it should be specified who will accomplish the strategy and how resources will be provided to accomplish the strategy.

Review and Re-evaluation

Another important task of strategic management recognizes that strategy development and implementation is not a one-time exercise. Strategic management is most effectively used as a continuing process where relevant trends, technologies and other competitively important factors are identified in a dynamic fashion and appropriate firm responses determined, built into the firm's evolving strategies, and implemented. Given this, the decisions made and strategies chosen should be reviewed in light of changing circumstances. Each facet of the process can be evaluated as needed. The search for better strategy and improved competitiveness should be a continual goal.

A Framework in Strategic Management for Competitive Advantage

Elements of these strategic management approaches with writings from other management and economic literature were the basis for a strategic management framework for the firm (Peterson 1996). Peterson's framework, shown in Figure 2-1, is made up of three stages (situational analysis, strategy selection, and implementation). These stages, that



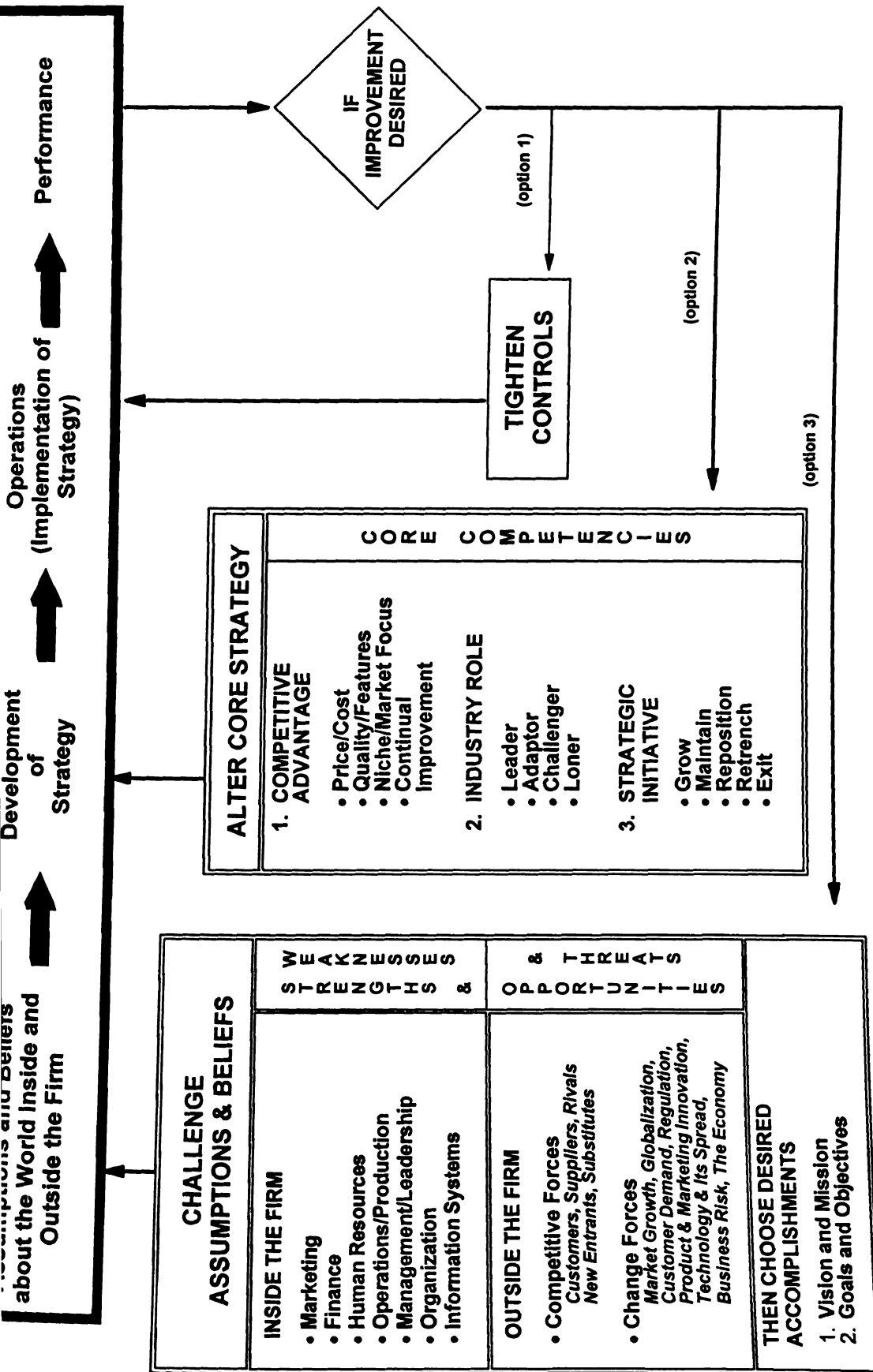


Figure 2-1. Peterson's Framework for the Strategic Management of Entrepreneurial Agribusiness

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Some overall alternative

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Once the core strategy is

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details for the product market

⁴ Peterson incorporated
(1985).

should be completed sequentially, can contribute to effective strategic management of firms.

There are specific methods associated with each step. The following section describes each of these stages.

The first stage of Peterson's strategic management framework focuses on clarifying and enriching an understanding of the characteristics of the firm that is being studied and the market, economic, and competitive context in which the firm operates. This is typically called a situational analysis. For this purpose, a comprehensive analysis of a firm's strengths and weaknesses is developed. Knowledge about the external threats and opportunities facing the firm is also developed. Then within this stage, the vision and mission for the firm is developed.

The second stage of strategy selection uses the knowledge gained in the first stage to develop strategy for the firm. Three strategic areas form a firm's core strategy. First, the means and resources that a firm can use to create competitive advantage is associated with an important set of choices. The type of products to be marketed (e.g., quality, positioning of the product, etc.) is an essential part of the choices. Second, the overall role for the firm to play in its industry is evaluated. A key set of questions addressed in the overall industry role is whether the firm will lead the industry (Leader), adapt to the successful strategies of others (Adaptor), challenge the industry leader (Challenger), or operate with a unique industry approach to serve niches in the market (Loner)⁴. Third, the overall strategic initiative of the firm is developed. Some overall alternatives here are whether the firm will grow, maintain, reposition, retrench, or exit the industry.

Once the core strategies for the firm have been developed, then the third stage of the framework operationalizes the strategies. This would include developing a plan with the specific details for the product mix of the firm and actually implementing the strategic initiatives.

Peterson incorporates and extends the industry role concepts that were discussed by Porter (5).

Appropriate controls must be implemented to ensure that the strategies in meeting the

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Feedback loops represent the possibility that the stages in strategic management can be re-evaluated based upon changing circumstances. Different strategies and implementation approaches can be selected and used. This process of strategic management is conceived of as an iterative process where the firm continually seeks the best strategy overtime.

The purpose of Peterson's framework is to provide a graphical illustration and a guide to developing a sustainable competitive advantage for the firm. Those considering developing a strategic management approach for their firm are intended to be the main users of this approach. The framework can be used by analysts as well as managers in the firm. An important benefit of the framework is to clarify and explain the key steps in the process that may help the strategic management process be easily understood by a wide audience with a variety of backgrounds.

Differences Between Firm Strategic Management and ISPC Frameworks

Firm strategic management frameworks represent well established approaches which the individual firm can use in developing and implementing strategies to improve their competitive performance. An ISPC framework should have a similar focus except that the focus will be on the broader industry rather than the firm. Firm strategic management offers a central part of the conceptual or theoretical base for developing an ISPC framework. However, key differences between the firm context and the industry context need to be recognized, discussed, and addressed in developing and applying an ISPC framework.

One important consideration is whether the difference between strategic management for the firm and ISPC can be characterized as primarily a matter of content (i.e., what is analyzed, decided, and implemented) or a matter of process (how it is analyzed, decided, and implemented). This is a complex question. It is likely that ISPC will be somewhat different in

both ways. Nonetheless, develop the content are example, an industry, is dynamic environment need to be selected and and re-evaluated. However, areas in different ways involve some further ac constraints of ISPC as a

One fundamental difference in organizational numerous firms at various as industry support organization firm's CEO or group of development and implementation context there are many decisionmakers and goals firm strategic management important differences are

- a less clear,
- the nature of
- rivalry among

The following subsections to firm strategic management industry context.

both ways. Nonetheless, an ISPC framework will need to develop methods to accomplish or develop the content areas that are somewhat similar to those in firm strategic management. For example, an industry, like the firm, will need to develop a thorough analysis of its current setting, its dynamic environment, and its competitive situation through situational analysis. Strategy will need to be selected and implemented for the industry, and the overall process should be reviewed and re-evaluated. However, an ISPC framework may need to develop some of these content areas in different ways so that an ISPC process is most effective. In addition, ISPC may need to involve some further additional steps and aspects because of the various complexities and constraints of ISPC as discussed below.

One fundamental difference between ISPC and firm strategic management is the difference in organizational and control structures. The industry is made up of a complex set of numerous firms at various stages with various levels of vertical and horizontal linkages as well as industry support organizations. In an industry, there is no inherent clear leader, such as, a firm's CEO or group of top executives, with the responsibility and power to lead the development and implementation of strategy at the industry level. This is because in the industry context there are many autonomous firms and industry organizations with separate decisionmakers and goals. A number of the main issues in developing an ISPC framework from firm strategic management arise from this difference in organizational structure. Some of these important differences can be broken down into three main areas that are:

- a less clear, inherent method to start or initiate an ISPC process
- the nature of ISPC strategy
- rivalry among firms as a limiting factor in ISPC strategy

The following subsections discuss the relevance of these issues and suggests some modifications to firm strategic management frameworks in order to be most appropriate and relevant for an industry context.

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2.2.1 Need for a Method to Initiate an ISPC Process

One key need in any planning and implementation process, such as, ISPC or firm strategic management, is to effectively start or initiate the process. In firm strategic management, starting or initiating the process is more straightforward since the CEO or group of top executives can accomplish this. Hence, firm strategic management frameworks generally do not focus on this aspect of the planning and implementation process. In the industry context, by contrast, there is no clear leader or group of leaders with the responsibility to start an ISPC process. This indicates that initiating an ISPC process is likely to be substantially more difficult and complex than for a firm, and that an ISPC framework which will be most effective needs to include a component focused on process initiation.

One key aspect of initiating an ISPC process in a particular industry is the need for the industry to perceive possible benefits from an ISPC process. These possible benefits can provide incentives to attract the various segments of the industry to work together on some aspects for improved industry performance. A discussion of possible benefits from ISPC is developed later in this chapter.

2.2.2 The Nature of ISPC Strategy

In firm strategic management, strategies once decided upon can be implemented by the firm's CEO, top executives, and managers. The relative ease of strategy making and implementation in a particular firm is dependent in part upon the size and complexity of the firm. In the ISPC context, such strategy making and implementation will likely be much more complex and complicated because it covers a broad, diverse and complex industry. Firms and industry organizations in the industry are separate organizations with autonomous decisionmaking power and different objectives. If there is to be any continued involvement in a comprehensive ISPC effort by industry leaders, this will need to be based upon recognition of common interests and continued voluntary participation among the diverse industry participants.

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This means that ISPC strategies will likely in some respects be more limited in scope than strategies in firm strategic management. Firm strategic management focuses on all areas in the firm in a search for firm competitive advantage. In comparison, ISPC strategy will likely focus primarily on those areas where there are interdependencies between firms in the industry, such as, addressing vertical coordination issues or facilitating the provision of certain industry strategies related to selected types of public good strategies.

Given the necessary focus on interdependencies within the industry for ISPC, there is an issue of implementing certain industry public good strategies. If ISPC strategies are successful and industry performance is improved, then all firms in the industry may benefit whether they contributed to accomplishing the effort or not. In these types of situations, individual firms may or may not provide their share of adequate actions or resources to accomplish needed industry improvement strategies. This is the public or non-excludable good problem that needs to be addressed in an ISPC framework. There is substantial theory in the economics literature dealing with public good issues that are reviewed later in this chapter.

Another important difference between firm level strategic management and ISPC strategy is the necessity for greater reliance on the use of voluntary cooperation for accomplishing strategies in the ISPC context. In firm strategic management, implementing key aspects of firm strategy is mandatory to a greater degree and non-compliant firm members can be more readily sanctioned by the firm. Use of mandatory strategy in the industry context would be much more difficult and would need to be based upon consensus of the diverse firms and organizations in the industry.

Another important differentiation about ISPC strategy is that it is likely to be stage-setting in nature. *Stage-setting* strategies are strategies which require additional actions by firms. For example, an ISPC strategy that develops information in a critical area will only be truly effective if firms in the industry use the information. Further, stage-setting strategies will likely have a

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widespread impact in the industry. ISPC participants will likely be concerned that ISPC strategies should be reasonably equitable between industry segments (e.g. growers versus processors) and between firms in particular market segments. It is important to emphasize that the stage-setting strategies from an ISPC context may or may not be implemented at the industry organizational level.

2.2.3 Rivalry in an ISPC Process

Another key difference identified between firm strategic management and ISPC is the possible extent of rivalry (Woods, 1996). In the firm strategic management context, the various employees of the firm, e.g., CEO, executives, managers, etc., may compete to some extent with one another for top positions and authority, but at least in principle they are all working towards a common goal of improved competitive advantage for the firm. Such a unifying goal is much less prevalent in an industry setting as individual firms are often in direct competition with one another.

Various ISPC strategies may help set the stage for future industry success. However, firms may often be predisposed to focus heavily on rivalry conditions among themselves. This means that group action to address a particular common problem may be difficult to achieve if it requires their joint action. This is especially true if the benefits of the expected change are perceived to be asymmetric, i.e., one group might gain more than others from the change. This means that in the industry context, the issue of rivalry will likely pose some obstacles or constraints for the effectiveness of an ISPC process.

2.3 Existing Industry

Through a series of steps, the framework is comprised of a number of analytical packages that describes a number of excellent source for aid Ricks and Woods (R-W) ideas, concepts, and ap from firm strategic man development of an ISP

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2.3 Existing Industry Strategic Planning and Coordination Frameworks

Through a series of publications⁵, Ricks and Woods (1996) developed a framework comprised of a number of components that can together provide an extensive informational and analytical package that university research can provide in the ISPC context. Their framework describes a number of methods that can be used by analysts in the ISPC context and is an excellent source for aiding the further development of an ISPC framework. Building on the Ricks and Woods (R-W) framework can be done by usefully extending a number of the relevant areas, concepts, and approaches in their framework and by incorporating additional methods from firm strategic management and other literature in order to contribute to the further development of an ISPC framework.

The R-W framework was developed drawing to some extent upon firm strategic management literature and frameworks as well as some early experiences in working with the Michigan apple industry ISPC process. Their framework includes the following components:

1. Situational analysis
2. Identification and analysis of major driving forces
3. Analysis of key success factors
4. Gap analysis
5. Determination and clarification of priority issues and needs
6. Analysis and identification of appropriate action alternatives
7. Follow-up with in-depth analyses of selected priority action alternatives
8. Impact analysis
9. Strategy review and re-evaluation

Ricks and Woods (1995), Ricks and Woods (1996), and Woods (1996).

In some ways, the vari-
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In some ways, the various components of the R-W framework are similar to content areas common in firm strategic management. Some components further provide key analyses that would be useful in accomplishing certain kinds of strategic management activities in the ISPC context. The following discusses the various components of their framework.

1. Situational Analysis

Situational analysis in the R-W ISPC framework is similar to situational analysis in the firm setting. In this, situational analysis develops an up-to-date perspective on the dynamic setting of the industry and its competitive situation. This can be developed through drawing upon a number of sources and methods to provide the up-to-date industry perspective. This perspective of the dynamic setting developed through situational analysis provides a powerful base to develop industry strategy because it roots the strategy making in the present reality and real opportunities and challenges for the industry's future.

Identification and Analysis of Major Driving Forces

Another component in the R-W framework is to identify and analyze major driving forces for the industry. These major driving forces are those fundamental factors that are driving the industry or are at the present time causing the most important industry and market adjustments. In the firm strategic management literature, accomplishing this is usually considered part of situational analysis⁶. The focus on major driving forces as a component in R-W framework suggests that analyzing the major driving forces is a *key* aspect of situational analysis that takes on some special importance in the ISPC context. The major driving forces are key considerations in developing appropriate industry strategy.

For example, Thompson and Strickland (1995, 74-78) list analysis of driving forces as part of situational analysis.

3. Analysis of Key Success Factors

Analysis of the component in the R-W firm strategic management. The firm must be competent or must have the ability to perform. Doing a SWOT analysis of the industry strategy and structure.

R-W note an important point in the context. Key success factors are:

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R-W discuss gap analysis

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3. Analysis of Key Success Factors

Analysis of the key success factors for an effectively competitive industry is another component in the R-W framework that is commonly included as part of a situational analysis in firm strategic management. The key success factors are those areas in which an industry must be competent or must focus on developing competencies for competitive success and improved performance. Doing an analysis of key success factors is a key consideration in developing industry strategy and should prove to be a useful activity in accomplishing ISPC.

R-W note an important practical issue about analyzing key success factors in the industry context. Key success factors should be determined at two different levels:

- (1) the industry as a whole
- (2) the major types of firms in the industry

The key success factors for different types of firms in the industry may well be different from one another and somewhat different for the industry as a whole. This is an important process modification to the standard firm strategic management framework and hence should be incorporated in an ISPC framework.

Gap Analysis

R-W discuss gap analysis in the ISPC context. The industry's performance is assessed relative to the key success factors for the industry. If there are substantial differences between current industry performance and desired future performance for individual key success factors, this indicates that there is an important "gap" upon which strategic action should focus. Gap analysis hence identifies key areas on which the industry needs to focus and prepares the industry for the next component in the R-W framework.

Determination and Clarification of Priority Industry Issues and Needs

The determination and clarification of priority industry issues focuses the industry's attention on the most critical factors for its future performance. This seems to be somewhat

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similar to objective setting in the firm strategic management context because firm strategic management "objectives" are similar to developing "priority industry issues and needs".

According to R-W, some important concerns in accomplishing this type of objective setting in the industry context include:

- the need for the industry to prioritize the objectives and select some to focus on because the industry can probably not focus on all issues simultaneously.
- decisions about which objectives can be dealt with entirely by firms as compared to those which need facilitative joint efforts by firms and the broader industry. The implication is that objectives with more need for joint efforts should be given some primary emphasis in the ISPC process.

These two issues are important modifications of the firm strategic management framework in order to adapt to the ISPC context.

Analysis of Potential Action Alternatives

The analysis of potential action alternatives for industry strategies is a component of the ISPC framework in which the various action alternative are evaluated and selected to address the industry's priority needs (or objectives as discussed in the last section). The "action alternatives" could be referred to in strategic management terminology as "strategies" designed to meet the industry's priority objectives. R-W note that strategies or action alternatives should be focused on broad-scope issues that will be stage-setting in nature. Stage-setting strategies are designed to improve the overall ability of firms to compete while usually requiring additional industry implementation actions by individual firms. Usually attention will also be given to strategies that will not greatly favor certain individual firms or industry segments over other firms or industry segments. An example they cite is the possibility that an industry could

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7. In-Depth Evaluation

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7. In-Depth Evaluation of Selected Remedial Action Alternatives

As an ISPC process continues, the R-W framework indicates that in-depth evaluation of selected priority problems, issues, and/or potential action alternatives is often needed -- especially to help in developing the sufficient broad-based consensus needed for ISPC. This analysis is in more depth on those strategies for which there is priority interest by ISPC participants after the earlier initial overall industry analysis. The industry leadership have an important role in this by directing which of these analyses be pursued. This emphasizes the iterative and interactive nature for ISPC. R-W further suggest that this sort of in-depth analysis can add to the overall usefulness and relevancy of an ISPC process.

8. Impact Analysis

Another component in the R-W framework is to use impact analysis after the industry has implemented some strategies. This can also be used *a priori* as part of the earlier in-depth evaluation. The impact analysis in this context is to measure the effect of dynamic industry changes as well as the effect of the implemented strategies on the industry's competitive position. R-W note that the dynamic changes and the industry's changing position may be the result of stage-setting industry programs, as defined earlier, and/or continuing effects of major driving forces and other external effects.

Strategy Review and Re-evaluation

Strategy review and re-evaluation is similar to review and re-evaluation in firm strategic management. This component recognizes the need to periodically reassess the earlier components in the R-W framework because the industry, its environment, and its needs are continually changing overtime in unexpected ways. Thus, industry strategy, objectives, situational analysis, etc. need to be reassessed. This indicates an overall feedback loop for the

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Concluding Remarks

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overall analysis. Overall, strategy review and re-evaluation is a necessary feedback loop to modify and adjust current industry strategies to altered industry strategies that will be most effective at improving industry competitiveness and performance due to the changing situation and needs of the industry.

Concluding Remarks on the R-W Framework

The R-W framework uses some concepts and ideas from firm strategic management and adapts them to the industry context. This framework was also used in early experiences in the Michigan apple industry and some other similar industries and was modified to incorporate effective practice from working with these industries. Overall, the R-W provides a number of important adaptations to the industry context and is an excellent source of material upon which to build an ISPC framework.

4 Analysis of the Vertical Production-Marketing System

One important feature of agricultural industries is that they are part of an overall vertical production-marketing system. Performance in the vertical coordination between different vertical levels in the industry and with the industry's suppliers and customers is an important element of overall performance. Due to the importance of vertical coordination, considering analysis tools that are especially related to vertical coordination aspects is important in the ISPC context. The following sub-sections review three such analysis tools (subsector, value chain, and transactions cost analyses) that seem to offer substantial promise in analyzing vertical production-marketing systems and evaluating ways to improve the vertical system's performance.

1 Subsector Analysis

Subsector analysis was initially conceptually described by Shaffer (1973) and subsequently developments were made in a number of books and articles including French

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1973), Shaffer (1980), Ricks *et al* (1982), Marion (1986), and Boomgard, Davies, Haggblade, and Mead (1986). Subsector analysis focuses on studying the performance of the entire vertical system of production and marketing for a commodity, including various ownership forms, contractual ties, markets, institutions, and transfer arrangements in the system. A subsector focus thus commonly not only includes "the industry" as used in this dissertation, but includes additional vertical stages in the marketing system from input suppliers and initial producers through consumption.

As subsector analysis is applied in specific contexts, an important part of the analysis is to analyze at the institutional and broad environmental situation in which the subsector operates. Institutional factors include formal rules, such as, government policies and those rules established through formal markets as well as certain types of organizational arrangements. Formal rules and standard operating procedures are also considered. The environmental complexities of the subsector and various aspects, such as, technological change and the competitive setting are another consideration. A key goal of subsector analysis is to understand interactions between technologies, institutions, policies, conduct, and performance for the entire vertical subsector. Vertical coordination aspects and subsector performance are also emphasized. This focus on the vertical production-marketing system and an awareness of the relevance and importance of institutional factors and the environmental situation is quite relevant and appropriate to be incorporated in an ISPC framework.

2 Value Chain Analysis

Value chain analysis is an approach described in a number of publications including Porter (1985) and Cooper and Kaplan (1988). It focuses on the "value chain" that is made up of activities that are performed by the firm, such as, designing, producing, marketing, delivering, and servicing its products. The analysis focuses on costs in the system and the relationship that these costs have with the value received by buyers from the firm's products.

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The goal in value chain analysis is to identify ways to increase the value that buyers receive from the firm's products through reducing costs or adding differentiation aspects desired by buyers. Porter also uses a "value system" concept that deals with not only the value chain of the firm but also focuses on the interrelationships between the firm's value chain and the value chains of its suppliers, channels, and ultimate customers.

It will likely be useful to use the value chain/value system concept in ISPC to analyze the industry" value chain with this goal in mind. In this, it would be useful to expand the value system concept as developed in the firm strategic management literature to incorporate institutional and other factors commonly considered in subsector analysis for use in the ISPC context.

4.3 Transactions Cost Analysis

Transactions cost analysis focuses on the transaction - when a "good or service is transferred across a technologically separable interface" (Williamson, 1985, p.1). As the transaction occurs (or could occur) there are a number of potential "governance structures". These transaction governance structures relate to different institutions, such as, markets or control structures within the firm. The governance structure used is based upon economizing on total cost of producing and marketing the product including transactions costs. In some situations, it might be possible to modify the governance structure to improve performance.

Explicit consideration is given to *bounded rationality* in transactions cost analysis as humans are "intendedly rational, but only limitedly so" (Simon, 1961, p. xxiv). This takes into cognitive limitations of humans, limited information, and other conditions that limit the rationality of human actors. This concept of bounded rationality in transactions gives rise to the concept of *opportunism* or opportunistic behavior from one party in a transaction. For example, because there is bounded rationality (e.g., imperfect information about a product) it is possible for the seller of a product to hide defects, i.e., engage in opportunistic behavior. Williamson

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2.5 Core Competence

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⁸ Hamel and Prahalad (1993) Hamel and Prahalad (1993)

(1985, p. 32) argues that governance structures should be designed to economize on bounded rationality while protecting against the hazards of opportunism. Bounded rationality and opportunism can hence effect the performance of marketing systems.

It is possible to use transactions cost analysis in assessing the governance of transactions within an industry and with suppliers and customers to consider ways to improve industry performance. The "governance structure"⁷ of possible transactions (or only strategically relevant ones) might be assessed to determine if modification of market rules or organizational control might improve performance of the industry. Often various transactions have various levels of opportunism and bounded rationality that affect the efficiency of transactions. Transactions cost analysis could be used to consider various alternative governance structures to improve performance in an ISPC context. Hence, transactions cost analysis is a potentially useful tool in ISPC.

2.5 Core Competencies

One relatively new area in the strategic management literature is the development of a firm's core competencies. This area, originated by Gary Hamel and C.K. Prahalad in a series of publications⁸, is that a firm's competitive advantage results from a firm's ability to create core competencies more quickly and efficiently than other firms. The idea of core competencies is doing something well in comparison to competitors that is especially difficult to copy by competitors and that makes an important competitive difference. Strategically developing core competencies is both a state and a process.

⁷ The term governance structure refers to how the exchange between different value generating activities is achieved. Two basic governance alternatives are the hierarchic governance structure of the firm or the interaction in markets.

⁸ Hamel and Prahalad (1989), Prahalad and Hamel (1990), Hamel and Prahalad (1993), and Hamel and Prahalad (1994).

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An industry may develop core competencies that at a given time provide it with a competitive advantage. An industry may also work on the process of developing more core competencies or strengthening existing ones to improve the performance and competitiveness of the industry. Core competencies may lie in a number of potential areas, such as, unusual innovation in developing new products, excellent skills in producing a high quality product, or a carefully crafted processes for researching customer needs and tastes with an ability to spot and respond to new trends.

ISPC may aid the firms within an industry to further develop certain core competencies. It would be expected that industries that are more effective at developing core competencies will be more successful than other industries that are less able to innovate and develop core competencies. In the apple industry, two regional apple industries that have been especially successful at developing core competencies include the New Zealand and Washington apple industries.

The New Zealand apple industry has invested heavily and effectively in developing and marketing a series of new apple varieties that are superior in meeting customer preferences compared with some of the traditional varieties. The overall New Zealand industry benefits through early planting of the superior new varieties which have high demand and hence reaping price premiums before competitor apple industries can respond with large supply responses.

One core competency of the Washington apple industry has been the evolution and development over time of various parts of a quality management system with relatively high overall performance in delivering consistent, high quality apples especially Red and Golden Delicious. This has included substantial consumer market research and industry quality standards. This has seemed to be effective in both U.S. and international markets, and currently the Washington apple industry is continuing to expand its markets and production.

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The concept of core competencies is potentially important in ISPC. The goal of ISPC may include aiding the industry's firms in the process of developing core competencies and strengthening existing core competencies as well as facilitating needed industry actions to develop industry-wide competencies. This may be partly accomplished through increased understanding of needed changes so firms can respond effectively in a timely fashion. In other areas, the entire industry may need to make important commitments to developing core competencies.

In both the Washington and New Zealand apple industries discussed earlier in this section, some level of group, i.e., industry, action facilitated developing the core competencies. ISPC can aid in identifying potential and/or needed core competencies and perhaps can facilitate development of selected core competencies. Hence, the concept of core competencies can be relevant for an ISPC framework.

Potential Benefits of ISPC

Up to this point, some frameworks and literature have been reviewed that are relevant to developing an ISPC framework. Before such an ISPC framework is developed, it is important to consider what are the potential benefits of ISPC. This provides an important rationale for developing an ISPC framework.

As discussed earlier, ISPC involves firms and industry organizations planning and coordinating together on certain aspects for improved industry performance. The potential benefits to the industry from ISPC would likely focus on areas where planning efforts by individual firms or industry organizations would not be most effective by themselves, but where individual firm and industry organization planning efforts could be facilitated by an ISPC process for improved industry performance. A key question in this is *how can an ISPC process state improved performance?* Economic theory suggests that one key overall area where an

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An essential element in ISPC and joint actions relates to industry public goods and the free rider problem. Public goods provide benefits to firms within the industry, but it is difficult to exclude any firm from receiving the benefits of such a public good even if these firms do not share the costs. The free rider problem is that individual industry firms have an incentive to free ride and avoid sharing the cost of providing the public good -- as is discussed in a number of texts including Tirole (1990), Moulin (1995), and Schmid (1987). This can result in public goods not being provided or being under-provided. That is, from an overall industry perspective, industry performance would be expected to be improved if the amount of certain kinds of needed public goods could be increased.

Industry public goods could potentially arise from many areas. The following subsections discuss some potential benefits that are interrelated in some respects for developing different public goods in a commodity industry and how ISPC might facilitate developing and creating the needed public goods. Providing these types of public goods can be one major motivation and rationale for accomplishing ISPC.

3.1 Improving Generic Demand Expansion Activities

Expanding generic demand for the overall industry's products (in contrast to demand for a particular brand) has important potential benefits for the various firms within an industry (Klevorick and Pierson, 1978). Successful generic demand expansion may allow firms within the industry to increase their volume of business and net returns to meet the expanding demand. Lower prices for the industry's products may also result. Strategies for more effective generic demand expansion may be an important part of ISPC.

Two common approaches often used to expand demand in commodity industries are generic promotion and developing new products or markets. In commodity industries these

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public goods are often achieved through an industry promotional or demand expansion organization that is paid for by assessments of firms within the industry. For example in the U.S./Michigan tart cherry industry, the Cherry Marketing Institute, that is supported by grower assessment programs in several participating states, has the broad goal of promoting tart cherry sales, expanding markets, and facilitating development of new products.

ISPC, as a planning tool, brings together firms and industry organizations to plan on certain aspects for the future. This will likely aid in determining which market segments and perhaps which products the industry organization(s) should emphasize in their generic promotional programs. Opportunities for new products or new markets may also be identified. ISPC might provide an important coordinating role in the industry to aid in improved demand expansion activities.

6.2 Addressing Externalities to the Firm

One important area that involves interdependencies between firms in an industry is where there are externalities or spillovers (Tirole, 1990; Eggertsson, 1990). While there are many possible definitions of externalities (Panpandeaou, 1994), Nicholson (1989) defines an externality as an "effect of one economic agent on another that is not taken into account by normal market behavior" (p. 777). In general the interactions can have a positive or negative impact. A common example of a negative externality is pollution. For an example in the industry context of a negative impact of spillovers, buyers of an industry's products may view the industry as-a-group in regards to performance in a particular area such as quality. The industry as such would have a quality reputation that affects demand for the entire industry's products. However, individual firms may market products without regard for the "public good" quality reputation of the industry and hence damage an industry's reputation. A motivation for ISPC could be to identify ways to increase positive externalities or reduce negative externalities.

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2.6.3 Developing a Critical Mass

Certain beneficial changes in industry performance may require a critical mass of product volume or change adopters⁹ in order to achieve success. Critical mass theory and the potential benefits of a critical mass were modeled extensively by Schelling (1980) and discussed by Dixit and Nalebuff (1991). The ISPC process could both aid in identifying the needed changes or types of products and perhaps by facilitating the development of the critical mass. For example, it might take a substantial quantity of a certain new apple variety being supplied to customers in order to be viewed as a consistent and reliable supplier of the new product. A minimum critical mass of volume of a product or variety may also be necessary for consumers to learn about the new product. At the same time, developing the critical mass of volume of the new variety may be beyond the abilities of any one producer.

2.6.4 Improving the Industry's Ability to Act as a Group

It has been noted that often the institution for collective or group action is missing when there are possible gains from such action (Shaffer 1980, Schmid 1987). ISPC could be an effective means to facilitate industry group action to improve certain types of performance. ISPC might facilitate identifying problem areas or opportunities for improved industry performance. Some of these areas might focus on developing new or modified institutions to provide benefits and aid industry performance.

As an industry works on identifying strategies to improve industry performance, it may then become a focal point for industry communication and group action. This could be based on an ISPC group representing to some extent the collective will of the industry on some issues. Improved ability to communicate can be within the industry itself and/or with organizations

Certain changes can be established if a critical mass within an industry does the change. For example, it may be the case that if a sufficient number of firms use a particular quality description of their product then this quality description may become the standard for the industry. The change is establishing the new quality standard.

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Being more effective at communicating the industry's needs can be important as there may be other organizations or groups outside the industry that are interested in some aspects of industry performance. Communicating effectively with these groups can be beneficial to the industry. For example, the Michigan Apple Industry Task Force supported an effort to obtain funding for research from the U.S. government on Fireblight, a common production problem for the Michigan apple industry. This funding effort was eventually successful and may result in improved ability of the Michigan apple industry in apple production as the Fireblight problem might more effectively be controlled.

ISPC might be an organizational approach that could facilitate creating needed institutions as the ISPC process aids the industry in acting as a group. As has been discussed earlier, individual firms have the incentive to free ride and not pay the cost of the institution providing a industry public good. Furthermore, it often takes a substantial period of time to create institutions and ISPC could facilitate this process. For example, it took a substantial period of time, almost 25 years, for a uniform set of grades and standards to be established for U.S. grains even though many industry participants had recognized the benefit of such action (Hill, 1990). Porter (1990) notes that cooperative processes sometimes aid the process of agreeing on basic technical standards. The ISPC process could thus reduce the cost and time of developing and implementing strategies for needed industry public institutions, such as, grades or technical standards through improving the industry's ability to act as a group.

6.5 Achieving First Mover Advantages

If an industry develops a pro-active stance towards addressing certain issues, problems, and opportunities, in some circumstances it may be able to capture certain types of first mover advantages and hence gain some competitive advantage over rival industries. Porter (1980)

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Porter in the firm context notes that the first mover advantage is particularly important in new markets when:

- 1) early pioneering efforts help to build a prime image and reputation with customers,
- 2) an early commitment in technology and resources leads to an absolute cost advantage,
- 3) first-time customers have a high degree of loyalty to the first to get their business,
- 4) early experience in an industry initiates the learning process in the firm, leading to more effective business practices, etc. This effect may not be easily copied by imitators and may not be eroded by later technological innovations.

Essentially it seems a first mover gains advantages by being in a privileged position in the industry with potentially lower unit costs, higher customer loyalty, improved image, and better knowledge of the industry. These aspects can apply to an industry as well as a firm. For example, the Washington apple industry seemed to obtain something of a "first mover" advantage when it instituted minimum condition quality standards and other efforts to establish itself as an industry that supplied a uniform consistently good quality product. In some respects, the Washington apple industry has been sufficiently successful that other apple industries have been forced to adjust to compete effectively with this first mover apple industry.

Porter goes on to note that there are some potential risks when pursuing the first mover advantages. These include:

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2) Costs of developing the market are high and may not develop strong proprietary benefits. To the extent that the benefits of market development cannot be made somewhat proprietary, then later movers are able to capture the benefit of the developed market while paying little or none of the costs

In the industry context, it is often difficult for the industry to achieve first-mover benefits in certain areas because developing a market for a commodity is almost inherently non-proprietary. This may result in some first-mover advantage or benefits are often not available to commodity industries. However, certain ISPC first-mover advantages can be developed. For example as already mentioned, the Washington apple industry has developed a number of proactive quality standards for apples produced and marketed as Washington apples and many other aspects of high industry performance that places it in a type of "first mover" position -- at least in some regards. Many of Washington's high performance features have seemed to have enhanced Washington's ability as a region in establishing itself as a high quality producing region and one with high performance in effectively serving customer needs.

6.6 Improving Cost, Technological, and Managerial Capabilities

Many commodity industries have some unique attributes because they are based in a particular geographic region. Firms producing a particular product in a region face similar production problems and issues that are tied to the region. The region often has a specific set of production capabilities based upon weather conditions, pests, etc. that can affect a variety of important areas which perhaps include the type of genotype or specification of a particular product that is available to producers as well as localized external conditions, such as, taxes, availability of trained personnel, etc. There is a public good aspect in these areas because of the interdependence of nearby firms in agricultural production systems. Improvements in the production capabilities or external conditions might benefit many firms in the industry and can be considered a public good. There may further be substantial economies of scale for the

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industry to develop research or other efforts to improve the production capability of the region. For example, the production research developed at many land grant universities has often worked towards improving the production capabilities, e.g., varieties, strains, etc., that are available to produce and market from a particular region. The benefits from agricultural production research are discussed in a number of works including Bonnen (1987), Knutson and Sweeten (1979), and Shumway (1993).

Porter notes that there is a stimulative effect of joint research projects on the success of an industry (1990, p. 636). The joint research developed may itself be beneficial. Perhaps more importantly, the joint research can focus research efforts by the individual firms in developing new technology and processes for the success of their individual firm. Porter further notes that some of the success of Japan in manufacturing can be traced to the effective use of joint research projects in emerging technical areas because it stimulates proprietary firm research.

A role of ISPC could be to develop an improved understanding of priority areas with potential to improve an industry's production capabilities should be best emphasized. This could include analyzing and identifying priority areas for research efforts to improve an industry's capabilities. ISPC could also aid in mobilizing resources to address a particular area identified needing more research attention. For example, if an ISPC process recognizes the need for more research in a particular area, then industry research organizations could focus on developing the research.

6.7 Developing Information in Critical Areas

One potential benefit of ISPC is to focus on developing improved information for effective planning by individual firms. The government often provides information to improve performance of the marketing system because there are perceived to be substantial public and benefits from market information (Gardner, 1983; Byerlee and Anderson, 1982).

The ISPC program is useful to the industry industry's vertical coordination market fresh apples less varieties due to their much less information variety for market coordination Michigan Apple Industry shippers and processors growers for their plant coordination in the market performance. This evidence

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The ISPC process may help to identify areas where improved information would be useful to the industry and can work on remedying that situation. This may improve the industry's vertical coordination. For example, in the Michigan apple industry, shippers who market fresh apples learn information about trends in customer demand for the various apple varieties due to their close contact with buyers of apples. Growers, on the other hand, have much less information on customer preferences. Growing, packing, and shipping the best variety for market conditions has important effects upon the returns to the entire industry. The Michigan Apple Industry Strategic Planning Task Force has sponsored a variety survey of shippers and processors so that the results of the survey can provide improved information to growers for their planting decisions. The ISPC process thus helps to improve the vertical coordination in the marketing system through improved information and hence its overall performance. This example also relates to the critical mass aspect.

ISPC may develop information that is a catalyst for change in the industry. Informational analyses, such as, a situational analysis, may aid the industry in improving their comprehensive understanding of needed changes by the firms and industry organizations. Specific performance gaps and opportunities can be identified that the industry can address for overall improved economic performance and competitiveness of the industry. To a substantial degree this aspect of ISPC may be informational in nature about needed changes and strategies.

7 Examining the Possibility of Collusion as a Motivation for ISPC

Economic theory suggests that if firms in an industry cooperate together they might collude by forming some type of cartel to increase industry prices. This form of behavior is a concern of many public policy economists, such as, Sherer (1980) who contend that whenever firms cooperate or work together towards jointly achieving goals there are monopolistic practices resulting in definite negative public policy impacts. As explained with earlier discussions

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regarding ISPC in this dissertation, there are many non-collusive potential motivations for firms and organization involved in ISPC that involve improved industry performance from a public policy perspective without negative collusive effects. These potential non-collusive potential benefits from ISPC include improved information, improved generic demand expansion activities, etc. from which positive economic benefits would be expected to be generated from the public policy perspective as well as from the industry perspective. Nonetheless, there is a public policy consideration as to whether ISPC as an approach is desirable for the broader public. Hence, collusion as a potential motivation for ISPC efforts deserves discussion.

According to the theory of industrial organization, the general goal of collusion is to achieve higher prices through restricting quantity towards a monopoly level¹⁰ (Tirole, 1990). All firms in the industry would benefit from the higher price and each firm could have a certain share of the market according to the theory.

Let us consider the idea that firms in an industry might seek to achieve collusion or monopolistic practices through ISPC. A key question to consider is how effective would such efforts be. Industrial organization theory may be somewhat useful in this regard because it has often been used to examine various economic activities, such as, mergers and government regulations from a public policy perspective. Overall the economic activity is evaluated to determine its effect on public welfare. At a general level, what would the theory of industrial organization predict about an industry's efforts to increase prices through decreasing quantity?

¹⁰ Another activity that firms in an industry might engage in is to restrict quality allowed on the market with the goal of restricting quantity (Bokstael, 1984). This could be through restricting quantity on the market through a minimum quality standard. In this situation, the minimum quality standard chosen would be deliberately over-restrictive and would restrict quantity in the aggregate. In agricultural markets, quality at the production level is much less controllable than in manufacturing markets due to weather and other variable effects, so that restricting quality through a minimum quality standard may in some situations effectively limit overall market supply.

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It is likely that an industry's monopoly efforts would be ineffective and not generate the desired results of monopolistic efforts, i.e., increased prices, due to at least three factors that would limit the effectiveness of such a strategy. One of these is that the industry would have to supply a sufficient market share to have some effect on market prices. If the industry is not able to affect prices, then their quantity restriction would only reduce the amount they supply to the market and reduce their market share and sales volume with little or no resulting increase in prices received. Another important factor is that competitor industries that are supplying the same product as well as substitute products would increase sales and hence mitigate any price or profit effects of a move to increase prices through restricting quantity. The decrease in quantity by the industry which tried to accomplish such collusive behavior would allow the competitor industries and/or substitute products to increase market volume and share that could substantially limit the effect of collusive strategy for the supply-limiting industry. A third important factor is that even if an industry could gain some temporary monopoly gains for themselves, these would likely be unstable. Individual firms in an industry would have the incentive to free ride by not cooperating with the "monopoly" behavior through supplying more to the market (Green and Porter, 1984). Also, some theory suggests that monopoly price setting is unstable in the face of rapidly increasing demand (Rotemberg and Saloner, 1986) or a slump in demand (Tirole, 1990, p. 252). In those situations, firms tend to not cooperate in a discipline of quantity restriction.

The overall implication is that ISPC will not likely hurt consumers -- especially for commodity industries that cannot affect price or for which there are close substitutes. Commodity industries are unlikely to pursue a collusive strategy because industry collusion would likely be both ineffective and unstable. The actual effect of restricting quantity in a futile attempt to raise prices would likely be very harmful to the industry and its competitive position because of the responses of competitor industries. Hence, this makes it unlikely that collusion will be pursued by an industry. In any case, if an industry *does* pursue a strategy of trying to

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2.8 Theoretical Issues Related to Developing an ISPC Framework

Three additional areas of theory provide insights potentially relevant to ISPC: group theory, public good theory, and vertical coordination. The following subsections consider theory from these areas and how an ISPC process should address the considerations developed.

2.8.1 Group Theory and the Process of ISPC

An industry is comprised of a number of firms and industry organizations. In ISPC if the industry is to develop and implement certain strategies as an industry, the firms and industry organizations must at some level engage in group building and other productive group behaviors. Given this, group theory is relevant to understanding and guiding an ISPC process.

One key aspect in group theory is that different members of the group have somewhat different objectives. Despite this, for the group to be effective, the group must cooperate where there are common interests. Group theory would thus suggest that developing a set of common objectives and agreeing to the various steps and activities in an ISPC framework is essential to success.

Helmberger and Hoos (1962) note that participants in a group must share one or more common goals. This means that it will be an important task in developing an ISPC process to identify and agree on a common set of goals for the ISPC group.

A related issue is how decisions in ISPC will be made. Essentially, the industry through ISPC group or other industry forums will need to come to consensus about industry strategies. Hence, one key aspect of an ISPC process is that it is essential to build *consensus*. Consensus building is so essential to ISPC because industry action depends largely upon voluntary actions or the tacit approval of individual organizations within the industry. This

needed consensus must be achieved through the 'ownership' of each group. The ISPC framework focuses on the 'ownership' of each group about ISPC with the goal of maintaining consensus within each part of the group.

Another important aspect of the ISPC framework is the industry organization. The ISPC framework focuses on the benefits of the group and the group's ability to maintain consensus within each part of the group (Staatz, 1987). The ISPC framework focuses on the group's ability to maintain consensus within each part of the group is how to maintain consensus within each part of the group.

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needed consensus may be aided through adequate involvement of industry leaders and their "ownership" of each stage of the analyses and implementation by consistently communicating about ISPC with the industry and by a number of other key approaches to aid in building and maintaining consensus. The ISPC framework should mention important consensus building within each part of the framework.

Another important related issue from group theory is how to get individual firms and industry organizations to participate in the group. There must be ways to allocate that costs and benefits of the group action so that each participant will have incentives to participate in the group (Staatz, 1987). Essentially, one issue that will need to be considered in forming an ISPC group is how to motivate active involvement of firms and industry organizations through explicit attention to incentives.

Overall, this section has identified three main issues that should be addressed in an ISPC framework. These are:

- the need for an ISPC group to agree on a common set of objectives
- the essential nature of consensus for decisionmaking and implementation
- the need for possible participants to have adequate incentives to participate in an ISPC process

The ISPC framework as it is developed in Chapter 3 will refer back to these issues.

2.8.2 Providing Public Goods as an Implementation Issue in ISPC

As argued in Section 2.6, many of the potential motivations for ISPC have to do to some extent with the creation of certain kinds of public goods. One of the areas within group theory addresses the challenges of providing public or non-excludable goods. It is often difficult to get public goods paid for due to the free rider issues as has been discussed earlier. Each member may seek to be a free rider and avoid paying part of the public good's cost with the hope that

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This means that in an ISPC framework overcoming this public good aspect of ISPC strategy is likely to be an important issue to be addressed in the implementation of ISPC strategy. In this a key question to address is *how are the resources or actions for ISPC strategies with strong public good characteristics to be provided and the free rider issue overcome?* Group theory predicts that public goods will not be provided by group members unless either (Olson, 1965):

- 1) group members achieve a net benefit from providing the good;
- 2) coercion is used to force group members to provide the good.

This gives rise to different implementation issues for strategies with public good characteristics.

In the first condition listed above, if firms or organizations in an industry perceive a net benefit from providing a strategy, then they would be more likely to do their part. However, there is the free rider problem in the provision of public goods and it is uncertain in many situation whether firms or industry would be willing to voluntarily provide the resources for the public good.

The role of an ISPC process could be in coordination, i.e., helping individual firms and industry organizations identify where strategic action should be undertaken. For example, many commodity industries have generic demand expansion programs with a mission to expand demand for the commodity. The role of ISPC could aid industry organizations that supply industry public goods in identifying appropriate strategy to undertake.

This type of coordination to develop industry public goods can extend in some cases to firms. For example, if an ISPC process identified a new variety or product for the industry as a particularly profitable opportunity, then firms could work in their individual best interest to develop a critical mass of the new variety or product.

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This means that many ISPC strategies may not require coercion. For some issues and strategies, firms and industry organizations will have sufficient incentives to provide them. Industry organizations with a mandate to provide certain industry public goods may decide to provide some of the ISPC public goods. For other ISPC strategies, firms may individually gain sufficient benefit relative to the cost that they are willing to pay for the public good.

An industry may also decide that some sort of coercion or required participation in paying for certain public goods would be useful to improve the industry's performance. Some possible mandatory methods might include assessments of firms in the industry to pay for an industry public good, such as, industry funds for marketing promotion, as well as regulations, such as, a marketing order, that would limit the behavior of firms.

An example of where mandatory requirements could be necessary is some industries where a strategy of minimum quality standards might improve an industry's shared reputation. To some extent as mentioned earlier, reputation for a regional apple industry may be earned jointly by performance of all firms in a region. However, the many relatively small, individual firms may have a short-run incentive to sell all the apples to the fresh market, including marginal quality apples, especially if the quality characteristics cannot be visually identified. The firms may act in this manner because they are relatively small and hence can largely disregard the aggregate affect such action will have on their industry's quality reputation. This can result in an overall poor performance in shared reputation and reduced demand for an industry's products.

In the Washington apple industry, a mandatory minimum quality standard was implemented based upon overall industry support. With this standard, firms could no longer sell apples below a minimum condition standard to the fresh market. This requires firms to achieve the quality standard, that provides the "public good" of an enhanced quality reputation. The

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The key implication from group theory about ISPC strategy is to be aware of the public good problem. Either firms and organizations have the incentive to implement the strategy or the industry must find some way to enable some mandatory requirements to make the strategy work. This is an important consideration in ISPC strategy development and implementation.

2.8.3 Vertical Coordination as a Special Topic in ISPC

Vertical coordination would be expected to be a key topic in ISPC as the industry seeks to improve its performance in regards to these aspects. Effective vertical coordination in an industry involves the coordinated actions of each stage of the production and marketing of an industry's products (Mighell and Jones, 1963). Indeed, vertical coordination is one of the central dimensions of the organizations and conduct of economic activity for a commodity industry (Marion 1986, p. 53).¹¹

Improving vertical coordination is one central goal of an ISPC process because in the production and distribution of agricultural commodities there are usually multiple vertical levels of the production and marketing system. For example, in the Michigan apple industry, growers, packers, and shippers are all important distinct specialized vertical levels in providing the consumer with the industry's products.

In a commodity industry each of these vertical levels is usually made up of a number of firms that horizontally compete with each other and interact with the other vertical levels of the system in achieving a return for their production efforts. No one individual vertical level fully controls all of the quantity and quality of the production, processing, handling, advertising, and marketing of the product. This situation is in contrast to the production and marketing of many

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manufactured products where the producer firms have substantially more control of vertical production-marketing channel for sale to the final consumer. The large, branded manufacturing firm could be viewed as a vertical integrator of much of the above system with control explicitly of the production, handling, advertising, and marketing of their product although the manufacturing firm still deals with input suppliers to their process as well as usually a final retailer of their products.

This issue of vertical coordination of production, marketing, and distribution is likely to be a common topic area in many commodity industries. This would especially be the case if levels of the production-marketing system do not come in direct contact and hence do not receive direct knowledge from the ultimate user of the industry's product. In this there may be an issue of effectively coordinating the supply (quantity and quality) of an industry's products with demand (or possible demand) of an industry's products. A key issue in relation to ISPC is that appropriate tools for analyzing and addressing vertical coordination issues need to be part of an ISPC framework. Subsector and value chain analysis are common methods to analyze vertical coordination issues and were reviewed earlier in this chapter for their use in situational analysis. However, vertical coordination is of central importance in a commodity industry, and hence vertical coordination should be a continuing theme throughout the ISPC framework.

2.9 Summary of Relevant Findings to ISPC Framework Development

Many theoretical concepts and ideas from relevant disciplines have been reviewed in this chapter. The primary focus has been on identifying and evaluating effective tools in the literature that can contribute to effective ISPC framework development. A secondary focus has been to discuss the potential benefits of ISPC as additional reason for developing an ISPC framework and furthering the knowledge base regarding an ISPC approach. In this section, key

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points of special relevance to framework development are summarized in preparation for the specific ISPC framework development in the next chapter.

Strategic management frameworks, currently existing ISPC frameworks, value chain analysis, and other areas provide some substantive bases from which an ISPC framework can be further developed. In particular, strategic management frameworks developed for the firm context provide an especially important baseline to develop an ISPC framework because strategic management frameworks are based upon well established theory that is considered effective for firms in the business literature in their efforts to plan for the future for improved performance in a complex environment. In integrating knowledge from various sources into an ISPC framework for the *industry* context, several relevant differences between firms and industries were identified and discussed. These include the importance of firm rivalry within an industry, the nature of ISPC strategy, and a potential need for effective approaches to initiate an ISPC process. These and other differences necessitate the development of an ISPC framework distinct from firm-level strategic management frameworks.

In this framework development, while there are key important differences, strategic management frameworks do, nonetheless, provide substantial insight into how to plan strategically. Several content areas need to be addressed in an ISPC framework as well as in strategic management. These strategic management content areas can be described broadly as:

- Developing a strategic vision
- Situational analysis
- Setting objectives
- Developing strategy to meet the desired results including developing a strategic intent or core strategies
- Additional specific strategies to achieve the core strategies and address particular goals or problem areas

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In the ISPC context, these content areas will be addressed to some extent differently through different process methods to focus on being most effective in the ISPC setting.

A key focus in this chapter has been to evaluate differences between the firm and industry context and consider how these differences have a practical effect upon an ISPC process. Overall, some of the areas that need to be addressed in an ISPC framework to reflect these major differences can be summarized from a number of sections in this chapter as a need in ISPC for:

- a method related to effective initiation of a comprehensive ISPC approach
- a way for the industry to decide upon a common set of objectives in ISPC
- a method to deal with the public good aspect of certain ISPC strategies
- an effective method to achieve vertical coordination for an industry

These are areas that will be addressed in the ISPC framework developed in the next chapter.

This section of the chapter has summarized the key findings of relevance to framework development. This helps to indicate the important linkages between various sources of authority, as discussed in the literature review, to the framework developed.

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CHAPTER 3

A FRAMEWORK FOR

INDUSTRY STRATEGIC PLANNING AND COORDINATION

This chapter develops a conceptual framework for industry strategic planning and coordination (ISPC). This framework is comprised of main activities organized into phases and steps that in total are thought to provide an effective method or approach to ISPC. The framework is intended to be of use to practitioners of ISPC that may include industry leaders, managers of firms and support organizations in an industry who might consider using ISPC, and university faculty who work closely with industries. The framework is built substantially upon the material covered in Chapter 2. The first section of the chapter presents an overall perspective on the framework. Four subsequent sections cover the phases of the framework. A summary section provides an overall conclusion to the chapter.

3.1 The Proposed Framework

The basic structure of the framework, as shown in Figure 3-1, is conceived as a series of phases that involve key analyses and related activities for an industry to accomplish as part of an effective ISPC process. Following a series approach is consistent with the standard firm strategic management framework in which well identified activities are accomplished in a particular order. The "boxes" in the framework represent overall flow activities (i.e., (1) process initiation, (2) strategic planning, (3) implementation and coordination of strategy, and (4) strategy review and re-evaluation) or phases that must be accomplished in approximate order. The logic behind this flow is that an ISPC process has some unique start-up characteristics that are captured in process initiation as a meaningful first phase. Then, strategic planning should be

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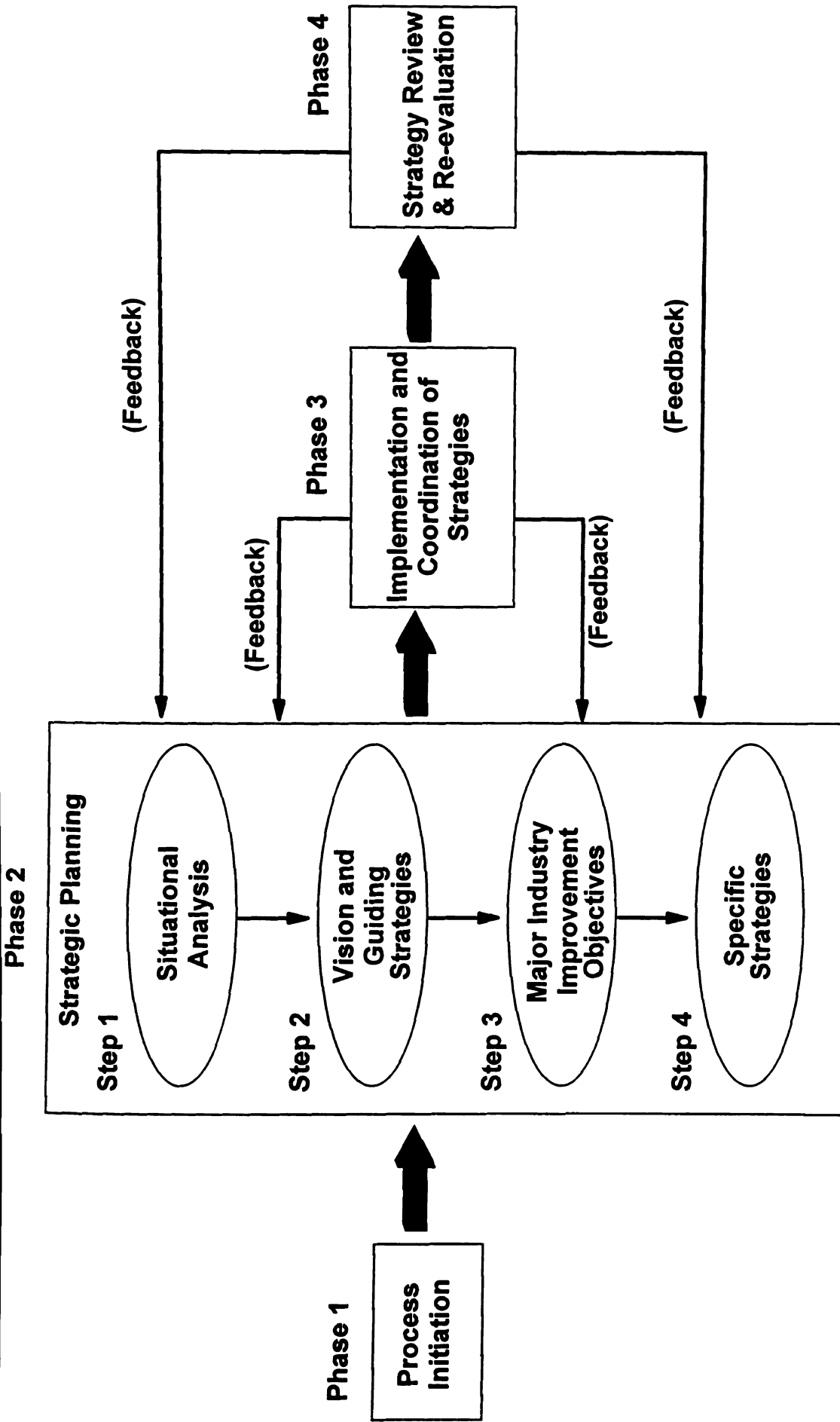


Figure 3-1. A Framework for Industry Strategic Planning and Coordination

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pursued by the industry so that the best industry strategies are selected based upon the knowledge developed and choices made. The strategies selected must then be implemented and proper coordination among industry participants assured. Strategy review and re-evaluation represents the reconsideration of earlier phases based on changing circumstances.

The four "ovals" of Phase 2, shown in Figure 3-1, represent major steps in the strategic planning phase. As with firm-level strategic management, the logic behind the order of the steps in strategic planning proceeds as follows. Situational analysis should be completed first because it provides key information and knowledge on which the industry can develop a shared understanding and consensus. The situational analysis then leads to a vision statement and guiding strategies for the industry. The vision statement and guiding strategies provide an overall strategic intent for an industry's competitive advantage and as such can guide the industry in determining and prioritizing major improvement objectives. More specific strategies should then be developed to meet the major improvement objectives.

These steps represent key activities that can be completed to a degree simultaneously or with some overlap. For example, the shared understanding of the industry's situation developed in situational analysis may continue to evolve over a period of time even as the overall guiding strategies are developed. Nonetheless, the steps in strategic planning are listed in serial order as they are probably best accomplished in this fashion.

Another important element in the framework includes the feedback loops from implementation and coordination of strategies as well as strategy review and re-evaluation. These represent the iterative nature of ISPC planning efforts. Strategies will be implemented and coordinated in the industry with varying degrees of success and need to be reexamined based on the experiences and results. This provides feedback into possible changes in another round of strategic planning. Strategy review and re-evaluation represents an overall reconsideration of earlier phases in the strategic planning activity framework and serves as an overall feedback on

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The various phases and steps of the ISPC framework were developed using firm strategic management as a main baseline for framework development along with previous ISPC work. As discussed in Chapter 2, firm strategic management provides a number of content areas that are relevant and useful in the ISPC context. Furthermore, the other literature reviewed in Chapter 2, such as, subsector analysis, the earlier ISPC framework, etc. provide other important sources of guidance for further ISPC framework development.

The following sections of this chapter describe and discuss the various phases in the framework. For each phase of the ISPC framework, the relevant sources of reference from the relevant past theoretical literature are cited. This provides an explicit linkage between the literature and the framework developed.

3.2 Process Initiation

If an industry is to work together through ISPC, the logical first phase is process initiation. As discussed in Chapter 2, there is a special need for this phase because there is generally no clearly established industry control structure in place to accomplish ISPC. This is a marked contrast to firm strategic management where a firm's CEO or group of top executives could accomplish process initiation in a relatively straightforward fashion. Process initiation is hence necessary for there to be an ISPC process that precedes strategic planning within an industry context.

A key starting point for ISPC is an awareness among industry leaders of the need for ISPC based upon some level of commonality, shared problem areas, and the possibility of shared benefits from industry actions that facilitate improved industry performance. This need for ISPC has to be grounded in an understanding among some industry leaders that there are numerous

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interdependencies between firms and industry organizations. An ISPC process would seek to capitalize on the interdependencies in developing ways to improve industry performance.

The awareness of the possible need for ISPC as well as the recognition of industry interdependence can be aided by catalysts, i.e., problems, concerns or events. In the Michigan apple industry, such catalytic challenges as the threat of Washington's ever greater dominance in the fresh apple market and the loss of important pesticide inputs provided some of the important impetus to ISPC efforts. Such catalysts can further help to establish a sense of need in the industry about addressing a particular problem and the potential gains from ISPC. For example, in the U.S./Michigan tart cherry industry, the extremely low prices for the 1995 crop have contributed to a felt need for the ISPC efforts in that industry.

The key outputs of the process initiation phase include an agreement in the industry or, at least, by a core of industry leaders, to have an ISPC process and to have some sort of group focused on a comprehensive ISPC process. The agreement to have an ISPC process provides an industry base or starting point and some initial consensus in the industry that they can work together to improve their industry's performance. The group that is focused upon a comprehensive ISPC process is needed to turn the initial consensus into a practical ISPC process.

Five main tasks can be delineated for completing the process initiation phase. One important early task is the articulation among the industry leaders of the need for ISPC. In that task, the industry, or at least a core of leaders, decides that an ISPC process would be useful. When the industry needs to go through a process of forming an industry group to lead the ISPC process (ISPC group). After this, the ISPC group can provide a focal point for the other tasks of the process initiation phase (i.e., deciding on a common set of objectives, paying for the ISPC process, and arranging for staff support for the process) simultaneously or in parallel fashion. The following discusses these tasks of process initiation.

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3.2.1 Articulation of an Industry Need for an ISPC Process

The first task in process initiation is an articulation of an industry need for an ISPC process. This is important because this articulation of industry need forms a base, starting point, or even a mandate for the ISPC process. Initially, to help develop this articulation, industry leadership who support the idea of an ISPC process for their industry can develop various communications means, such as, informational bulletins and articles, that explain to the industry why ISPC is needed or desirable. Various industry discussions, forums, etc. at industry meetings could address this topic as well. Through this process, the overall industry can discuss, learn and understand the commonality and interdependencies in the industry as well as to some extent how an ISPC process might develop related beneficial strategies for the industry.

The industry articulation may come from a number of industry leaders agreeing in some fashion that ISPC would be useful. This industry leadership could come from a number of sources such as:

- leaders of industry organizations -- especially those supplying industry public goods
- leaders representing various industry segments
- leaders representing individual firms in the industry

Alternatively, it may be possible for an industry to vote on whether an ISPC process would be worthwhile. Such a referendum would likely require an effort by industry leaders to communicate the need for ISPC broadly throughout the industry.

Whatever the method of articulation, its goal is to provide a mandate for an ISPC process. It represents an important initial part of industry consensus building in that the industry at least a core of leaders has decided to have an ISPC group. As discussed in Chapter 2 consensus building is important in the ISPC context.

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After industrial groups are formed, the need to be given technical assistance in the ISPC process. The groups involved in ISPC are those that are in achieving certain goals and in implementation of the program. The group further can be developed and re-

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3.2.2 Formation of an ISPC Leadership Group

After industry leaders decide to proceed with an ISPC process, some consideration will need to be given to the membership and form of an ISPC group that will be used to focus the ISPC process. The need for the ISPC group itself is based upon the need for an industry involved in ISPC to engage in group decisionmaking. Group decisionmaking can aid an industry in achieving certain benefits as well as facilitating efforts to overcome the public good problem in implementation. This ISPC group can focus and lead the ISPC process for the industry. The group further can bring to the broader industry - and seek consensus there - the key strategies developed and recommended through ISPC.

In ISPC group formation, consideration will need to be given to the question of what type of organizational arrangement might help facilitate the ISPC process and strategic performance results with that industry. Logically, it would be expected that the selection of organizational arrangement for the ISPC group depends upon the nature and structure of the industry. Organizational alternatives may include:

- informal arrangements led by the main industry organization(s), such as, a generic promotional organization or trade association
- a special ISPC planning group
- one main industry organization taking the lead with ISPC
- *ad hoc* groups of leaders getting together
- an industry roundtable where all major industry organizations are represented

specifics of how such an arrangement operates may evolve over time to meet the industry's needs. For example, an ad hoc group of industry leaders might initially form an small informal group and later might decide to develop a special more definitive ISPC group with representatives from all major industry organizations.

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The choices regarding the specific organizational arrangements need to be based on the particular industry's situation. For example, one main industry organization, if it represents the industry completely enough, can seek to lead ISPC by itself. Alternatively, an industry comprised of many industry organizations and an especially diverse set of firms might well need a different arrangement, such as, an arrangement by all of the main industry organizations to meet to facilitate ISPC in a roundtable format. In general, it is important that all key segments of the industry be represented or have some input in the group since this can facilitate a broad base of ownership of ISPC within the industry as well as more effective planning and implementation efforts (Walzer, 1996) ¹¹.

Another important issue in forming an ISPC group includes decisions regarding which leaders to involve in the group. This is important because the leadership in the ISPC group together can form an initial consensus and can influence the broader consensus in the industry. The industry leaders would be expected to have similar roles as executives that work on firm level strategic management -- with the main difference for ISPC being that industry leaders would represent various diverse firms and support organizations within an industry.

A very important aspect is that the involvement in the ISPC leadership group needs to include key visionary, progressive leaders of the industry. The best leaders in the industry usually have excellent insights into the industry, its problems, and its future needed direction. Bringing the leadership group together organizes a group of industry experts for the common purpose of ISPC. This is valuable, especially as it develops synergy, in making effective strategic choices in the ISPC process, i.e., an ISPC group that is comprised of the top visionary

¹¹ Walzer is working in the strategic visioning in the community development context. However, the implications for the "community" of a commodity industry are equally appropriate.

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The group of industry leaders can aid in implementing the various strategies developed or advocated through the ISPC process. It is important in the firm-level strategic management context that a similar group of firm leaders be developed to advocate needed change (Kotter, 1996). In the industry setting, having an effective group of leaders in support of particular actions is even more necessary than in firm strategic management due to the need for developing consensus among an even more diverse group of planning participants as well as the lack of direction or control found in the industry context. In ISPC, the leadership is essential in explaining to the industry why industry action is needed and how the particular proposed action will provide benefits in meeting certain industry needs. Such a group of industry leaders can provide impetus for working on implementing and developing consensus in the broader industry regarding the various strategies being considered.

Once the ISPC group has been formed, it has some important choices and activities to complete in the process initiation phase. These include deciding on a common set of objectives, means for paying for the ISPC planning process, and methods for providing staff support for the group.

3.2.3 Selection of a Set of Common Objectives for ISPC

One of the initial goals of the ISPC leadership group should be to develop a set of guiding principles for the group. These should contain the general mission of the ISPC group to improve industry competitiveness. The overall expected outputs of an ISPC process, such as, enhanced industry-wide cooperation and a strategic plan, may further be included in the set of common objectives. Group theory suggests that such a set of common objectives is critical to effective group action.

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The set of common objectives provides a focus point for the ISPC group. It serves to communicate the main reasons and motivations for ISPC. For the industry, this may serve to raise interest in the ISPC process because the industry can come to clearly understand the possible benefits and pay attention to ISPC industry-improving strategy efforts. For those not in the industry, the set of common objectives may serve to (1) show customers how the ISPC effort is striving to improve performance and customer service, (2) may assist the ISPC group in communicating the needs of the industry, and (3) allay fears that the ISPC group is seeking to achieve monopolistic practices. The set of common objectives is to some extent the mission statement for the ISPC group.

3.2.4 Development of a Method to Pay for the Costs of the ISPC Group

Another important choice an ISPC group needs to make is to decide on a way to pay for the planning efforts. To some extent, the planning efforts are a public good and there may be an issue of who will pay for the planning process due to free rider concerns. Group theory suggests that various possible members of an ISPC group need to have incentives to participate. By knowing how the costs associated with running an ISPC group, such as, providing the staff support for an ISPC group, communication costs, etc., will be paid for and allocated within the industry, relevant firms and industry organizations can judge part of their individual incentives to participate in ISPC.

In general, it would be expected to be easier to pay the costs of the planning process if the costs of the process are not extensive in relation to perceived benefits. This would mean that the structure of the group, use of staff and other resources should likely be considered in determining how often the group will meet, how many members the group will have, and how much staff will be allocated. In this, the ISPC group might use approaches similar to a representative democracy so that all groups are represented while group membership and costs are kept low.

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Who will pay for the ISPC planning process will likely depend upon the industry and the willingness of the industry's firms and industry organizations to pay the costs. Logically, it would be expected that some group of firms and/or industry organizations would pay the costs. Due to free rider issues mentioned above, there may be reluctance by some firms to individually pay a substantial amount of the ISPC planning cost if there are many industry firms because firms may often focus on industry rivalry conditions. This would be different if there was one major firm, perhaps a large cooperative, that was sufficiently large with a dominant market share so that it would be willing to pay the costs of the group.

Industry organizations paying the costs of the ISPC planning process provide an alternative to needing individual firms to pay the costs. Industry organizations already provide some form of industry public goods that means that they might logically see the connection between their mission and improving overall industry performance. For example, industry organizations with an organizational mission of providing such public goods as generic promotion, publicly available research, etc. may be willing to provide the staff and other resources for an ISPC process. Individual firms may then be willing and able to participate in an ISPC process where they do not directly pay the out-of-pocket costs of the group process.

It is important to find effective ways to pay the costs of an ISPC process in an industry. There are several possible alternatives depending on an industry. However, it is likely in many industries that industry organizations will play an important role since they already provide an industry public good. There may remain an issue of how to allocate the costs between industry organizations. This will need to be resolved through negotiation about the costs within those interested in achieving the benefits of an ISPC process.

.2.5 Provision of Staff Support for the Process

Another important issue for the process initiation phase is to have staff support for the ISPC process. The staff of an ISPC process is similar to professional analysts and planners that

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are often used in firm strategic management and provide important inputs. Staff can have important roles in developing analyses, information and other resources requested by an ISPC group. For example, staff support may develop much of the situational analysis for a group to use.

The ISPC group can designate some individuals to provide staff support. A logical choice for providing the staff support would be from those individuals, firms, and/or industry organizations that are interested in an ISPC process. Alternatively, a consultant could be hired to fulfill the staff support roles. In general, it would be most effective if the individuals selected are well regarded in the industry and not favoring one particular industry segment.

The staff can provide important communication roles, such as, doing background analyses, organizing meetings, focusing discussion on key points, and in an overall sense being facilitators of an ISPC process. The staff support can further coordinate informal discussions in a variety of situations for clarification of key points and for improved consensus. The staff support hence has important roles in consensus building, communication, and analysis developed in an ISPC process.

3.3 Strategic Planning

A second phase in the ISPC framework which involves major work and considerable emphasis of the entire ISPC process is embodied in the strategic planning phase. In this complex phase, a number of steps are completed:

- situational analysis
- determination of the industry's vision statement and guiding strategies
- determination and prioritization of major improvement objectives
- development of specific strategies for facilitating needed improvement

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Accomplishing these steps helps to move the industry group through a process where the specific strategies which are most likely to result in improved industry performance are selected for implementation through coordinated actions in the industry. While these steps are listed in order within the framework, these steps can to a degree be completed simultaneously or with some overlap.

3.3.1 Situational Analysis

The strategic planning phase of ISPC starts with a situational analysis. Situational analysis focuses on developing a comprehensive understanding of the industry and the relevant factors for ISPC. The situational analysis in the industry setting is similar to situational analysis in the firm setting except that the focus for the industry setting is on the broader industry that represents many firms at different levels in the marketing chain and industry support organizations.

Situational analysis in ISPC should be done prior to developing industry guiding strategies and priority industry objectives because before these decisions can be properly made the industry leadership group needs to develop some level of *shared* understanding about the relevant aspects of the industry, e.g., its problems, opportunities, etc. The shared understanding is an important component of developing a shared industry vision, guiding strategies, consensus for the industry's future, etc. The ISPC situational analysis can involve developing key information on market performance, customers, competitors, how the industry creates value, problem areas, opportunities, and other areas that are important to strategy development.

The process of situational analysis can begin with the ISPC group indicating that certain kinds of information would be useful in understanding the industry's needs and developing strategy. Those who are providing staff support for an ISPC process can make use of various analytical tools or methods, e.g., SWOT analysis, value chain analysis, etc., and provide the

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desired information to the ISPC group. The ISPC group will likely then discuss, analyze, and review the information developed. This helps to develop shared knowledge in the ISPC group and hence provides a key basis for developing consensus on key industry problem areas and solutions. To some extent, the overall industry may be involved in developing the situational analysis by providing important information, such as, their opinions, thoughts, etc. about the future of the industry.

The ISPC leadership group can be particularly effective in accomplishing an industry situational analysis since this group is a panel of experts on the industry. Such an ISPC group is comprised of industry leaders who have important insights into the situation that the industry is in and into potentially effective industry responses. This means that situational analysis in ISPC marshals the analytical resources of a number of key leaders in the industry.

There are a number of possible tools that can be used in situational analysis. An ISPC leadership group and staff support may choose among the tools discussed below given the various informational needs of the ISPC group. In the following subsections, a number of tools and methods for situational analysis are described and discussed in relation to their use in ISPC.

3.3.1.1 Shift-Share Analysis

An important tool that can be used as part of the ISPC process for situational analysis is shift-share analysis. This is an analysis of changes and trends in market share, size of market, industry sales volume, and value of key industry market segments over time. This provides a quantitative assessment of some key market trends as well as some overall baseline information on important aspects of industry performance in major market segments. Knowledge in these areas is important for ISPC because it provides facts about current status of industry performance. An example of shift-share analysis in the industry setting is provided in Ricks, Hinman, and Woods (1995).

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Some important trends may be identified through shift-share and trend analysis. For example, the apple sauce processing growth as well as the growth in U.S. juice imports were shown in the earlier mentioned shift-share and trend analysis for the Michigan apple industry. These indicated a growing opportunity in applesauce markets as well as important threats in the juice market segment.

Shift-share and trend analysis provides some aspects of an overall assessment of current performance of the industry. The information further can provide ideas or areas for the industry to focus attention for improved future performance. The statistics developed in the shift-share and trend analysis can show some overall base line information about some of the recent trends, successes, and challenges in the industry. Further investigation is important to determine the reasons behind the trends and potential choices to influence the trends in positive ways for improved industry performance.

One way that the shift-share analysis can be extended is to analyze whether current trends will continue. It may be possible to project future trends taking into consideration the analysis of major driving forces and competitor analysis. This integration and further analysis can generate information on ways to improve future industry performance.

3.3.1.2 SWOT Analysis

SWOT ¹² analysis is a method in ISPC to provide an overview of the industry's situation that can aid the overall ISPC process. For firms, this method is described in a number of books including Thompson and Stickland (1995, pp. 92-96). The main difference between the firm level SWOT and the industry level SWOT is the unit of analysis for the industry is much broader and in some aspects involves more complexities than with a firm orientation. This means that the industry-level SWOT analysis must look at the wide array of firms and interrelated vertical

¹² SWOT refers to Strengths-Weaknesses-Opportunities-Threats.

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coordinating systems within the broad industry and seek to develop meaningful industry-wide analysis. This is more complex with usually more emphasis on vertical coordination issues than firm-level SWOT analysis.

A key part of SWOT analysis is to focus on the industry's strengths and weaknesses relative to other competitor industries. Strengths are the characteristics of the industry that give it important capabilities. These could include such capabilities as proximity to major markets or the ability to produce a consistent top quality product. Weaknesses are where an industry lacks capabilities or achieves poor results. These weaknesses are likely to result in a competitive disadvantage the degree of which depends on the competitive marketplace and the strategies chosen. For example, the Michigan apple industry finds it somewhat more difficult than the Washington apple industry to get a complete and consistently red color in its production of the Red Delicious variety due to weather conditions. This has traditionally placed the Michigan apple industry at somewhat of a competitive disadvantage in the U.S. market. However, as the Michigan apple industry is beginning to market to such international markets as Brazil where all-red color is not such an important factor, this weakness may yield much less of a competitive disadvantage to Michigan for this market.

Other parts of the SWOT analysis refer to opportunities and threats. Opportunities refer to areas in which the industry can focus attention to improve its performance, competitiveness and economic viability. Opportunities may include a new markets, new technologies, reduction in export barriers, new products, or changed strategic emphasis to more effectively serve customers in changing markets. Threats refer to conditions that could negatively affect the industry's well-being. These might include, for example, increased regulation of pesticide inputs or increased imports.

The SWOT analysis can be accomplished using a variety of information gathering techniques. For example, Ricks and Woods (1996) used a combination of surveys and

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interviews with key industry informants to help develop a SWOT analysis for the Michigan apple industry along with synergistic analytical discussions with the ISPC leadership group. Shift-share and trend analysis can also be useful in SWOT analysis in guiding awareness of key areas of SWOT.

3.3.1.3 Value Chain Analysis

Value chain analysis¹³, developed by Porter (1985), emphasizes that a firm should seek to understand what is valuable to buyers (or potential buyers) of its products and/or services as well as what are the costs and sources of differentiation in providing its products and/or services. Simultaneously analyzing production and value to customers focuses attention on the firm's value adding activities. Attention in ISPC to value chain analysis for the industry can be very useful because it can help the industry identify where needed changes might improve the industry's performance, especially relating to vertical coordination in effectively serving its customers.

At the most basic level, value chain analysis includes a depiction of each part of the production and distribution chain. For example, in the Michigan apple industry growers, packers, storage operators, shippers, and retailers all have important roles in providing fresh apples from Michigan. These interrelationships are an important aspect of the value chains that exist for the industry. More detail can be generated by analyzing the performance and amount of value added at each vertical level.

The industry generates value to customers in the products and services that it markets and that its customers decide to purchase. A focus in ISPC value chain analysis can be to emphasize knowledge about what is valuable to buyers of its products. This could include

¹³ The term value chain analysis was used by Porter (1985), but other research efforts have used other terms to describe a similar type of analysis that focuses on the entire system of production and distribution. These other terms include production systems research (Sellen, Howard, and Goddard, 1993), commodity chain analysis, and subsector analysis (Boomgard *et al*, 1986). The term value chain analysis is used here due to its wide use in the strategic management literature.

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market research efforts through surveys and interviews with key buyer informants¹⁴. It could be further useful to investigate the linkages between the industry and the industry's customers in order to help analyze if there are ways to further add value, reduce costs, or improve customer service.

In an industry strategic planning setting, an industry can focus on the drivers of costs and sources of differentiation for firms in the industry. This would entail breaking down the value adding activities of the industry into strategically relevant segments in order to understand the behavior of costs as well the possible sources of differentiation. For example, the apple industry can be described by the different value generating activities that are accomplished in the industry. These include producing, packing, storing, and shipping apples. Particular value generating activities, such as packing, might be identified as an area needing improvement or one in which a degree of product differentiation and target marketing might be generated. For example, in packing segment of the Michigan apple industry, there has been substantial efforts to modernize packing technology that has improved the Michigan apple industries ability to pack for more uniform size and color. These are product characteristics that seem to be valued increasingly by customers in recent years.

Another useful approach for ISPC could be to benchmark (Thompson and Strickland, 1995, pp. 101-105) the cost of a particular activity with comparable cost and performance of the similar activity in a competing industry. For example, the Michigan apple industry could compare the per-unit cost of packing with the per-unit cost of a packing a similar unit in the Washington or New Zealand apple industries. If the other industry had markedly lower costs, then subsequent analysis could be developed to identify the causes as well as seeking methods to

¹⁴ Examples of this in the industry context are Ricks, Heinze, Beggs, and Miklavcic (1995), Beggs, Ricks, and Heinze (1995), and Ricks, Heinze, and Beggs (1996).

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3.3.1.4 Competitor Analysis

Competitor analysis focuses on the relevant competition of an industry. In this, an industry-level analysis is somewhat different from firm-level analysis. Industry-level analysis focuses on the competitive differences between regions (e.g., the Michigan apple industry versus the Washington apple industry) or the competitive differences between substitute products (e.g., the U.S./Michigan tart cherry industry versus the blueberry industry) rather than the differences between firms. This puts competitor analysis at a much broader level for an industry. Nevertheless, competitor analysis can be quite relevant for ISPC as well as firm strategic management.

Since competition is complex, there are many facets to competitor analysis that need to be analyzed in the industry setting. Developing information on major competitors and their current key strategies and performance is a part of the analysis. Extending the analysis to who the expected future major competitors will be and their likely performance is also worthwhile. In this, analyzing the competition to see what new ideas or strategies that they are using and evolving to be successful can provide relevant information, since this may provide information about the best methods or strategies for the industry in question. This is useful because the industry may thus duplicate or modify its strategies or ideas, and the competitor's strategies or ideas may give the industry ideas about what the competitor thinks will be the basis for future competition. For example, the Michigan apple industry has been quite interested in the Washington apple industry's success using various quality management strategies, such as, a premium grade and mandatory minimum quality standards. These have provided some motivation for considering those two ideas in the Michigan apple industry.

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comprehensive approach to developing a competitor analysis in the firm context is provided by Leonard Fuld (1995) in *The New Competitor Intelligence*. In particular he notes that, as starting point, it is useful to determine what information is desired about competitors because this focuses the efforts of competitor analysis on the most relevant aspects. Another key part of his approach is to identify and use various information sources including literature reviews and interviews with key informants.

Another facet of competitor analysis is to evaluate current and potential industry strategies and their interaction with competitor industry's strategies. Strategies considered by the industry can be evaluated to see if they will aid in developing an overall competitive situation that is favorable to the industry (Porter, 1985). Some strategies may logically lead to unfavorable outcomes, such as, a dramatic price war. For example, in the firm-level setting, Benjamin (1996) discusses how Yamaha tried to challenge Honda to become the top producer in the Japanese motorcycle market. However, the Yamaha challenge led to a large increases in production and stocks along with an overall one-third price reduction by Honda. Eventually, Yamaha had to sue for peace in the price war. This illustration is relevant in the industry setting since industries might also fight such expensive battles where price reduction is the main result even though the "goal" of the strategy was to gain market share. A major point here is that logically considering the likely response of competitors along with competitor's ability to respond is useful in competitor analysis. This facet of competitor analysis could also be used later in the ISPC framework when considering different strategies.

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3.3.1.5 Transactions Cost Analysis

Transactions cost analysis could be used to assess strategically relevant transactions within the industry. This would evaluate to what extent governance structures¹⁵, such as, those provided by current market arrangements, could be altered to improve the industry's performance. In this, it would be possible to use transactions cost analysis in combination with value chain analysis for ISPC. The "governance structure" of possible transactions (or only strategically relevant ones) might be assessed to determine if modification of market rules or organizational control might improve performance of the industry.

An example of where transactions cost analysis might be useful might be where, as in the Michigan apple industry, growers provide their apples to shippers while shippers sell the apples and charge a fixed price per box of apples. However, this system may provide some adverse consequences, because shippers may have the incentive to sell as much volume as possible to cover their fixed costs and add to their profits. Shippers may not put the appropriate effort into finding the highest return for the apples or developing high return market segments because of the fixed per box way that the transactions are accomplished. An alternative governance structure, that is being tried by some, is for shippers to charge a percentage of the sale price of the apples instead of a fixed price per box. This alternative might provide increased, direct incentives for shippers to market at the highest possible prices and develop higher return market segments.

Transaction cost analysis is particularly relevant to ISPC to the extent that it is suspected that various forms of opportunism are reducing the performance of the industry in important ways. A transactions cost study could focus upon identifying what exactly is the nature of the

¹⁵ The term governance structure refers to how the exchange between different value generating activities is achieved. Two basic governance alternatives are the hierarchic governance structure of the firm or the interaction in markets.

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problem in a transaction that leads to the poor performance as well as identifying possible alternative market structures that would improve the industry's performance. As institutional structures often have many positive and negative features, this type of analysis could be quite complex, but potentially useful for certain kinds of problems. It could be combined with value chain analysis in looking at ways to improve performance.

3.3.1.6 Analysis of Major Driving Forces

Major driving forces are those fundamental factors that are driving the industry or causing the most important industry and market adjustments. Major driving forces can arise from a number of different sources. Some may be unique to a given situation, but they usually arise from several main areas according to Thompson and Strickland (1995). Some common types of major driving forces as outlined by Thompson and Strickland include:

- changes in long term growth rate of the market
- changes in who buys the product and how they use it
- product innovation
- technological change
- marketing innovation
- entry or exit of major firms
- diffusion of technical know-how
- increasing globalization of the industry
- changes in costs and efficiency
- emerging buyer preferences for differentiated products instead of a commodity product (or for a more standardized product instead of strongly differentiated products)
- regulatory influences and government policy changes
- changing societal concern, attitudes, and lifestyles

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Determining the most important major driving forces of an industry requires careful analysis and consideration. An awareness of these key forces of change or major driving forces is important in ISPC because these are the forces that the industry should be aware of when considering various strategies to improve its current and future industry performance. Major driving forces are further important as they may indicate the nature of future competition.

Some emphasis or prioritization can be developed for ranking the importance of the various major driving forces. This can indicate which major driving forces (or *group* of major driving forces) are most important to the industry. This prioritization would be expected to change over time as some driving forces may have consistent long term impact, while the effect of other driving forces may fade away (Ricks and Woods, 1996).

As a practical matter, determining what the major driving forces are, how they interact, and their impact on the industry is difficult. A clear understanding of the industry and the external forces impacting it is necessary. Other tools in situational analysis (shift-share and trend analysis, SWOT analysis, and competitor analysis) can often in help to develop this understanding of the driving forces because they provide substantial, relevant information. The ISPC leadership group, comprised of industry leaders as discussed earlier, and discussions with key informants are useful sources of information for these analysis components.

3.3.1.7 Identification of Key Success Factors

The key success factors are those areas in which the industry must be competent at, or focus on developing the competence, in order for the industry to improve its competitiveness and to be economically viable. The key success factors are those areas with the most direct bearing on the ability of the industry to be competitive due to high performance in the key success factors. Any regional industry of a particular commodity must be successful with the key

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success factors in order to prosper and grow. Directing attention to the key success factors can be an important part of ISPC because this helps to prioritize and focus strategies that are developed toward achieving the industry's most important key success factors and hence are particularly important in strengthening industry performance.

In an industry setting, the key success factors can be determined for (a) the industry as a whole as well as (b) the major types of firms or industry segments, such as, growers, packers, and processors. This aids the industry as a whole in focusing its ISPC attention and can aid individual industry segments in making needed changes. The other tools of situational analysis help provide the information that is necessary for developing an awareness of the key success factors.

3.3.1.8 Summary of Situational Analysis

There are several important potential outputs from situational analysis. The foremost of these can be the already mentioned shared understanding by the ISPC leadership group and the industry of the driving forces, key success factors, and the overall environment of the industry. Other key outputs from situational analysis are information on major problems, unmet opportunities and various measures of the industry's performance. These can be developed into various explicit informational statements, publications, etc. that should be communicated to the industry. This may facilitate overall industry actions as well as aiding in consensus building.

Situational analysis should help in developing an awareness of changing customer and marketplace expectations and requirements. Industry performance levels in such areas as quality that were once acceptable may no longer be acceptable and may have limiting effects upon demand for an industry's production. Looking into the future, situational analysis can aid the ISPC process by showing the current and future situation that the industry is seeking to adapt and adjust to. This understanding of the dynamic, evolving industry including its current complexities and major issues is essential to effective strategy development for the industry.

3.3.2 Determination of the overall vision

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3.3.2 Determination of the Industry's Vision Statement and Guiding Strategies

Using the results of the situational analysis, the ISPC leadership group with some help from staff and, to some extent, the broader industry, will likely want to consider the industry's overall vision statement and some broad guiding strategies. This is a second step in the strategic planning phase of the ISPC framework and is similar to developing a strategic vision statement and overall core strategies in firm-level strategic management.

Extensive communication with the ISPC group and the broader industry is essential to ensure that an industry's vision statement and guiding strategies are supported by the industry and that the industry is aware of them. The vision statement and guiding strategies can be important consensus building tools for the industry. The vision statement and guiding strategies may also serve to improve vertical coordination in the industry as they aid the overall industry in identifying and making needed adjustments.

The vision statement and guiding strategies are overall tools to prepare for determining the major improvement objectives for the industry. To a certain extent, they are not absolutely essential for the industry to accomplish its objective setting; however, the above arguments suggest that they can be effective in setting the stage to choose the best objectives for improved industry performance and competitiveness.

3.3.2.1 Generation of an Industry Vision Statement

In an ISPC process, the ISPC group should consider whether developing a mission or vision statement for the industry would be useful. The industry vision statement would likely be similar to a firm's vision statement except that the focus would be on the industry. An industry vision statement would likely answer the same types of questions that a firm's vision statement would address. In this, the industry vision statement would define the industry's major arena of business that the industry intends to pursue and the long term course for the future of the industry. Key questions to address in this are what are the needs served, target markets, and

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functions performed (Thompson and Strickland, 1995, p. 25). Such an industry vision statement should be simple and concise and could serve to inspire and challenge the industry for increased buy-in into ISPC.

There is some question as to whether an industry vision statement would provide meaningful benefits as part of an overall ISPC process. Various groups, industry segments, individual firms, etc. may have diverse opinions on the industry, the future of the industry, and the role of the ISPC process. This means that developing an industry vision statement could likely take a considerable amount of discussion and evaluation. The vision statement may become too broad to be meaningful and may divert attention from identifying and capitalizing on areas where industry strategy could be especially beneficial. Moreover, an industry strategic vision might reduce industry buy-in and consensus into an ISPC process because some groups, firms, or organizations could be turned off by the vision statement.

Developing an *industry* vision statement may have certain benefits as well as possible limitations and costs in the industry context. To what extent developing an industry vision statement is worthwhile will likely depend upon the industry in question. Vision statements in some industries may provide a key part of defining and communicating the industry and its strategies while in other industries a vision statement could be a divisive, time consuming exercise with little benefit. Future experience may provide further useful information on this. However, at the present time the question of developing an industry vision statement should be considered individually by the ISPC group, given its collective knowledge of the industry and subsequent knowledge of likely benefits and costs of developing a vision statement.

3.3.2.2 Guiding Strategies

It will be useful for the ISPC group to consider guiding strategies for the industry. These guiding strategies can serve to provide perspective on the intended overall industry

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direction. These can include elements of master strategy for the industry to achieve improved performance. They contain aspects that are commonly used in firm strategic management that have been modified to be appropriate to the industry context.

3.3.2.2.1 Growth Positioning

As part of the overall guiding strategy of the ISPC framework, it may be useful to develop an overall assessment of the future possibilities for the industry or individual market segments that the industry serves. This is similar in many respects to growth positioning as shown in Peterson's strategic management framework reviewed in Chapter 2. Partly as a result of the situational analysis, the industry as a whole may adopt an overall goal for the industry to either grow, maintain its current size, refocus, or as a last resort to exit. An industry might also want to break down the various market segments that the industry serves into meaningful components or market segments for this type of growth positioning. For example, the Michigan apple industry serves the fresh, sauce, slice, and juice major market segments.

Aided by the information developed through shift-share and trend analysis and other parts of situational analysis, each market segment can be assessed for future growth and return prospects. Each major or minor market can be assessed for whether the growth positioning of growth, maintain, refocus, or exit are more attainable or appropriate for that market. Additionally, goals for each segment can be developed with specific steps to achieve the desired outcome. Specific actions may be identified for firms and industry organizations to enable the market growth positioning to be achieved.

A *growth* strategy could indicate that the industry has a reasonable likelihood of expanding its production and markets for a particular major (or minor) market segment as the market segment's needs are effectively responded to. Furthermore, a growth strategy for a particular market segment would indicate that the market segment offers relatively good

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opportunities for increasing returns. Firms may need to gear up production levels and/or accomplish other strategies to accomplish this. Industry organizations may need to accomplish particular activities to set the stage or facilitate the growth strategy.

Perhaps if an industry faces especially difficult threats and limited opportunities in a particular market segment, then the industry may determine that a more reasonable or attainable goal for the industry is to *maintain* its position in the market segment. An industry might also choose a maintain strategy because a particular market segment does not offer relatively high returns compared to other market segments. Firms and industry organizations may still need to address particular issues for the industry to maintain a market segment.

A *refocus* growth position would indicate that in order to effectively serve a particular market the value chain of the industry needs to be radically or substantially altered. This could be based on an awareness that the current competitive approach will not generate the best performance for the industry in terms of market share, volume, returns, etc. This would likely be based on a current lack of competitive abilities for the industry in changing markets.

If long and short term growth and return prospects for a particular market segment are especially low or negative and there is not a reasonable likelihood of this changing, then the industry could consider the overall growth positioning strategy of *exit*. In the exit strategy, the goal would likely be to facilitate the industry's transition from this market segment to market segments with better return prospects. In particularly dire circumstances for all an industry's market segments, an industry might consider identifying altogether alternative products for the industry to transition its production to while exiting production and marketing of its current products.

The growth positioning goals can provide substantial motivation for firms and organization to support ISPC action because they indicate possible levels that the industry could

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attain if certain strategies are developed and implemented to actuate the growth positioning strategy. That is, the industry's goals will likely be accomplished if the industry effectively develops the strategies to make that growth positioning goal a reality. For example, it could be useful to plan that an industry will be expected to grow if it is effective at improving its quality reputation, etc.

Individual firms can plan according to the overall growth positioning outlined as realistic for the industry. A firm can gear up for future expansion or prepare for efforts to maintain or refocus by market segment. Firms can implement the specific strategies that the ISPC effort identified as key areas in which adjustments need to be made.

Growth positioning may also aid individual firms in perhaps understanding the reasons, possibilities, requirements, etc. behind particular strategies for the industry. For example, firms in an industry would be more likely to support an action that will clearly result in increased demand for the entire industry. Hence, growth positioning may aid in developing consensus support for particular desired actions.

3.3.2.2.2 Focus on Developing Core Competencies

As discussed in Chapter 2, the idea of core competencies is doing something well in comparison to competitors and that makes an important competitive difference. Core competencies are further especially important if they are difficult to copy by competitors. The key to competitive advantage, according to core competency theory, is for a firm to be able to create core competencies more quickly and efficiently than other firms. A key approach of ISPC should be to identify core competencies for the industry that have been achieved or are needed as well as exploring ways to effectively develop them more fully. The format of ISPC with its involvement of generating industry synergy as well as group analysis and efforts may aid in the process of developing core competencies for the industry.

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The actuality of explicitly working on core competencies in an ISPC group would likely include discussions, analyses, and evaluation of various possible core competencies for the industry now and in the future. Information developed in situational analysis, such as, key success factors, major driving forces, etc. may provide some indications of where core competencies could and should be developed for the industry. Overall the idea is for the group to identify, if possible, one or more core competencies for the industry to develop. Hamel and Prahalad (1994) define three tests to identify core competencies for a firm that seem to be applicable to the industry context as well. The tests are:

- Provides access to a wide variety of markets
- Makes a significant contribution to the perceived customer benefits of the end products
- Should be difficult for competitors to imitate

These tests may be useful for an industry in evaluating if a particular strategy is a core competency that the industry should pursue.

3.3.2.2.3 Determination of Value Based Actions to Meet Customer Needs

An important common goal in ISPC is to facilitate needed transitions by the industry into better meeting customer requirements and hence improving industry performance. This may be through aiding firms' abilities in many areas, such as, being able to successfully target various markets by meeting quality needs. This is a continuing challenge for all firms, but there also seems to be substantial promise in ISPC aiding industries in doing this more effectively in order to move to a higher performance path, especially as improving vertical coordination is a special topic area in ISPC.

One of the very important facets of competition is effectively evaluating and responding to changing customer and marketplace expectations and requirements. Performance levels in

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such areas as quality that were once acceptable in the past may no longer be acceptable as customer preferences and competition change and thus may have limiting effects upon demand for an industry's production if commensurate adaptations are not made by that industry. By astutely looking into the future, ISPC may be able to aid firms in adapting and adjusting to present and future market needs through serving current and potential customer needs. A part of the challenge is to determine what customers want and need in the dynamic marketplace as well as possible ways to more effectively provide those needs.

Situational analysis can provide important information in this. Value chain analysis especially focuses on what users of industry's product value and how the industry creates value. Strategy in this area seeks to better provide value given the ability of the industry to produce in competition. The goal of ISPC efforts in this area is to enable more rapid industry responses to changing preferences as well as potentially enabling access to high return market segments as these evolve to improve the industry's performance in vertical coordination.

3.3.2.2.4 Selection of the Overall Mix of Differentiation and Low Price

One key decision for the industry involves a strategy regarding the mix and balance of low cost and differentiation for the industry's overall strategy. That is, in general what approximate emphasis or percentage of the industry's efforts should be for low cost commodity products, or a cost leadership segment of the industry, as compared to how much should be marketed with substantial quality features using a differentiation approach. An industry may decide as a whole that some shift in the overall balance would be useful for improved industry performance in meeting customer needs and for increased returns to the industry.

Choosing the most appropriate mix may aid an industry in production and marketing efforts. Firms could decide that it is advantageous to shift product and marketing efforts, and industry organizations could change their agendas, e.g., research, advertising, etc., to facilitate this change in strategy. Furthermore, to the extent that the industry does shift toward a different

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emphasis in end product strategy, then the shift may communicate to buyers the unique performance aspects and core competencies of the industry in regards to cost, quality features, etc. For example, the Washington apple industry's emphasis on developing somewhat differentiated ¹⁶ apples sold in tray pack may have communicated an industry-wide message to buyers about quality, consistency, and other features of Washington apples.

In the industry context, it is unlikely that the extremes of either low cost or differentiation end product strategies will be pursued. Individual firms in a commodity industry compete with one another for markets and use a variety of end product strategies. Firms also have different capabilities in regards to low cost and differentiation. Since individual firms would largely implement this overall shift in end product strategy to varying degrees, the industry's performance in this area would probably not simply be cost leadership *or* differentiation strategy but some approximate combination of these since an industry as a whole would find it difficult to pursue just one kind of end product strategy.

In the firm context, Porter (1980) warns that a firm should not pursue what he refers to as a "stuck in the middle" strategy between the two broad strategies of cost leadership and differentiation. This is based upon the idea that focusing on one of these two generic strategies is crucial to a firm's focus in achieving competitive advantage. Although perhaps some degree of focus on one generic end product strategy or the other might aid the industry in focusing attention, this would be difficult to achieve in the industry context, especially as it would require that individual firms give up substantial control of the production and marketing of their products. However, it may be that in some industries firms will need to focus as-a-group in achieving a particular end product strategy to gain certain benefits. It would be up to the ISPC

¹⁶ Some aspects of the Washington apple industry's "differentiation" approach included establishing minimum condition standards, a particular color for Red Delicious, and some standards to establish a minimum maturity level as well as the industry specializing in marketing tray pack.

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group along with the overall industry to consider and evaluate if such an approach would be the best approach to follow for their industry.

It may be more realistic in many industry situations to consider the idea that firms in an industry might seek to differentiate as a group on selected aspects. That is, an industry might develop or have some features or characteristics that are somewhat unique and to a certain extent differentiate an industry's products. The following discusses this differentiation approach as it compares this approach with the cost leadership approach.

Cost leadership in strategic management terminology is the strategy of being the lowest cost producer. Effective efforts to accomplish this strategy focus on reducing costs while maintaining an adequate level of quality. The commodity focus of traditional agricultural production has some important similarities to cost leadership. Goods such as corn, wheat, and soybeans are traded in highly price competitive markets. Quality differences between regions of the United States or even the world are often fairly small. For example, in the soybean industry, quality differences between the production of the U.S. and Brazil have historically been determined by genotype produced in each region, that is largely selected for yield potential. This is the essence of commodity production, producing a non-differentiated product and competing primarily on price. Attaining a position of being a low-cost producing region is a key element of success in this overall strategy.

Using strictly the commodity approach in agricultural production often has key unintended results including low profit margins for firms in the industry based on the industry's strong price competitiveness and related conditions. Cost efficiency, scale, and often volume become the key drives for long-term profitability. There are relatively low entry costs for expanded production and new producers in the production of many agricultural commodities -- that can lead to even more competitive pressure from new entrants if returns are promising for a

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period of time. Innovations in production are generally readily copied by competitors leading to supply increases and the so-called "treadmill of agricultural production" (Tweeten, 1989, p.102). This means that firms in such an industry can expect to experience ongoing trends for downward pressure on prices and returns from production with emphasis on low cost and strong price competition in commodity markets.

It is possible for some industries to develop distinguishing product characteristics and other differentiating factors that enable the products to be somewhat unique in certain ways that are valued by buyers -- at least for some portion of the industry's production. This involves using a degree of a *differentiation* strategy. In these industries, the goal of the industry would be to achieve improved profit performance. This might be achieved if the industry is able to receive price premiums above the costs of differentiation. It is often extremely difficult for an individual, relatively small producer firm in agriculture to market and produce a product that is markedly different from the general commodity produced.

How might this type of differentiation strategy be achieved by a commodity industry? It might involve developing superior products to meet customer needs, coordinated quality standards, joint advertising for a consistently superior product, and perhaps joint research investments on selected aspects that will improve quality, performance, or the ability of firms to target market their product. The possibility may be available in certain circumstances for a industry to build on its inherently different production possibility set to somewhat differentiate their products from competitors and earn higher returns than would be available from merely being a low cost supplier of a standard commodity product. This strategy may be able to be copied by competitor commodity industries (or competing commodities) or may only be partially duplicable due to production possibility differences, institutional structures, or other reasons. In the apple industry, a certain level of a product "differentiation" strategy has been a key part of

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the overall strategy of the Washington apple industry that has apparently resulted in some improved industry competitiveness and improved industry performance through better meeting the needs of consumers.

Overall the choice of end product strategy for a commodity industry will probably be some mix or combination of cost leadership and differentiation. This is based upon the nature of the industry since the industry is made up of individual firms seeking competitive advantage. There are substantial possible benefits of selected industry differentiation on some aspects such as various quality characteristics, service features, etc. This type of "differentiation" has the possibility of improving the overall effectiveness of the industry's production and marketing efforts.

3.3.4 Determination and Prioritization of Major Improvement Objectives

To achieve the vision and guiding strategies developed in the preceding step of strategic planning, it would likely be effective for an industry to determine and prioritize major improvement objectives for the industry to accomplish. These major improvement objectives are a critical intermediate step to moving from the vision and broad strategies to developing implementable strategies. This then represents a third step in the strategic planning phase of ISPC.

The improvement objectives are broad topics or areas that the industry needs to address in the next 3 to 5 years. These are areas on which the ISPC group and the industry decide to focus on as priorities in order to improve the broader industry's performance. Examples of these areas in the Michigan apple industry include expanding exports, improving quality management, and maintaining effective pest control resources. This objective setting step was developed in Ricks and Wood's framework as discussed in Chapter 2 and is also consistent with long-range performance objectives in firm strategic management.

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It is important to be aware that industry objective setting is complicated because an industry is complex and various firms and industry organizations may have different priorities in regards to what the industry should strive for as objectives. Given this, considerable discussions in the ISPC group and other industry forums are important for the industry to develop some consensus on the major improvement objectives. Staff analysis may aid the industry in evaluating particular objectives.

Developing a list of possible major improvement objectives may be a useful early activity in determining priorities. This list could possibly be developed in many ways including discussions in the industry, suggestions from various leaders, and other sources. Earlier steps in the framework, such as, situational analysis, guiding strategies, etc., should provide a solid foundation for this step. For example, the situational analysis in the Michigan apple case helped to identify increasing exports as a possible major improvement objective to develop for the industry.

In selecting among possible priority improvement objectives the situational analysis, vision statement, and overall guiding strategies that have already been developed during the ISPC process should help. The earlier steps frame and provide much of the needed information and choices for selecting and prioritizing among various proposed improvement objectives. For example, growth positioning helped the Michigan apple industry to focus on both expanding exports and improving quality management as a high priority areas because if Michigan is to expand fresh marketing volumes then improving quality is a needed action.

From the broader list of possible improvement objectives, a small number (perhaps 4 or 5) of the most improvement objectives should probably be selected for priority attention by the industry at a given time. This limitation to a small number of major objectives is based on the common situation that an industry typically has limited leadership resources to address a large number of possible improvement objectives simultaneously. Limiting priority attention to these

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most important areas serves to focus and conserve the limited leadership and resources of the ISPC group. It will also likely maximize the chances for consensus and thus ultimately implementation.

For determining and prioritizing possible improvement objectives there are two general screening questions that may aid an industry in identifying and selecting the best ones. They are useful in that they help to identify objectives that are the most important for the industry to focus on. These screening questions are:

- To what extent is industry-level action needed to achieve success in regard to a particular objective?
- Does the proposed objective address an important gap between current industry performance and needed or desired performance?

The following two subsections discuss the relevance and application of both of these screening questions.

3.3.4.1 Is Industry Action Necessary to Achieve an Objective? ¹⁷

In considering various possible improvement objectives, it is useful to consider whether industry attention is necessary to achieve such an objective. Alternatively, if firms and industry organizations will likely make sufficient progress without broader industry attention, then the objective would be of lower priority. The following two examples from the Michigan apple industry illustrate the relevance of this question.

Modernization of fresh apple packing houses is important for the Michigan apple industry. This modernization enables the Michigan industry to achieve enhanced performance in uniform color and sizing, and this enhanced performance will likely enable the Michigan industry to have increased performance in certain high return markets, such as, tray pack and

¹⁷ Ricks and Woods (p. 13, 1995) discuss this issue briefly.

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export. Hence, modernization of fresh apple packinghouse is considered an important objective for the industry. However, individual packinghouses are accomplishing this modernization to some degree with little coordinated industry attention. This provides some indications that while packing house modernization is a priority objective for the industry on this modernization need, it is less than top priority for joint industry action.

Maintaining effective pest control resources has also been found to be important for the Michigan apple industry. Having effective pest control resources enables the Michigan apple industry to supply apples with the quality characteristics (e.g., no insect or disease damage, etc.) that are demanded by the market. The availability of the needed pest control resources is threatened by regulations that could prohibit the availability or use of many of these important pest control resources. Individual firms and industry organizations can most effectively respond to this threat jointly as a group to fund research on new effective pest management technology, to adjust the industry's pest management practices to reduce pesticide use, communicate their needs, and advocate appropriate public policy. The objective of maintaining adequate pest control resources would hence be a good candidate for a priority major industry improvement area based on the need for industry attention.

Overall, the major improvement objectives selected should be the ones for which industry attention would be most useful. Such industry attention should include strategies that individual firms and industry organizations cannot best accomplish by themselves. This is only one consideration in evaluating a particular improvement objective and should be combined with whether the objective addresses a critical gap in performance by the industry as is discussed in the next sub-section.

3.3.4.2 Does the Objective Address a Critical Industry Gap?

Another important consideration in determining and selecting priority objectives is whether the objective addresses a critical industry gap. Answering this question is suggested in

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Ricks and Woods (1995) and is similar to gap analysis (Collion, 1993; Holloway, 1986). In this analysis, the gap between desired industry performance and current industry performance can be assessed. If there is a substantial gap, i.e., if the industry does not meet desired performance, such as, with a key success factor or critical issue, then this would suggest that a priority objective could be to improve performance in that area.

Areas where performance can be assessed by gap analysis include many areas of industry performance. Key success factors, identified in situational analysis, are one important area to focus on, since the key success factors are areas in which an industry must be successful in order to have competitive success. Guiding strategies selected earlier in the framework may indicate performance areas to be evaluated in gap analysis. For example, if an industry decided that it would like to shift more of its production to the differentiation approach, then the differentiation capabilities of the industry can be assessed to see if there is a gap. If there is sufficient gap between an industry's performance and the requirements, this would indicate that it should be a priority area for the industry to look for ways to differentiate their production.

3.3.5 Development of Specific Strategies for Facilitating Needed Industry Improvement

A fourth step designated in the strategic planning phase of the ISPC framework focuses on specific strategy development. The development of specific strategies for facilitating needed improvement indicates what actions firms, industry organizations, and the industry as a whole should undertake to improve industry performance. These indicate strategies that the industry group thinks should be implemented through coordination in the industry. This builds upon the earlier steps in the strategic planning phase of the framework, since specific strategies focus upon how the industry's vision, overall guiding strategies, and objectives are to be achieved.

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ISPC strategies will often be stage setting¹⁸ in nature and will focus on areas that will enable improved performance by firms and industry organizations. For example, developing information on variety demand for the Michigan apple industry sets the stage for improved Michigan apple industry responses to variety needs as indicated by the market. The use of this step in the industry context is discussed in Ricks and Woods (1995) ISPC framework¹⁹ and is similar to functional strategy development in firm strategic management.

Deciding on which strategies to undertake is considerably more difficult in the ISPC context compared to the firm strategic management context. This is because, while there may be a general agreement on objectives at this point, the industry must still come to agreement on the strategies to accomplish the objectives based upon consensus within the ISPC group and the larger industry. Obtaining the needed consensus on specific strategies may be difficult in an ISPC context. As has been discussed in Chapter 2, this consensus may be particularly difficult to achieve because firms may tend to focus on their rivalry conditions or benefits to their firm, rather than focusing upon the industry benefits of a strategy.

Coming to a consensus agreement in the ISPC process will likely be particularly difficult for those strategies that would require a joint decision and that all of an industry or an industry segment must follow in order to be effective in its implementation. These types of strategies can be termed *broad-based industry strategies* because these strategies require a broad-base of industry support. Some examples of broad-based industry strategies include federal marketing orders, grade standards, and/or forming a new industry organization paid for by industry

¹⁸ The term "stage setting" as used in this dissertation refers to strategies which help provide an environment that is positive for the industry and does not change the competitive position between firms. These strategies generally need additional related actions by individual firms for most effective performance.

¹⁹ This step was described as one component, "analysis and identification of appropriate action alternatives".

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assessments. As was discussed in group theory, these sorts of strategies face particular difficulties in achieving necessary consensus and have special issues that need to be addressed.

To develop consensus and overcome the problems discussed above, the ISPC group and the industry leadership can play a pivotal role. An effective approach could be for the ISPC group, in consultation with other industry leaders, to work identifying and developing specific industry strategies through discussion, brainstorming, and careful analysis. The industry leadership, including the ISPC group, may propose, consider and evaluate various strategies. The industry leadership may request further analysis of certain strategy alternatives or certain aspects of these, perhaps using projected or *a priori* impact analysis discussed below -- and then have further discussion and group analysis based on these. After analysis of alternative approaches, possible results, costs, benefits, and obstacles, certain strategies will need to be chosen for consensus building and implementation.

The ISPC group should consider developing strategies for each major objective that has been developed during the ISPC process as well as using impact analysis to support the relevance of the strategies. The following two subsections discuss the use of these methods.

3.3.5.1 Strategies in Each Major Improvement Objective

In an ISPC group's strategizing efforts, it should explicitly evaluate a number of possible strategies for each major improvement objective. Logically, this creates a linkage between the major improvement objectives, on which consensus has been achieved, to the methods, i.e., strategies, by which these objectives are to be achieved. Hence, linking strategies to objectives will enhance the likelihood that the objectives will be achieved.

A *combination* of strategies might be most effective in addressing and improving industry performance for some major improvement objectives. The different strategies may focus on the strategic area from different perspectives. For example, the area of improving

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quality management in the Michigan apple industry is a complex area. Several strategies can be analyzed and considered. One current strategy (the on-going Maturity Information Program) focuses on developing information for apple growers on the most appropriate harvest dates for getting good quality in regard to firm/crisp apples. Another ISPC strategy that has been considered relates to developing appropriate incentives for firms to be consistently rewarded for top quality, e.g., a premium grade. A third strategy involves market research on consumer demand for quality characteristics. Taken together, these strategies in combination illustrate that progress in an strategic area can be attempted from several directions simultaneously. It is possible that a synergistically greater impact will result from a combination of strategies for a major improvement objective.

3.3.5.2 Impact Analysis

When evaluating various strategies, it may be useful if the potential impact of the strategy can be anticipated in an a priori fashion. Impact analysis as discussed in Ricks and Woods (1995) is a method to do this.²⁰ This sort of analysis may be especially useful for complicated, difficult strategies that require industry-wide support or consensus; however, estimating the likely impact of complicated strategies will likely be difficult and uncertain. Analysis of the potential beneficial impacts of a strategy to various industry segments can be a powerful tool in explaining and convincing the industry to implement needed strategy. For example, an impact analysis of the potential impacts of the (then) proposed marketing order for U.S. tart cherries was an important tool in explaining and showing the nature of the problem and the potential for the marketing order as a strategy for improved industry performance.

Impact analysis can show the current knowledge about the expected benefits, costs, and risks of using a particular strategy. This can provide important information to decisionmakers to

²⁰ Ricks and Woods (1996) focused primarily on *ex poste* impact analysis, but using impact analysis before a strategy is implemented can be useful as well.

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facilitate their evaluation of whether they should support a strategy. That is, an impact analysis can help to provide a more complete set of relevant information to decisionmakers on a strategy. This also means that results of impact analysis have the potential to be an important tool in establishing consensus support for needed strategies.

3.3.6 Summary of Strategic Planning

The strategic planning phase is comprised of four steps which together provide a method by which the industry decides upon the best future course for the industry. The first step, situational analysis, provides essential information about the industry's current performance and competitive environment. This information is useful in the second step as the industry determines its vision and guiding or overarching strategies which chart the industry's overall competitive intent. To achieve the vision and guiding strategies, the third step of strategic planning develops major improvement objectives. The fourth step of strategic planning, developing specific strategies, identifies specific strategies for facilitating improved industry performance.

The strategic planning phase with its four steps provides important benefits. Specific strategies that are selected are based upon the decisionmaking and information developed from the earlier steps. The earlier steps provide key supporting evidence for the need of a particular strategy and should have developed some level of consensus support for a strategy. This means that the specific strategies developed for implementation in the next phase are those which the best likelihood of improving the industry's performance.

3.4 Implementation and Coordination of Specific Strategies

After various industry improvement strategies have been developed and some level of industry consensus support has been obtained, the next phase is to move from planning the strategies to the implementation and coordination of these strategies. This phase is consistent

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with implementation in firm strategic management where support and action from key firm decisionmakers, such as the CEO and top executives, are important for implementation of particular strategies. However, an industry usually has quite a diverse make up with various types of firms and industry organizations that can complicate the implementation of strategies -- even after these have received the necessary consensus. This often makes implementing ISPC strategies more complicated, different, and difficult for ISPC than for a firm.

A key difference between firm strategic management and ISPC is that in ISPC there is generally no centralized hierarchical command and control structure in the industry to facilitate the implementation of strategies as was discussed in Chapter 2. The ISPC group can serve to a limited degree as a coordination or facilitating structure in which various activities and actions for strategies that need to be accomplished by various firms and industry organizations can be encouraged or delegated. This may facilitate the implementation of industry improvement strategies.

One main choice in selecting individual strategies is to what extent the strategy will probably be voluntary or mandatory in nature in regards to implementation. A strategy would be voluntary if firm(s) and/or industry organization(s) will be expected to achieve a strategy or provide the resources for the strategy without some mechanism to enforce that a strategy is implemented. Strategies with some mandatory aspects would include ways by which individual firm and industry organizations are mandated to do the strategy. An example of a mandatory strategy would be to have an assessment of all marketed fruit to pay for industry public good research. Individual firms in marketing their products would need to define their relevant products by the grades and improper grading would be sanctioned by some mechanism.

Mandatory strategies, as such, have an enforcement mechanism and have required expectations of firms and/or industry organizations. Firms and industry organizations would have to agree on and support the strategy, because they would view the strategy as benefiting

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them. This agreement is often difficult, uncertain, and costly since firms and industry organizations have varying agendas and goals. This means that it is substantially easier to achieve voluntary strategies. Furthermore, given the cost and difficulty associated with mandatory strategies, it is likely that an industry can address only a few new mandatory strategies at a particular time.

This is one reason why most strategies developed in an ISPC process will be voluntary in nature. That is, individual firms and industry organizations with varying agendas and goals may implement strategy depending upon their individual perceptions that it is in their best interest to do so. Even for strategies with mandatory aspects, the ISPC group would be expected to advocate change for improved performance and to facilitate the implementation of the strategy. The ISPC group, itself, will not usually have substantial power nor resources to implement strategy, but can more often play coordination or facilitating roles.

There are a number of approaches that an ISPC group can use in its overall coordination role in the industry for its progress and improved performance. These approaches can help to facilitate the implementation of strategy. These include:

- Develop an implementation plan for needed industry improvement strategies that will indicate how key steps for each strategy are to be implemented.
- Continue communicating the need for and the elements of the strategy to the broader industry because the firms and industry organizations will be less likely to implement strategy that they are not aware of or if they are not convinced is in their best interest to do.
- Facilitate the provision of the needed resources for implementing the strategy because strategy will not be implemented unless resources are provided to pay for it.

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- Measure progress for each strategy because this will aid in assessing how effective current strategies are in meeting desired objectives.
- Consider enforcement mechanisms if there are strategies that include mandatory components, such as, assessments, grade regulations, etc.

The following subsections considers these approaches.

3.4.1 Developing an Implementation Plan for Each Strategy

ISPC effectiveness can usually be aided if the ISPC group develops an implementation plan for each industry performance-enhancing strategy. An implementation plan could include information on:

- Who will accomplish the strategy?
- What are key tasks that need to be completed to implement the strategy?
- What is the overall planned timetable to accomplish the strategy?
- What are the desired and/or expected outcomes from the strategy?
- How will resources be provided for implementing the strategy?

Effectively addressing these issues for an entire industry may be complex and difficult for some strategies. Nevertheless, if this is accomplished, it facilitates a group industry effort towards accomplishing various industry performance-enhancing strategies.

Overall, the implementation plan can be critical to implementation success. For strategies requiring extensive coordination between various industry firms and organizations, an implementation plan is probably essential. For other strategies where implementation can be accomplished by a few firms or industry organizations, the implementation plans can be less formal.

3.4.2 Communication of the Strategy to the Industry

Along with an implementation plan for a certain industry strategy, it is vital to communicate the strategy and the appropriate aspects of the implementation plan to the industry.

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In the firm strategic management context, Kotter (1996) notes that is important to use many means to communicate strategy throughout a firm. Firm transformation efforts often fail due to inadequate communication efforts. Just because the leadership agrees on a set of strategies, does not mean that the others in the firm are aware of and/or will support the strategy. The need for effective communication in an industry setting is even greater due to the many diverse firms, organizations, rivalry in the industry and the need for many voluntary actions for ISPC strategy implementation. Effective communication of ISPC strategy is therefore a critical task in the implementation of strategy.

The communication approach should be tailored to each specific strategy. Since ISPC strategies may be implemented by some combination of individual industry organizations, individual industry segments, or the broader industry as a whole, a key is to effectively communicate the information to the appropriate decisionmakers on the need for the strategy as well as tasks to accomplish the strategy.

There may be a need to reconsider the strategy if appreciable resistance or problems in implementing a particular strategy are perceived or arise. The ISPC group could discuss alternatives to improve the strategy. This is suggestive of an appropriate iterative nature between strategy development and implementation.

Communication is even more important for broad-based industry strategies because a broad effort or plan of communication to various appropriate industry segments is necessary if a broad-based industry improvement strategy is to be implemented. This communication plan should include some aspects of why a proposed strategy is needed and its positive and negative features. The evaluation and consideration of the strategy by the ISPC group and the broader industry that was developed earlier may contain useful information in the explanation of the need for the strategy. Further, this information may be developed and provided to the industry through written reports, articles in industry periodicals, etc.

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3.4.3 Obtaining Resources for ISPC Strategies

One of the key facets in ISPC implementation is to determine who will pay for the strategy. This question can be important in the firm strategic management setting as the firm's managers determine who will pay for a strategy, but it is considerably more complicated and potentially difficult in the industry setting because there may be disagreement about who should pay and varying willingness to pay for needed ISPC strategy implementation.

This issue is especially a problem in the industry context because many of the strategies developed through ISPC provide non-excludable or public goods. Based on group theory discussed in Chapter 2, the provision of such goods requires that one of two conditions hold. These conditions, modified to apply to the industry context, are:

- (1) Firms and/or industry organizations must receive sufficient direct net benefit from providing the public good that they are willing to pay even if there are free riders;
- (2) Firms and/or industry organizations as a group must find some mechanism to require the provision of the public good.

If condition (1) holds, then cost contribution or assessments may be voluntary because the cost/benefit relationship can be stressed in implementation. If condition (2) holds, then cost assessment will need to have at least some mandatory elements because a compelling cost/benefit relationship does not exist for firms and/or industry organizations.

3.4.3.1 Voluntary Contributions

For implementing voluntary strategies, once the strategy is communicated to the appropriate industry decisionmakers, then providing the resources is up to decisionmakers in the relevant individual firms and/or industry organizations. This highlights the importance of communication in developing many ISPC strategies. The ISPC process for these types of

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voluntary strategies mainly serves in a coordinating role through identifying needed strategy and communicating the need to the appropriate firms and/or industry organizations.

Voluntary allocation requires essentially that firms and/or industry organizations are willing to allocate the resources without coercion. Let us consider for a moment conditions in which firms would be willing to allocate resources for an ISPC strategy. Firms must individually expect receive a net benefit based on their contribution (condition (1) above). A method to achieve voluntary contributions for ISPC strategy would likely involve discussions and persuasion with firms that would likely contribute. If a core of these firms recognize the need for the ISPC strategy, and are committed to the strategy, then they would develop a memo, article, or other form of communication to other relevant and prospective industry participants explaining why the strategy is needed. This information on the need for the strategy would be brought to the attention of potential contributors to the strategy.

The above discussion indicates a possible approach for achieving voluntary contributions for resources for a needed strategy. However, two factors substantially limit the net benefit that firms receive from a strategy where there are substantial public good characteristics. First, the individual firm does not receive the entire benefit of its contributions since other firms also receive a benefit even if they do not pay their share of the costs. Second, this results in a further problem which can be accentuated by rivalry conditions. That is, the strategy may provide a public good that would *benefit rivals* and be *paid for by the group of contributing firms*. This consideration provides a serious obstacle for individual firms voluntarily contributing the resources for a strategy.

Broad industry organizations which have a primary mission of supplying this type of industry public good, on the other hand, will likely have substantially greater motivation for allocating resources for agreed-upon ISPC strategy. These organizations often supply some

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forms of industry public goods. This raises the possibility that allocating the resources for the strategy may be consistent with the general goal of the organization. Further, this type of broad-based industry organizations generally do not have the same amount of rivalry as an industry's firms often do in an industry. Overall, this indicates that industry organizations will be substantially more likely to volunteer to allocate resources for ISPC strategy than will individual firms.

3.4.3.2 Mandatory Assessment

An alternative to voluntary contributions is a mandatory assessment approach for the necessary resources that essentially forces firms and/or industry organizations to allocate resources for the strategy. This can essentially overcome the public good problem associated with voluntary contributions of resources by firms as discussed above. However, using the mandatory approach has some substantial potential obstacles.

ISPC strategies that require mandatory assessments for resources will require substantial broad industry support to achieve this, i.e., there will need to be substantial industry consensus on the benefit of the strategy in order to implement a mandatory approach. Examples of this kind of public good strategy include forming a new industry organization to provide an industry good, such as, improved generic advertising, or developing a mechanism to accomplish vitally important research.

Some method to collect the resources, such as, an assessment, will also need to be identified and established within the overall legal environment. The exact mechanism will likely be a source of controversial discussions within the industry because often individual firms may be expected to push for an allocation approach that benefits their firm over rival firms or for a voluntary approach where they can be free riders. These facts may make the strategy more controversial and involves problems and/or difficulties to accomplish than strategy compared to the voluntary approach.

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3.4.4 Progress Measurement

For each ISPC strategy, it may be useful to develop method(s) to measure progress in industry performance as is commonly done in firm strategic management. Progress measurement should indicate to what extent a particular industry improvement strategy has been implemented and how effective that strategy has been in meeting desired objectives. Particular progress milestones for particular strategies that were developed can be checked to evaluate if desired performance has been achieved. For example, determining and achieving a critical mass of a new variety produced and marketed could indicate that a progress milestone in marketing the new variety has been achieved.

Progress measurement is particularly useful as it indicates as time unfolds how effective particular strategies have been. This monitors the effectiveness of a given strategy so that it can be altered if there is a need to do so. The alteration could be based upon a number of facts, such as, the strategy not actually being implemented or the strategy not achieving the desired results. This can then feedback directly into the subsequent strategic planning efforts for an industry along with modified strategies for greater progress.

3.4.5 Enforcement

If an industry strategy is to be implemented through some type of mandatory approach, there will likely be a need to consider how the strategy or program will be enforced. In firm strategic management, the hierarchical control structure of management can enforce and see that the strategy is implemented by pushing for change and sanctioning non-compliant individuals, divisions, and sub-units. As has been discussed earlier, such control structures are generally not in place in an industry setting. However, certain desirable strategies, nonetheless, may have some mandatory aspects that need to be enforced by some mechanism. The mandatory aspects could come in several forms, such as, someone to police firm actions. An example of this type of strategy is grades and standards in the U.S. grain industry. The grade and standards provide

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some benefits to the grain industry's performance, with the U.S. government enforcing that grain grades and standards to assure that they are properly followed in the marketplace.

For strategies with mandatory aspects, the industry group and overall industry need to come to consensus on the method for enforcement. An industry has two main options to choose from in this:

- using a government agency and appropriate laws or government rules to enforce the mandatory aspects
- forming some sort of industry organization to do the enforcement, usually with contractual arrangements.

These two different choices have some different implications regarding the cost, legality, and effectiveness.

One important aspect is the enforcement cost of the mandate. Someone must pay the cost of having an inspector checking to see if the mandate is enforced. Often the government is willing to pay the cost of enforcement, especially if benefits to public interests can be shown. Alternatively, forming an industry organization would almost necessarily require the firms and/or industry organizations to pay for the enforcement.

Another issue in enforcement is legality. Government enforcement of mandatory aspects ties in with the numerous regulatory roles the government is currently engaged in and generally has substantial legal standing, especially in sanctioning non-compliant, i.e., illegal, behavior. Further, the government may often be seen as a neutral party, especially in regards to rivalry in the industry. An industry organization focusing on mandatory aspects may not have similar legal standing or a general ability to sanction that would limit effectiveness of an industry organization in enforcement except through legal contracts.

One benefit of an industry organization enforcing mandatory aspects would be the ability to be flexible to the changing needs of the industry. Government regulations and enforcement

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are often inflexible and are not easy to change. Slow government responses to changing needs could result in missed opportunities for an industry.

This sub-section has discussed some of the issues an industry should consider when evaluating the choice between government or industry enforcement of regulations and other mandatory aspects if these are used. As discussed, legality, flexibility, and cost are key issues in this. The option chosen would be based upon the options that are available to the industry and what the industry decides is most appropriate.

3.5 Strategy Review and Re-evaluation

Strategy review and re-evaluation, the fourth phase in the ISPC framework developed in this chapter, recognizes that an industry, its competition, the overall economy, etc. are constantly evolving in a very dynamic fashion. Hence, the strategies developed through ISPC will likely need to be periodically reviewed and modified. This is similar to the review process in firm-level strategic management. In this phase of ISPC, the industry needs to be alert for major new changes and/or driving forces that are important to the industry. Old problems and challenges may become less of a priority, or perhaps in some cases no longer be relevant, and new opportunities may become available. This is particularly relevant since the future is only partially foreseeable. As time unfolds, more appropriate strategies and actions can be developed to meet the new conditions.

Part of a comprehensive review process could include updating the situational analysis and re-assessing the appropriateness of the conclusions reached in other earlier phases and steps in ISPC. This sort of comprehensive review may be needed on an annual basis in agricultural industries due to the annual nature of production and marketing or, in some cases, it might be done every 3-4 years.

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The focus in review and re-evaluation would appropriately be on how to change strategy to improve performance with changing industry conditions. The leadership of the industry, especially in the ISPC group, can use their judgement about the effectiveness of current strategy and possible future strategy. Industry segments can be surveyed to assess the general level of industry views on industry strategy and performance. While doing this overall strategy review and re-evaluation, it may be useful to consider the following questions:

- a. How well are current strategies working?
- b. What unforeseen results and obstacles have surfaced?
- c. What new areas, including new problems and opportunities, need to be addressed?
- d. What additional ways are there for the region to further develop and sustain a viable, competitive industry?

This task of ISPC recognizes the benefit and need to adjust strategy overtime in an iterative, learning process. The strategy review and re-evaluation has feedback to the industry's strategic planning as the earlier steps are reassessed in light of current circumstances.

3.6 Chapter Summary and Conclusion

This chapter has included the development and explanation of an ISPC conceptual or analytical framework that is designed to be potentially useful to practitioners of ISPC in a wide variety of industry contexts. Existing frameworks of firm strategic management provided an especially important conceptual baseline and a useful starting point for some of the content areas in the framework. A number of other areas in strategic management, economics, and agricultural economics provided important relevant information for modifying, adapting, and adding relevant aspects to the firm strategic management framework to be relevant and most effective for an industry context. The ISPC framework presented here is hence an integration and synthesis of many areas of concepts, ideas, insights and empirical experiences developed in

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the literature and other sources. Linkages were drawn between the various theoretical concepts and the ISPC framework developed to show the logic behind the ISPC framework's development.

The ISPC framework is comprised of four designated phases (1) process initiation, (2) strategic planning, (3) strategy implementation and coordination, and (4) strategy review and re-evaluation. Ordinarily these main phases should be completed in order. Process initiation should necessarily be undertaken first because in this phase the industry decides to have an ISPC process. In strategic planning, the second phase, the industry goes through four steps where the industry develops an understanding of its competitive environment (situational analysis), determines its overall strategic intent (vision statement and guiding strategies), decides upon key areas to focus on in meeting the strategic intent (major improvement objectives), and selecting specific strategies to improve performance in the major improvement objectives (specific strategies).

The four steps in strategic planning together have the goal of increasing the probability that strategies selected for implementation are the ones that are most likely lead to improved industry performance. The specific strategies selected in strategic planning are implemented in the industry through a process of industry coordination in the third phase of the ISPC framework, implementation and coordination of strategies. The fourth phase of the framework, strategy review and re-evaluation, deals with reconsideration of the strategies selected in light of changing circumstances. Overall, the ISPC framework is posited to provide a model that can be of assistance for the effective practice of ISPC.

A key goal of this ISPC framework, as has already been mentioned, is for the framework to be applicable in a wide variety of industry contexts. At this point, the framework developed is based upon theoretical concepts and some prior work with ISPC. These theoretical

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linkages provide some face validity to the ISPC framework. The development of this framework represents some meaningful progress towards the fulfillment of Proposition I:

Based on theory from relevant disciplines, a framework of interrelated activities can be specified as an aid for accomplishing ISPC.

However, the framework, while logically developed and supported from concepts, ideas, etc. in the literature and by selected theory, has not been fully tested or validated. This effort will essentially be to test Proposition II:

An actual ISPC process that follows the framework of Proposition I can substantially contribute to improved industry performance.

The framework can be tested with empirical experiences with the tests of construct and internal, as outlined in Chapter 1. Applying the framework in this manner could also point to possible additions or changes that should be made in the framework. The following two chapters relate the framework with empirical experiences of the Michigan apple and U.S./Michigan tart cherry industries as case studies. One goal of these chapters is to test Proposition II using the tests of construct and internal validity.

In the last chapter is to illustrate a framework based on ISPC strategic planning analytical tools to industry.

The effort to address the tests of Michigan apple in of the ISPC framework applied context will and thus provide industry will be which follows the

This chapter provides an overview or background. The second section is a discussion of the industry. A subsection discusses

CHAPTER 4

APPLYING THE FRAMEWORK

IN THE MICHIGAN APPLE INDUSTRY CASE

In the last chapter, a conceptual framework for ISPC was developed. The goal of this chapter is to illustrate and take important steps toward establishing the validity of the ISPC framework based upon the case study of the Michigan apple industry. Since 1993, a number of ISPC strategic planning and problem solving activities have been undertaken along with various analytical tools to improve the competitiveness and economic viability of the Michigan apple industry.

The effort to illustrate and validate the framework has several important parts that address the tests of construct and internal validity presented in Chapter 1. The experience of the Michigan apple industry working on ISPC has provided fertile ground for empirical observation of the ISPC framework in application. Describing the actual situations and activities in the applied context will indicate the appropriateness of the constructs in the conceptual framework and thus provide a test of *construct validity*. Performance changes in the Michigan apple industry will be assessed to test the *internal validity* of Proposition II, i.e., that an ISPC process which follows the ISPC framework can contribute to improved industry performance.

This chapter is organized in the following manner. The first section provides an overview or background of the Michigan apple industry to familiarize readers with the industry. The second section relates the ISPC framework to the Michigan apple industry along with discussion of the approaches and tools that have been used in the apple industry ISPC activities. A subsection summarizes knowledge gained regarding the test of "construct" validity. The third

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section reviews quality management approaches/strategies to illustrate this topic in more depth as an example of part of the Michigan apple ISPC process. The fourth section considers the three tests of internal validity of the framework as discussed in Chapter 1. The final section provides an overall conclusion to the chapter.

4.1 Overview of the Michigan Apple Industry

The Michigan apple industry is Michigan's number one fruit crop, grossing an average of \$ 82 million at the grower level in recent years. The industry is geographically located in four main areas of concentrated production in Michigan and plays an important role in numerous rural Michigan communities within these main production areas. Production levels in the industry have been growing slowly.

The Michigan apple industry includes Michigan apple growers, packers, processors, and shippers as well as industry organizations associated with these groups. These are the main segments who commonly consider themselves part of the Michigan apple industry.

Apples are marketed in the Michigan apple industry through two main marketing channels, fresh and processing, as illustrated in Figure 4-1, with several distinct vertical stages. Some apples are marketed by numerous growers ²¹ directly to processing ²²; however, substantial volume is sorted for various fresh and processing markets by the approximately 120 packing houses in Michigan. The packing house sorts according to various fresh packs. Apples

²¹ The Michigan Rotational Fruit Survey (MDA) for 1991 indicated that there were approximately 1300 grower operations.

²² Apples marketed directly to processing would likely be of varieties that are preferred for processing, such as, Northern Spy where substantial fresh markets are not available for the variety. Apples with low quality characteristics such as color, condition or size are also sometimes marketed directly to processing as well.

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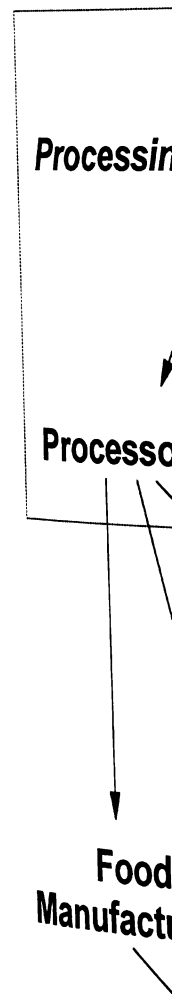


Figure 4-1. The

The Michigan Apple Industry

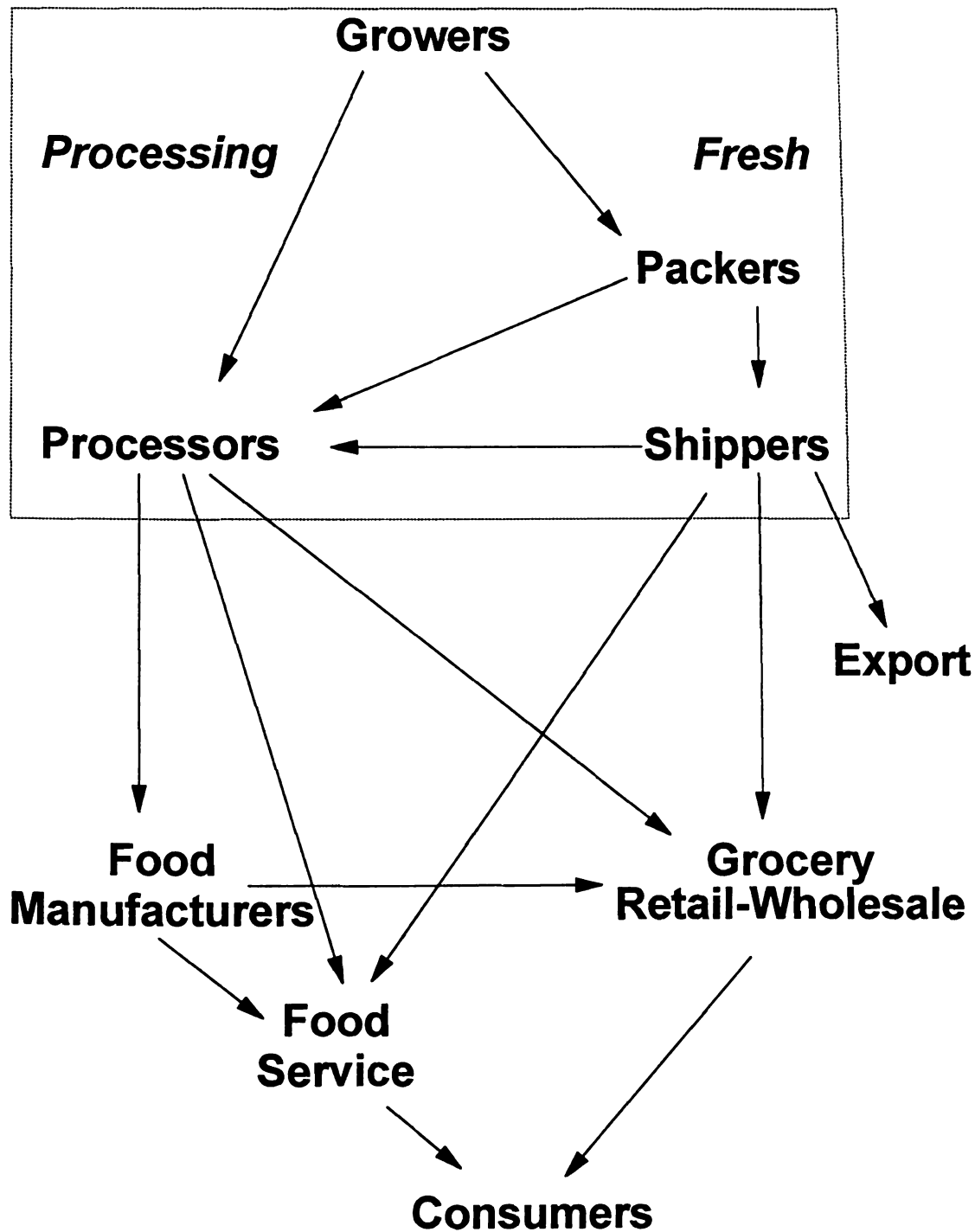


Figure 4-1. The Michigan Apple Industry and Main Marketing Channels

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20-25 shippers market Michigan apples as a
shipper "brand" on the package. The shipper is the
commodity. Overall, the shipper is the
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²³ The Michigan

not meeting fresh quality requirements are sent to the roughly 20 processors²³. Approximately 20-25 shippers market Michigan's apples to the fresh market. Although shippers often put their shipper "brand" on the package, most of these fresh apples are essentially a non-differentiated commodity. Overall, the fresh market takes about one-third of Michigan's production with processing markets taking the remainder.

The fresh marketing channel is used for apples that are sold in unprocessed form to consumers. Intermediate customers are the grocery-retail trade, food service and export markets. The fresh market often provides higher returns to the grower than the processing markets, but requires a set of much higher quality characteristics such as color, finish, appearance, and condition. Fresh market returns are also more variable. In the fresh market, Michigan apples are sold primarily in 3 or 5 pound poly bags with some apples being sold for bulk retail displays in trays packs.

The processing market provides a large volume alternative for apples including some that do not meet fresh market quality and variety requirements. Michigan apples are processed into such products as juice, sauce, and slices. These products are marketed primarily as non-differentiated commodities to food manufacturers, food service, and grocery retail trade customers.

In recent years, returns to Michigan growers have been impacted by many important forces. Consumers are demanding increasingly higher quality performance, and consumers' preferences for apple varieties are changing as well. Media scares about the safety of apple consumption, such as the Alar scare, can have very negative effects upon returns. Furthermore, government regulations are increasing the cost of inputs, e.g., labor, while threatening the availability of other key inputs, e.g., pesticides. The loss of key pesticides can have a very

²³ The Michigan Apple Committee Processor Directory includes 23 processors.

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4.2 The Framework

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damaging affect, if effective alternatives are not available. The loss of key pesticides in itself may make it difficult for the industry to meet customer quality requirements and hence can negatively impact the Michigan apple industry's ability to compete.

On the national scene, Michigan is faced with a difficult competitive environment. The Washington apple industry has dramatically increased production and is marketing aggressively to increase market share and volume. Part of the Washington apple industry's success has come through high performance in meeting consumer quality requirements and this has extended the Washington industry's dominance in the U.S. apple market. The Michigan apple industry has typically been the second through fourth largest production state, trading places with New York and California depending on the production season.

4.2 The Framework Applied to the Michigan Apple Industry ISPC Process

The ISPC framework developed in Chapter 3 is designed with the goal of describing an effective ISPC approach. A description of ISPC experiences with the Michigan apple industry and the relationship of these case experiences to the ISPC framework illustrates the use of this framework. Further, the extent to which the framework describes or corresponds to the actual ISPC process provides a measure of the construct validity of the ISPC framework.

4.2.1 Process Initiation

As was discussed in Chapter 3, the initiation phase is important for an effective ISPC process in any industry context. In the Michigan apple industry, the initiation phase of the ISPC process began when a group of apple industry leaders and MSU analysts focused discussions on the potential gains and needs for coordinated industry planning efforts to address a number of important threats or problem areas and to more fully exploit certain opportunities.

Several industry organizations and groups within the industry were important in raising awareness of the potential benefits of using an ISPC process. Three organizations were of

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particular note because of their extensive involvement with the process initiation phase of ISPC. The Michigan Apple Committee (MAC), that is funded by growers, has promoted Michigan apples to retail grocery, food service, and export customers while working closely with Michigan growers, packers, and shippers to meet trade and consumer needs. The Michigan Apple Research Committee (MARC), similarly funded by grower assessment, has focused on stimulating needed research for the Michigan apple industry. Michigan State University (MSU), including its agricultural economics department and extension programs, has had a longstanding role in improving the performance of Michigan agriculture including the apple industry.

4.2.1.1 Articulation of Industry Need for an ISPC Process

The ISPC framework indicates that if such an ISPC process is to be accomplished, at some point, industry leaders will need to meet and decide that accomplishing an ISPC process would be useful for their industry. This decision can form a basis for an ISPC process and serves as an industry's articulation of the need for ISPC.

In the Michigan apple industry case, certain industry leaders proposed that the industry needed to do some joint strategic planning for the benefit of the industry in its challenging and rapidly changing setting. Through initial discussions, it was decided to use a temporary development committee to consider the idea of industry-wide strategic planning for the Michigan apple industry and how this would be effectively approached. Preliminary informal analysis and discussions by industry leaders from the MAC, MARC, and MSU indicated some benefits from ISPC. Subsequently, an initial group, comprised of industry leaders from the MAC, MARC, and MSU met. This initial group recommended the formation of an industry task force to focus on apple industry strategic planning. The group was formally named the Michigan Apple Industry Strategic Planning Task Force that hereafter in the case will simply be referred to as the Task Force.

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4.2.1.2 Formation of an

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Overall, the Task Force was designed to focus on the industry's performance and competitive position and to address strategic issues in a future oriented and pro-active manner rather than focusing upon day-to-day concerns. Practically, this group has worked through developing strategy for the Michigan apple industry including situational analysis, choosing a strategic direction, selecting strategies, etc. The group has also provided leadership in industry strategy selection and implementation.

4.2.1.2 Formation of an ISPC Leadership Group

The ISPC framework indicates that one of the key decisions in the process initiation phase is to form an ISPC group. This is a group that can actively go through the ISPC process. In this, the group can make decisions about industry strategies and facilitates the implementation of the strategies decided upon. The ISPC framework from Chapter 3 suggests that two key parts of group formation are related to *the structure of the group* and *who will be represented in the group*.

In the Michigan apple industry case, a number of important decisions were made in regard to the structure of the Task Force. A round table format for the group was chosen with representatives from the industry's many different segments and support organizations. Figure 4-2 shows these groups and organizations that have been represented on the Task Force. A motivation for this organizational structure was to facilitate broad industry ownership of the group.

Attempts were made to involve representatives from the various industry organizations who are some of the top visionary, influential leaders of the industry. These leaders also have shown some understanding of the possible benefits of industry-wide strategic planning. It was helpful that the groups and individuals who were working on starting an ISPC process were knowledgeable of the individuals within the industry and were able to engage these kinds of individuals in the ISPC process. The leaders selected for the Task Force included key members

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Figure 4-2. The Mic

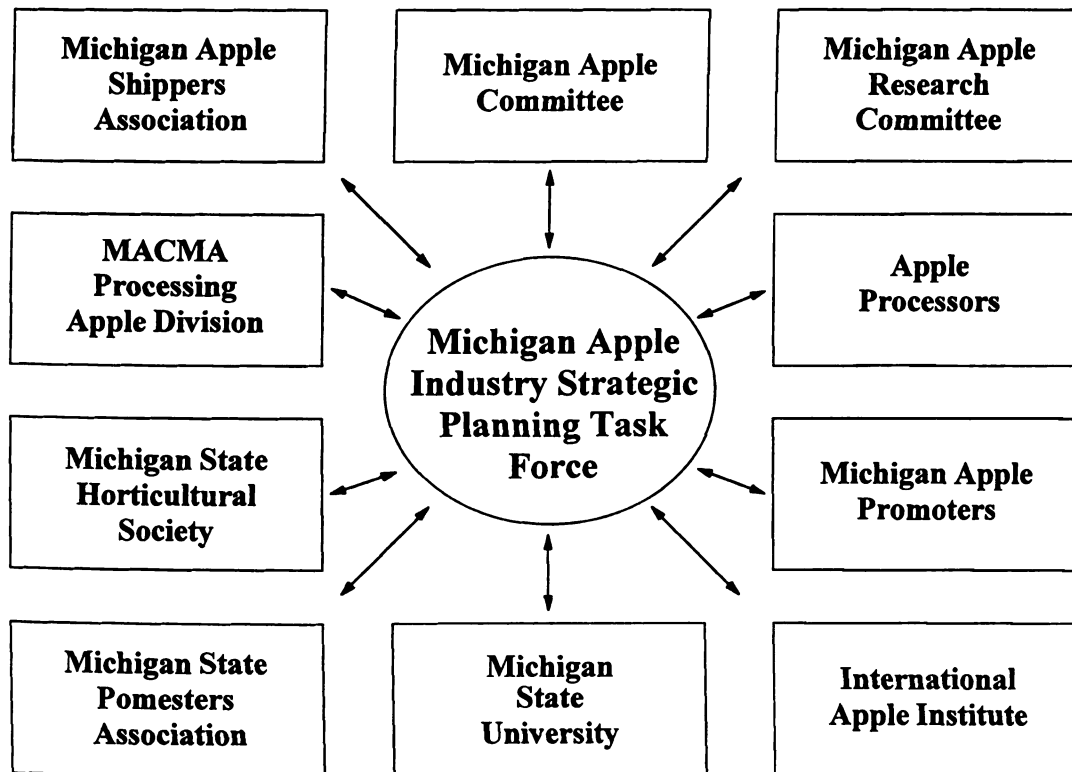


Figure 4-2. The Michigan Apple Industry Strategic Planning Task Force

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4. To develop

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²⁴ Strategic plan
for the Michigan Apple

from industry support organizations including the executive director of the MAC, and leaders in MSU extension that worked closely with industry, and influential growers, packers, shippers, and processors. As such, the group was a panel of experts working to improve the performance of the Michigan apple industry.

4.2.1.3 Selection of a Set of Common Objectives

As discussed in the ISPC framework, to function effectively a group needs to select and agree on a set of common objectives. In the Michigan apple industry, the initial planning group for the Michigan apple industry ISPC effort decided on a set of common objectives that was later supported by the Task Force. Overall, the general goal of the Task Force would not be to duplicate the activities of individual firms or organizations such as private firms or the MAC, but to focus on areas where cooperation and coordinated actions between various apple industry organizations could work towards improving the apple industry's performance through an ISPC approach. Several broad goals were developed to guide and filter strategies under consideration by the Task Force. These goals are²⁴:

1. To assist in clarifying and setting overall priorities for future industry needs.
2. To help further strengthen cooperation among various industry segments
on priority issues that are not likely to be solved by individual firm
action alone.
3. To enhance Michigan's competitive position in the future.
4. To develop a future oriented strategic plan for the benefit of the
Michigan apple industry.

These goals provided the set of common objectives for the Task Force and indicated the overall purpose of Task Force activities.

²⁴ Strategic planning and the goals are discussed in the staff paper "Strategic Planning for the Michigan Apple Industry" by Donald Ricks (1992).

4.2.1.4 Development of a

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4.2.1.4 Development of a Method to Pay the Costs of the ISPC Group

One key issue, indicated by the framework, is that there needs to be some way to pay the costs related to the ISPC group. In this, it is useful to consider who will pay the out-of-pocket costs of the ISPC group as well as provide the staff resources to initiate and support the ongoing activities of the ISPC group. Obtaining the needed financial and leadership resources for the ISPC planning process is difficult since an ISPC group itself is to some extent a public good as it generates strategies with substantial public good characteristics. As a result, there may be free rider problems in providing the needed resources for an ISPC process.

In the Michigan apple industry case, funding for Task Force activities has been based upon the voluntary support of organizations within the industry, including MAC, MARC, and support by MSU. Administration and communication costs were largely covered by MSU with some considerable help from the MAC. Notably, individual firms in the industry have not directly contributed substantially to the funds for the ISPC planning process. This would seem to indicate that industry organizations with goals of providing industry public goods have an essential role in supplying the resources for ISPC. This raises an important question as to whether industries without such industry organizations can have an effective ISPC process.

4.2.1.5 Provision of Staff Support for the Process

Another important element in the process initiation phase of the ISPC framework is to determine how the staff resources for an ISPC process will be provided. The staff support can provide important analyses as directed by the ISPC group. The staff can aid in developing consensus through focusing on key points, organizing meetings and, in an overall sense, facilitating an ISPC process.

In the Michigan apple industry case, two MSU extension personnel were selected as co-chairs or "facilitators" of the Task Force. These members were selected by the industry leaders because of their long-term successful roles with the industry and their many previous works in

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4.2.2 Strategic Planning

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helping the industry. Their roles have been especially effective because they have been positively viewed by the industry due to their long-term industry relationships and by not favoring one segment of the industry in their approach.

The staff support played a number of important roles in developing analyses for the Task Force. The staff support, especially as they were neutral in regards to individual segments, often focused on identifying gaps where there were greater opportunities than were being presently addressed. In this, the staff took a broad, long-term perspective of the vertical production-marketing system. Other individuals on the Task Force represented their own specific organizations that had specific needs and concerns and were encouraged to focus on the broad industry problems, opportunities, and needs.

The staff had an important role in industry consensus building. The staff often accomplished preliminary exploration of possible alternatives with influential leaders before Task Force meetings. This served to engage the industry leadership in the topic as well as getting good ideas and opinions. This often served as an initial informational and consensus building step.

The staff further often worked to develop joint implementation plans and overcome any obstacles to progress and consensus building. They mediated between groups and factions to facilitate compromise and the identification of acceptable solutions. In an overall way, the support staff served to expedite the consensus and strategy development and implementation.

4.2.2 Strategic Planning

The ISPC framework discussed in Chapter 3 indicates that the second phase of ISPC is for the industry to concentrate on and accomplish strategic planning itself. In this phase, there are four steps that have the goal of leading the industry toward selecting the most implementable strategies that should be most likely to improve industry performance. The following sub-

sections consider the frame

industry.

4.2.2.1 Situational Analysis

Situational analysis

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4.2.2.1.1 Shift-Share Analysis

A shift-share analysis

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in market share by market

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The shift-share analysis

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ISPC strategy development

The shift-share analysis

about Michigan's performance

sections consider the framework's steps in this phase and their application in the Michigan apple industry.

4.2.2.1 Situational Analysis

Situational analysis, the first step in the strategic planning phase, seeks to develop a broad understanding of the situation that the industry is in. Situational analysis can include a number of analytical techniques or tools, and a number of these different analyses were developed at the direction of the Task Force. Base line information on the competitive market situation, recent changes, etc. were assessed with shift-share and major trend analysis while knowledge of competing industries was developed in competitor analysis. Useful analyses were developed through SWOT analysis, analysis of major driving forces, and identification of key success factors. The following section discusses each of these analytical techniques as they were used in the Michigan apple industry's situational analysis.

4.2.2.1.1 Shift-Share Analysis and Major Trend Analysis

A shift-share and major trend analysis of the U.S. apple industry was completed based upon published data of a number of important factors such as fresh and processed volumes and prices for major competing regions (Ricks, Hinman, and Woods, 1995). This showed changes in market share by market segment for each major apple producing state. This clarified certain important major baseline trends in the industry.

The shift-share and major trend analysis highlighted the dominance of the Washington apple industry in U.S. fresh market apples. Furthermore, it showed the large production expansion that Washington had been undertaking. Overall, the Washington apple industry has been emphasized as a key competitor that has needs to be considered in a top priority fashion in ISPC strategy development.

The shift share and major trend analysis also showed a number of other key factors about Michigan's performance in various markets. These key factors included:

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increased market

2. slow growth in f

3. mixed performan

This analysis provided basic

strategic direction and goals

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4.2.2.1.2 SWOT Analysis

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1. rapid growth by the Michigan industry in the canning market and its increased market share;
2. slow growth in fresh and juice markets;
3. mixed performance and fluctuations in apple slice markets.

This analysis provided basic information for the Task Force to use in determining overall strategic direction and goals. It also emphasized areas in which more attention was warranted, i.e., where current industry strategy could perhaps be improved. The shift share analysis also played an important role in goal setting by market segment.

Overall, the shift-share and major trend analysis provided a factual basis for analyzing a number of key facets of the apple industry. Some key opportunities and threats from the Washington apple industry in the fresh market were indicated in an overall sense. An assessment of changes in competitive position in other market segments further identified some other overall performance aspects of the Michigan apple industry.

4.2.2.1.2 SWOT Analysis

Along with shift-share and major trend analysis, the Task Force and MSU developed a SWOT analysis for an overview of the Michigan apple industry's strategic situation. Early steps included discussions with and among Task Force members as well as observations from the shift-share and major trend analysis. The Task Force also requested a series of surveys focusing on three key segments of the Michigan apple industry: shippers, growers, and packers (Ricks and Woods, 1995; Woods, 1996). These surveys provided various perspectives and input for a SWOT analysis of the Michigan apple industry.

One small modification in the standard format for the SWOT analysis was to refer to weaknesses and threats as industry challenges, issues, and problems. This change was made because industry leaders thought that using the words "weaknesses" and "threats" in referring to the industry would increase the risk of alienating parts of the industry to the ISPC process (Ricks

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and Woods, 1995). This resulted in that part of the SWOT analysis focused more on identifying priority issues and concerns for the industry. Some of the items that were found to be important "challenges, issues, and problems" were:

- expanding demand
- improving quality
- meeting the intensifying competition from other regions
- addressing environmental, food safety, and labor regulations
- availability of key pesticide inputs
- evaluating apple varieties

The SWOT analysis further identified several strengths of the Michigan apple industry for which there was somewhat of a consensus among industry segments. These included:

- the location (proximity to major markets and favorable climatic conditions)
- an ability to viably market a number of varieties
- a combination of strong fresh and processed markets

These strengths were viewed as providing some of the current sources of competitive advantage for the Michigan apple industry.

Industry opportunities focused in part on ways that the industry could expand demand for its products. These included expanding export markets, improving quality especially for fresh, marketing more tray pack apples, and modernization of packing houses. These indicated areas in which the industry can focus to improve industry performance.

The overall industry SWOT analysis developed in industry surveys, Task Force discussions, etc. provided a good aid in developing strategies that appropriately meet the Michigan apple industry's internal abilities and external situation. These results of the SWOT analysis and surveys were communicated to the industry through a series of publications

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4.2.2.1.3 Competitor Analysis

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4.2.2.1.3 Competitor Analysis

Competitor analysis focuses upon acquiring information about important aspects of the relevant competitor industries. The scope and focus of a competitor analysis will depend upon the nature of competition for an industry. The key goal of competitor analysis is to provide relevant information on competitors that will aid in strategy development.

One thrust of competitor analysis for the Michigan apple industry had been some analysis of strategic planning efforts of competing apple industries. This was covered in Woods (1996, pp. 88-97) with a discussion of strategic planning efforts by the New York and Washington apple industries. A primary purpose of this was to be to get ideas on strategies to aid awareness of the Task Force and the Michigan apple industry and possibly to adapt some of these strategies to the Michigan apple industry's needs.

The shift-share analysis provided some useful information for competitor analysis as it, for example, indicated the growing success of the Washington apple industry in fresh marketing. The Washington apple industry's currently successful and possible future strategies were analyzed and discussed at length and constantly in the Task Force. One area of particular focus was that the Washington apple industry was marketing high volumes of consistent good quality apples. This had raised the marketing requirements for quality in the fresh market overall - to which the Michigan apple industry was trying to respond through improving total quality management practices.

The competitor analysis thus provided information that increasing quality expectations in the fresh market are a major driving force. Some Task Force members indicated in the discussion that Michigan should not try to "Out Washington, Washington", i.e., that Michigan

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should not just copy Washington because the Michigan apple industry needs quality levels that not only appropriately meet buyer needs, but are realistic for Michigan production conditions.

The Michigan apple industry's competitor analysis focused upon analyzing the situation, ideas and strategies of its competition from other regional apple industries -- with some emphasis on the quality management area as a major driving force. This provided important information that aided the Task Force and the ISPC process in considering and evaluating various strategies to improve quality management practice.

4.2.2.1.4 Value Chain Analysis

Value chain analysis is another important tool in situational analysis. Value chain analysis develops an understanding of what is valuable to buyers as well as costs and sources of potential differentiation in production. One area that the Task Force identified as an important "value-chain" strategy was to expand consumer market research. The MAC and MARC supplied supplemental research funds and MSU accomplished a series of market research projects. The goal of this market research work has been to improve knowledge about what buyers value in their apple purchases, such as, different quality features in apples, variety, and preferred packaging form. This information has been subsequently provided to the industry in a series of reports ²⁵.

The consumer market research indicated several interesting facts about consumer apple preferences. For example, more consumers preferred to purchase apples in tray pack than in bags. This has particular implications for the Michigan apple industry since most Michigan fresh apples are sold in bags. Another important aspect is that consumers indicated increasing demand for new varieties that have good taste and condition. A very important market research result was that consumers expressed strong preferences for high condition apples or crisp,

²⁵ These reports include Beggs, Ricks, and Heinze (1995), Ricks *et al* (1995), and Ricks, Heinze, and Beggs (1996).

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“crunchy” apples. This finding reinforced interest in working on improving quality management for high fruit condition by the Michigan apple industry. This indicated a strong Michigan apple industry interest in consumer preferences, i.e., consumer’s value chain.

The value chain analysis was extended through the chain from production through research into approaches, such as, Total Quality Management, that would have the goal of enabling effective industry responses to consumer demand. Value chain analysis has played an important role in the Michigan apple industry ISPC process.

4.2.2.1.5 Major Driving Forces

Major driving forces are the forces that are causing the most important changes and adjustments in the industry and its marketplace. Understanding how the driving forces will impact the industry in the future as well as the interaction between these forces is useful for effective strategic planning. A set of major driving forces for the apple industry were identified, analyzed and used in the ISPC process (Ricks and Woods, 1996). These were based upon key informant discussions, Task Force analyses, industry surveys, consumer market research, review of industry publications, etc. The related analyses such as the SWOT analysis, shift-share and major trend analysis, and competitor analysis also provided useful inputs.

Table 4-1 lists major driving forces of the U.S. apple industry. These major driving forces were (and at the present time continue to be) the forces impacting the Michigan apple industry and are expected to continue at least through the next 5 years. The following section discusses each major driving force, interactions between driving forces, and likely impacts on the Michigan apple industry.

Rising Quality Requirements by Trade and Consumer Customers in U.S. Fresh Markets

One of the most important driving forces for change is rising quality requirements in U.S. markets by both the trade and consumers. Quality requirements are growing increasingly to demand consistent quality apples with high condition and good taste along with defect-free and

Table 4-1. Major Drivin

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Table 4-1. Major Driving Forces in the U.S. Apple Market

- Rising Quality Requirements by Trade and Consumers in U.S. Fresh Markets
- The U.S. Apple Market is Commodity Oriented, Slow Growing, and Mature
- The Washington Apple Industry's Dominance of the U.S. Fresh Apple Market
- Changing Variety Preferences
- International Markets are Increasingly Important
- Successful Pest Control and Pesticide Availability are Threatened due to
Increasing Regulation
- Technological Changes and Modernization
- National Demand-Supply Balance

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The most fundamental cause of rising quality requirements is consumer demand. Consumers want crisp, tasty apples (Ricks *et al*, 1995). Consumers seem to be becoming less tolerant of soft or mushy apples that relates to the condition of the apples, while price of the apple is often less of a concern, at least to many consumers than quality.

The trade, i.e., retailers of apples to consumers, are to some extent aware of increasing consumer demand in quality and are responding. The retail trade has increasing market power to influence the terms of trade with suppliers including quality demands. This is due in part to increasing concentration of the trade customers, i.e., retail chains are merging, and partly because some segments of the apple industry are responding very effectively with a progression of quality improvements. Many individual retailers have also responded by more stringently testing the quality of fruit condition of purchased fruit. Furthermore, retailers have often demanded that apples have long shelf life, i.e., that they retain excellent condition and other quality characteristics while sitting on the grocery shelf at room temperature for several days.

A major piece of the rising quality requirements is that the Washington apple industry, with its dominate position in the U.S. fresh apple industry, has been doing a high performance job of providing uniform, consistent quality apples with good condition and maturity. This has fueled consumer and trade expectations in regards to quality from all sources. Therefore, all apple regions must respond, or they may not be part of the fresh market -- or at least face declining fresh market demand.

The fresh market share is very important for a U.S. apple region, like the Michigan apple industry, because the fresh apple market provides the potential of higher returns than the

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The U.S. Apple Market

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processing market. It has been mentioned by some industry leaders that a successful competitive position in fresh market is necessary to generate the necessary returns for paying off the investment costs for new plantings. Hence, for the Michigan apple industry to grow or likely even to maintain its current position, it will likely have to meet fresh market quality demand.

This driving force is further likely to increase in the future. Consumers will likely continue and perhaps increasingly expect a consistently tasty, crunchy apples, while the trade will expect the apples to retain their quality in the store at room temperature. Some industries, especially the Washington apple industry, are proactive and effective at providing the needed quality to meet these consumer needs. Overall an industry will need to develop a progression of quality improvement strategies to have the ability to consistently deliver uniform, high condition tasty apples for this competitive environment.

The U.S. Apple Market is Commodity Oriented, Slow Growing, and Mature

Underlying forces within the U.S. apple market are its growth prospects as well as the importance of the national supply and demand balance. U.S. apple markets can be described as having large volume and growing at mature, slow rates. Therefore, if a regional apple industry desired to capture increased market share or increasing marketed volume, then it would need to largely take market share or volume from competitors. The markets are highly price competitive with apples from various apple regions and supplier firms being viewed primarily as a commodity by customers.

One important feature of the fresh apple market is the improvement efforts by the Washington apple industry, especially in regards to quality, to more effectively meet customer demand. An on-going series of quality improvement efforts by the Washington industry has enabled Washington to market superior quality, and Washington fresh apples consistently receive price premiums relative to apples produced in other U.S. apple producing regions. This indicates that the Washington apple industry has achieved some level of perceived differentiation

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with the trade and consumers. Furthermore, this differentiation feature seems to be an effective tool by Washington state apple marketers in increasing their sales volume and market share.

The Washington Apple Industry's Dominance of the U.S. Fresh Apple Market

In recent years, the Washington apple industry's fresh market share has grown so that it markets over half the apples sold to the U.S. fresh market. The next three largest apple producing industries (New York, Michigan, and California) each market about 10 percent of U.S. fresh market volume. This means that the Washington apple industry has a substantially greater fresh market presence than the other regional apple industries. The Washington apple industry has further instituted a number of progressive quality improvements that have raised the quality expectations and requirements in the marketplace and have improved Washington's competitive position.

A regional apple industry, like Michigan, needs to continually be aware of the Washington apple industry's strategies. Washington apple industry strategy can have substantial impacts upon the other regional industries. Of special interest is the quality levels that the Washington apple industry establishes in the marketplace. Other regional apple industries will need to effectively and appropriately respond to the competitive challenge of the Washington apple industry, especially if they want to be an increasing part of the fresh market.

Changing Variety Preferences

Changing variety preferences include a shift by consumers towards more variety choices in grocery stores and newer, superior varieties for fresh such as Fuji, Braeburn, Gala, and Jonagold. These newer varieties generally have excellent crispness, good taste, and usually retain their condition in storage and on the store shelf better than some of the long-established varieties. Even though these newer varieties tend to have less all-red color than the traditional Red Delicious variety, consumers are often willing to pay substantially more for these varieties because of their other superior attributes. This is an important shift from earlier consumer

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The changing consumer demand for new varieties is particularly important for a perennial crop like apples. Long-term orchard investments can last several decades and make it difficult and expensive to shift varieties. The changing preferences increase risks for grower but also offer the possibility of some high returns. Therefore, this driving force presents both substantial opportunities and challenges to the industry.

In a regional apple industry, changing variety preferences provide impetus to explore ways to provide information on future variety preferences for better variety planting decisions. It also highlights the importance of developing or adapting the high return fresh varieties to the climate and other growing conditions of Michigan.

International Markets are Increasingly Important

International markets are becoming increasingly important for the apple industry as international trade possibilities are expanding. These expanding opportunities relate to rising world incomes in some countries and reduced trade barriers due to GATT and other efforts. In the U.S. apple industry, the U.S. imports 50-60 percent of total apple juice consumed and has substantial export opportunities in the fresh market.

Large imports of apple juice concentrate reduce the overall price for juice in the U.S. market. This can negatively affect the return to U.S. apple growers for the portion of their production that is sent to the juice market. U.S. apples are usually juiced when their quality is not good enough to meet requirements for fresh or other processing markets such as apple slices or sauce.

World markets for apples are also of growing importance because the U.S. apple industry has increased its exports substantially for fresh apples and future export opportunities are expected to grow. The Washington apple industry has been most successful in exporting to

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such countries as Taiwan and Mexico. The Michigan apple industry has been successful in exporting the Empire variety to England and recently in exporting to Brazil. The exports have been important in the national supply demand balance because in the aggregate they have increased effective overall demand and prices in comparison to prices with no or lower exports.

An important feature about export markets is that the different export markets have different quality preferences. This can mean that a type of quality pack, that may not be in strong demand in the U.S., may have appreciable demand in certain export markets. For example, in the Brazilian market non-full red color in Red Delicious is quite acceptable. An apple producing region may be able to sort and send apples to various domestic and international markets to earn higher overall returns. Capturing export market opportunities requires the ability to target the quality requirements of foreign markets, good logistical capability, and adequate supplies.

Successful Pest Control and Pesticide Availability Are Threatened by Increasing Regulation

Successful pest control is important because insect and disease pests can cause considerable damage to the quality and quantity of apples produced. Many of the effective pest control methods currently available were developed in an era when there was relatively limited concern about pesticide use and regulation. In recent years, pest control has become a more important force as government regulations with potential for large negative impacts on the apple industry threaten existing pest control methods and the availability of crucially necessary pesticide tools.

The pesticide regulations are related to public environmental and food safety concerns. There are increasing pressures at the public level for less use of pesticides. This has reduced the government set tolerances for some pesticides while banning the use of other pesticides. Recent federal legislation on minor crop (e.g., apple) uses of pesticides is likely to further reduce the

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availability of important pesticides that with current technologies are crucial for the apple industry to continue to supply the high quality apples required by the market.

These pesticide regulations may indirectly and eventually provide some overall benefit to the apple industry in general. As pesticide use is reduced and if newer pesticides are developed with superior attributes in regards to food safety and worker risks or the environment concerns then the apples may be perceived by consumers more positively. This could further enhance the public view of apples as a healthy product as well as aiding in the prevention of future possible demand damaging events such as the Alar scare. Furthermore, research may be able overtime to develop effective, inexpensive alternatives to some pesticides currently in use.

While pesticide availability is currently a major driving force, it could become even more important in the near future. It is quite possible and seems highly likely that future government regulations may accentuate the importance of this factor. It is important for a regional industry to prepare for this possibility. This increases the priority of research on improving pest control technologies, e.g., more effective Integrated Pest Management (IPM) programs, and for developing a series of complex non-chemical pesticide alternatives. A goal of such research and other related strategies on pest management would be for the industry to be able to quickly respond to the changing government regulations in order that the industry can continue to produce the quality demanded and expected by the market in a cost effective manner.

Technological Changes and Modernization

Technological changes and modernization have important impacts upon all phases of how an apple industry goes about producing, marketing, and distributing its products. For example, changes in orchard planting systems and rootstock can improve the quality of apples produced, the yields per acre, and improve flexibility in variety planting decisions. In marketing, improving packing house technology can aid in more effective quality sorting and control. This means that technological changes are having important impacts.

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Improving technology may allow the industry to reduce costs and meet certain government regulations. IPM is a set of effective technologies that reduce the use and cost of controlling pests while maintaining adequate quality. Improving spray technology also provides these types of benefits.

Improving technology will be important since it helps the industry respond to competitive needs. For example, in the future there is the possibility of non-destructive condition testing for apples that could improve quality management. Biotechnology may eventually permit the radical alteration of biological capabilities in apple production. This means an apple industry needs to be alert to improving technological and exploring ways to use technology to improve industry performance.

National Supply-Demand Balance

The national supply-demand balance plays an important role in prices and grower returns. An apple industry needs to be alert to the changing supply and demand balance because of these important effects. The two key facets in the national supply-demand balance are the long-term trends and short term fluctuations around those trends.

The long term trend in the national supply-demand balance is that there is slowly increasing demand for both fresh and processing along with increasing supply. International markets are increasingly important due to increasing fresh exports and substantial juice imports.

From year to year, regional production is strongly affected by weather. This causes regional and national production to fluctuate. Returns to a region are to some extent based upon whether in a particular year the region had a short, average, or large crop. The best returns to a regional apple industry are achieved in those instances when there is a large regional crop in a year of an overall short U.S. apple crop.

4.2.2.1.6 Key Success

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4.2.2.1.6 Key Success Factors

Key success factors are those areas where the industry must be competent or focus on developing the competence for the industry to be successful. The key success factors are those areas that have the most direct bearing on the ability of the industry to be competitive and economically viable. An analysis of key success factors was developed for the Michigan apple industry to aid in understanding where the industry needed to focus its strategies. The analysis was developed as a synthesis of the other elements of situational analysis and discussion with the Task Force. The following sub-sections discuss each key success factor which are listed in Table 4-2.

Consistent Fresh Quality That Meets Modern Buyer Requirements

Given the major driving force of increasing quality requirements, it is essential in the modern marketplace for fresh apples to meet increasingly high quality requirements. If quality requirements are not met consistently, then the region will lose fresh market customers and likely fresh market share. Given this, it is important for a region to strive to meet the fresh quality requirements of the marketplace. Since these quality requirements are increasing over time, a continuing effective effort at improving quality management is important.

The quality requirements for fresh markets include high red color for certain varieties such as Red Delicious as well as other quality characteristics. In recent years, it is increasingly important that apples be consistently crisp that is achieved by having good condition. Additional other important quality requirements include:

- absence of bruising and pest defects
- uniform size and color
- medium to large size
- freedom from internal breakdown
- desirable shape especially for certain varieties, such as, Red Delicious

Table 4.2. Key Success Factors

- Consistent Leadership
- Ability to Secure Resources
- Ability to Secure Talent
- Visionary, Strategic Thinking
- Strong Industry Relationships
- and Research & Development
- Modern Manufacturing
- A Strong Brand
- A Cost-Competitive Advantage
- Delivering on Promises
- Consistent Quality
- Process Innovation
- Adequate Capital

Table 4-2. Key Success Factors for a U.S. Regional Apple Industry

- Consistent Fresh Quality That Meets Modern Buyer Requirements
- Ability to Supply the Types of Packs Demanded by the Market
- Ability to Supply the Varieties Desired by the Market
- Visionary, Progressive Leaders with a Broad Industry Focus
- Strong Industry Programs for Advertising, Promotion, Merchandising, and Research
- Modern Management for Growing, Packing, Storage, and Shipping Practices
- A Strong Customer Orientation
- A Cost-Competitive Region with Competitively Priced Products (on a Delivered Basis)
- Consistent, Large Volume and Well-Linked Combination of Fresh and Processing Marketing
- Adequate Industry Input Suppliers

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There are some difficulties for some regional apple industries in achieving the required quality levels due to weather variability and other effects.

To consistently meet modern buyer requirements, it is necessary to have an effective quality management system. The system should encompass all relevant parts of the production, harvest, transportation, packing, and distribution system that effect the quality that buyers receive. This quality management system should be able to consistently achieve high performance in meeting the quality requirements of the marketplace.

Ability to Supply the Types of Pack Demanded by the Market

A regional apple industry needs to have the ability to supply the packs demanded by the market. At the current time, this means that the industry needs to be able to pack trays, i.e., apples that will be primarily sold in bulk displays at retail. Effectively packing trays requires the use of modern packing facility technology. This equipment and technology enables packers to sort to various uniform sizes and color to meet the requirements of particular customers. The latest packing house technology also protects against damage from bruising during the packing process.

Ability to Supply the Varieties Desired in the Market

One of the major driving forces in the U.S. apple industry is that consumers are now preferring certain new varieties with preferred quality characteristics such as good taste and excellent condition. A key success factor for a regional industry is hence being able to deliver the new varieties with the required quality characteristics. If a region is able to quickly plant a new variety and achieve the required qualities, then the region may be able to earn exceptional short run returns. For success with a new high return variety, the variety and production practices for that variety will need to be well adapted to the growing conditions in a region.

It is not always clear which of the new varieties will be the ones that generate future high returns because there are a number of new varieties and the future trade and consumer

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demand is somewhat uncertain. Developing information on changing demand conditions for particular new varieties can help alert growers in a region to expected opportunities with particular new varieties and suggest adoptions in varieties planted to meet changing demands. This information can also aid research efforts in adapting regional production systems to the new varieties.

Visionary, Progressive Industry Leaders with a Broad Industry Focus

Visionary, progressive leadership in a regional commodity industry can provide an important factor for its success. This leadership should have visionary capability of where the industry needs to be in the future to improve industry performance and what steps need to be accomplished for the industry to get there. Progressive leadership can help to focus attention on needed areas of change and push for needed adjustments. This can help prepare the industry for future competitive success. Not having visionary, progressive leadership can cause an industry to try to compete using strategies or approaches that are less appropriate and effective for current or future competitive conditions.

The effectiveness of industry leadership can be enhanced with a broad-based perspective. This means that it is desirable for the leaders to have appropriate vision beyond the needs in their own firm and/or organization to include the needs and strategies for the overall industry and what the basis for the industry's future competitive advantage may be. This can help the industry as-a-whole recognize which particular adjustments need to be made. A broad-based perspective can further aid the industry in developing and implementing broad-based industry actions, such as perhaps a new marketing order or new industry organization, that can aid industry's performance.

Strong Industry Programs for Advertising, Promotion, Merchandising, and Research

Having strong industry programs for generic advertising, promotion, merchandising, and research can provide numerous potential benefits for a regional apple industry. Regions that

are increasing in production
programs like this. However,
industry assessments

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industry's customers

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Modern Management

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are increasing in production, (i.e., Washington, New York, Michigan, and California), all have programs like this. Having these kinds of programs in place usually requires some sort of industry assessments within the regional apple industry to fund the programs.

Advertising, promotion and merchandising are important. They can include targeted efforts to promote new industry products, expand existing markets, and develop new markets perhaps in the export arena. In order to benefit the industry, a goal is to communicate to an industry's customers the desirable attributes of the industry's products.

Consumer market research can provide an important informational base for effective merchandising and promotion for changing customer and market needs. The consumer market research can identify important trends in changing customer needs and point the way for needed adjustments in the industry's product mix and other strategies. Firms and industry organizations can use this information in making suitable adjustments.

Research programs for a regional apple industry are also important because they may facilitate development and adaptation of new technologies, practices, market research, and in some cases develop new strains that are appropriate to a regional industry and its growing conditions. This can aid firms by enabling them to more quickly respond to market incentives. Adapting technology can aid firms in many areas including lowering costs and improving quality management practice.

Modern Management for Effective Growing, Packing, Storage, and Shipping Practices

It is important that a regional apple industry have throughout all segments of the industry a critical mass of growers, packers, storage operators, and shippers who are using and applying the most effective modern management methods in their operations. This should include incorporating new improved technologies and implementing needed changes in an ongoing dynamic fashion. Operations need to be preparing for future needs and the competition of the future rather than only based on how business has been conducted in the past.

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A Strong Customer Orientation

An industry needs to have a strong consumer orientation in order to effectively meet modern market requirements. Having a strong customer orientation is especially important because markets are becoming increasingly segmented and are under considerable change. This is in marked contrast to the traditional "production" orientation in some agricultural industries. With a "production" approach, an agricultural industry tends to focus their efforts on doing a better low cost job of production while consumers are assumed to want and buy whatever the industry produces. In the current marketplace, consumers and trade buyers have a wide selection of possible choices, consumer preferences are continually making substantial changes, and consumers are constantly demonstrating their preferences for the best products and services that most closely meet their needs.

One aspect is that an industry needs at least some market research for understanding and properly addressing changing customer needs. For the apple industry, this needs to include market research on the trade that purchases the industry's apples as well as on the final consumers. This may include market research on current needs and preferences as well as indications of expectations about future customer demand that could aid in the industry's plans for the future.

Increased responsiveness to consumer needs through effective performance in meeting these consumer needs is a key basis for the long term future success of an industry. Therefore, one key success factor is to be aware of and then effectively respond to these consumer needs.

A Cost-Competitive Region with Competitively Priced Products (on a Delivered Basis)

A key success factor for the industry is to continue to be a cost competitive region with competitively priced products on a delivered basis. Being cost competitive helps enable a region to be profitable because costs play an important role in determining overall profitability.

Furthermore, a key aspect of being cost-competitive is to be able to deliver apples to particular

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markets that are competitively priced on a delivered basis because price or cost is an important aspect of gaining markets and market share in the many markets world-wide where apples are sold. Hence, efforts to reduce cost of production and marketing are important to an industry's profitability and performance in meeting customer needs.

Adequate Industry Input Suppliers

An adequate group of industry input suppliers who provide the needed specialized technology such as fruit machinery and other key inputs that support the industry is another key success factor. This can aid the industry in adapting technology and other inputs to achieve high industry performance. This helps enable a quicker, more cost effective response by the industry to changing market needs. This factor is especially important in a modern, high-technology economy in which the most effective set of technologies and specialized inputs are important for an industry's competitive advantage.

Consistent, Large Volume and Well-Linked Combination of Fresh and Processing Markets

Having a consistent, large volume with a well-linked combination of fresh and processing markets is important for a number of reasons. Having a large volume is important because it provides a substantial critical mass of apples to have a continued presence in individual market segments. Consistent supply is important because supply volatility adds risk throughout the industry, hurts market development for the industry, and allows competitors to take market share -- especially when the region has short supplies.

Linking fresh and processed markets provides an important diversity of market outlets for industry's production. In the apple industry in which there is some variability in quality as affected by weather conditions, etc., some apples will not meet the quality requirements of the potentially higher return fresh market segments. Having good processing outlets with reasonable prices received by the industry provides desirable markets to help the producers in an industry

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to achieve some reasonable return by marketing the lower quality apples to these processing markets.

It is important for an industry to have both fresh and processing outlets, especially if high quality requirements cause a substantial amount of apples to not qualify for the fresh market, but are satisfactory for the processed market. Also, having substantial volumes of sufficient quality to develop strong slice and sauce processing market can earn higher returns over the juice processing market for the industry.

4.2.2.1.7 Summary of Situational Analysis

The situational analysis of the Michigan apple industry, which was accomplished by the Task Force with considerable university input, provided a comprehensive understanding of the industry; its competitive environment, and other main elements of the current situation of the industry. This developed a foundation and a degree of shared understanding for developing effective strategy based upon the situational analysis.

Several possible tools for the situational analysis were used in the Michigan apple industry. It would likely be expected, based upon the framework developed in Chapter 3, that all possible tools might not be used in an ISPC process with a specific industry since the situational analysis focuses only on those aspects that are of interest to strategy in a particular industry context. The main tools used in apple industry case were shift-share analysis, SWOT analysis (with some modifications), value chain analysis, some aspects of competitor analysis, analysis of major driving forces, and identification of key success factors. Transactions costs analysis was not used explicitly but may be in the future. The tools used seemed to be effective at developing an *industry* situational analysis for this case study industry.

4.2.2.2 Determination of the Industry's Vision Statement and Guiding Strategies

A second major step in the strategic planning phase of the framework developed in Chapter 3 is to develop a vision statement and broad guiding strategies for the industry. This

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can include goals and overall methods for achieving a sustainable competitive advantage for the industry. This broad perspective can help the industry in selecting the more specific and appropriate major improvement objectives (Step 3 in Strategic Planning) and specific strategies (Step 4 in Strategic Planning) to focus upon.

In the Michigan apple industry case, the Task Force developed and set some overall strategic directions and worked on some visioning for the industry. The next subsections summarize what has been done in the Michigan apple industry case on this phase of ISPC.

4.2.2.2.1 The Generation of an Industry Vision Statement

The ISPC framework of Chapter 3 indicates that there is usually a need for an ISPC group to consider developing an industry vision statement. An industry vision statement can provide an overall motivating statement for the industry's future. In the Michigan apple industry case, aspects related to a vision statement have been discussed, but to this point a clear consensus on a finalization of a specific vision statement have not been a high priority. Part of this is because the industry has tended to focus on other specific issues or strategies which they consider higher priority.

4.2.2.2.2 Guiding Strategies

The ISPC framework suggests that determining an industry's overall guiding strategies can define a key aspect which can aid the industry in achieving competitive success and economic viability. The framework indicates several types of guiding strategies for the industry to use. In the Michigan apple industry case, these guiding strategies were addressed to some extent.

Growth Positioning

One type of guiding strategy is for the group to determine what are the broad overall growth goals for the industry in the various major market segments that it serves. Developing such goals by market segment can be important because it indicates the market segments that can

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be expected to grow, maintain, retrench, or exit/end. Furthermore, specific strategies that are necessary to achieve these goals can be identified. This indicates to firms and other organizations in an industry the likely future for a market segment as well as what can or should be done to help achieve that the outcome goals.

In the Michigan apple industry, information from shift-share and major trend analysis provided some base-line input for the growth positioning step of ISPC. The industry leaders, MSU analysts, and the Task Force analyzed current trends in each major market segment. Each of their four main market segments (fresh, sliced, sauce, and juice) was evaluated to consider in which market segment(s) industry attention would be most productive. A framing question in this overall goal setting effort was "Which are the markets with the most growth potential?".

Considerable discussion and some initial analysis were also made of possible specific industry strategies for each segment to achieve these goals. This was accomplished through discussions with industry leaders. These current trends and goals by market segment are summarized in Table 4-3²⁶. These provide overall goals as guiding strategies for the Task Force activities and suggest some overall key strategies that need to be accomplished to achieve the identified goals in each market segment.

The fresh market segment was emphasized and given special attention by the Task Force and by other industry groups. The fresh market segment was emphasized because this segment of the market was judged by industry leaders to be an area where there are substantial opportunities for the Michigan apple industry to grow and industry-level action would be particularly useful.

A report was developed based upon the industry meetings and analyses that outlines the Michigan apple industry strengths and needed strategies in the fresh market segment. The area

²⁶ These goals were selected in 1993.

Table 4-3. Current Market Trends and Goals by Major Market Segment in 1993

<u>Market Segment</u>	<u>Current Market Trend</u>		<u>Goal for the Industry</u>	
	<u>Volume</u>	<u>Share of U.S.</u>	<u>Volume</u>	<u>Share of U.S.</u>
FRESH	Slow Growth	Declining	Substantial Growth	Increase Somewhat
SAUCE	Increasing	Increasing	Continue Increase	Continue Gradual Increase
SLICES	Slight Decrease	Declining	Increase	Maintain

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of consistently working towards improving quality management practice was an area especially identified as important to industry action in the fresh market.

In summary, growth positioning at an early stage of the ISPC process helped to focus the Task Force and other industry leaders to set realistic goals for the future of the industry for each major market segment. One market, the fresh market, was targeted as one which offers substantial opportunities for expansion. This helped the Task Force to focus attention and strategic planning efforts towards this market segment.

Focus on Developing Core Competencies

According to the framework developed in Chapter 3, core competencies are those areas where the industry does something particularly well in comparison to competitor industries. A core competency should provide an important competitive benefit and would ideally be difficult for competitors to copy. Information on possible core competencies for the industry's future may be based on information generated in the situational analysis. The overall emphasis is on developing some core competencies for the industry that will enable the industry to compete more effectively and add to the industry's long term strengths. The core competencies may build upon earlier competencies or expand into new strategic competencies.

In the Michigan apple industry case, a primary area identified in which the Michigan apple industry needs to further develop its core competence is in the area of high performance in quality management including improved vertical coordination. As documented by recent consumer market research, consumers expect apples that they purchase to be crisp, tasty, and unbruised ²⁷. Michigan's performance in the quality area has been somewhat mixed in the past, which means that considerably greater emphasis is needed to gear up for this change that is

²⁷ For more discussion of the consumer market research refer to Ricks, Heinze, and Beggs, and Miklavcic (1995) and Ricks (1997).

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Determination of Value Based Actions to Meet Customer Needs

The framework outlines that a useful guiding strategy to consider in ISPC is to determine value based actions that are based upon an understanding of the value chain of the industry. Knowledge about what creates benefits or value for buyers as well as what drives costs for the industry are important main research components that may result from value chain analysis. Value chain analysis can provide an overall perspective and clarify awareness of the entire system of production, packing, shipping, marketing, and use.

A key linkage in ISPC should be between value chain analysis and the selection of appropriate strategies that will provide high performance in meeting the customers' value needs. In the Michigan apple industry case study, one main aspect of value chain analysis focused upon what was of priority value to customers. The value chain analysis generated several important aspects that included:

- More consumers prefer to buy their apples in tray pack rather than in bags.
- There is increasing demand for superior new varieties with good taste, crispness, and shelf life.
- Consumers have strong preferences for unbruised, high condition/crunchy apples.

These provided a part of an important informational base for analyzing how to improve the Michigan apple industry's value chain to supply the qualities, varieties, and types of pack demanded by the market. Many of the major improvement objectives developed in the Task Force had this goal in mind. The major improvement objectives of improving quality management, increasing tray pack, and responding to changing variety preferences were all part of the value based responses planned by the Task Force.

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One major focus of the Task Force has been in the fresh quality area, since this has been viewed as an essential aspect for creating value and meeting consumer demand. The quality area has been discussed at almost every Task Force meeting. A strategy to evaluate the entire vertical system of production-marketing, Total Quality Management, for the Michigan apple industry has been proposed and is being evaluated.

Overall, focusing on value adding actions helped the industry to decide on what is of key importance to competitive advantage. In the Michigan apple industry case, this has helped to focus attention on key areas, e.g., quality improvement, variety selection, etc. Further efforts in the Michigan apple industry in increasing value generation would be improved as the value chain analysis is extended through how the industry creates value.

Selection of the Overall Mix of Differentiation and Low Price

Shifting the overall mix of differentiation versus low price for the industry's products may be an important part of an industry's overall strategic direction. Such a shift in strategic emphasis may be due to expectations that buyer's will demand more or are willing to pay more for differentiated products with less value received from low price products or vice versa. Higher gross and net returns may also be generated through this type of shift. The ISPC leadership group can analyze if such a shift is considered desirable and can emphasize strategies that will aid in this adjustment.

In the Michigan apple industry traditionally the primary focus has been upon low price. Quality levels in Michigan's apples were more variable than from some competitor industries, but Michigan sold them cheap. Furthermore, Michigan had tended to focus mainly upon marketing apples sold in poly bags that tend to be a low-price, higher volume commodity market segment.

Recent consumer surveys of the Michigan apple industry's customers have pointed to the need for possible altered emphasis in industry directions. Consumers are now willing to pay

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substantially more to get crisp, tasty, unbruised fruit. Price seems to be less of a factor in purchasing decisions than previously. Thus, the market seemed to offer increasing opportunities for more of a differentiation approach as compared to mainly a low price approach for the industry as a whole. More consumers were also found to prefer to purchase apples in tray pack²⁸.

In response to these facts, the Task Force has focused upon facilitating a shift by the industry towards a greater strategic emphasis on premium price-quality and types of pack. As part of this, the Task Force decided that an overall emphasis on improving quality management would be a beneficial focus. This would improve the ability of Michigan's firms to differentiate to some degree through achieving the high condition fruit preferred by customers.

Two forms of differentiation, i.e., premium price strategies, that the Task Force has focused upon are (1) the levels of particular quality characteristics to have, mainly condition, and (2) the type of pack to produce, i.e., trays or bags. The Task Force considered what could be some useful shifts in overall production emphasis for the industry.

Increased quality in general, especially condition, was viewed as essential to success as well as any attempt at increased differentiation by the industry. Meeting rising quality requirements, especially in regards to condition, were seen as a necessary requirement for being competitive in the fresh market. Furthermore, ways for the industry to be able to differentiate based on quality and market high quality apples seemed to be promising.

The question of differentiation in regards to trays and bags was also considered. For the tray market, the Michigan apple industry had a goal of expanding markets and become a dependable supplier of the quality that the tray market requires. There was also indications that

²⁸ Ricks, Heinze, Beggs, and Miklavcic (1995)

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shifting more emphasis to tray pack marketing needs and requirements might be a useful guiding strategy for the industry.

In the bag market, some in the Task Force have advocated the idea of the Michigan apple industry achieving the reputation as being a superior supplier of bags. They argued that achieving core competence in quality coupled with effective marketing could result in the Michigan further developing a profitable niche as a superior supplier of bagged apples.

Within the Michigan apple industry, an increased awareness of the need for some shift in emphasis from primarily low price to a more of a differentiation approach has grown. The Task Force has focused upon facilitating this type of shift toward more differentiation in its focus upon quality. Further considerations have focused upon being a dependable supplier of tray pack apples.

Summary of Guiding Strategies

An industry's guiding strategies seek to describe the main overall competitive thrust of the industry in the future. The ISPC framework developed in Chapter 3 identified four different types of guiding strategies: growth positioning, core competencies, value based actions, and the selection of the overall mix of differentiation and low price. The Michigan apple industry ISPC group worked in each of these types of guiding strategies.

Each of the guiding strategies provided an important set of choices by the industry. In growth positioning, market share and volume goals were developed for the fresh, slice, and sauce market. Of these markets, the fresh market was identified as a market meriting a high level of attention because of the especially good opportunities presented to increase value in this market. To achieve the needed improvements in the fresh market, a core competency that needed to be developed for the industry has been in the area of working towards continually improving quality management including improving vertical coordination. Key value-based actions focused on capturing opportunities with new varieties and in other areas. In the

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differentiation versus low cost mix, the ISPC group indicated that somewhat increasing the level of emphasis on differentiation versus low cost would probably be desirable based upon current market opportunities. These guiding strategies were somewhat interrelated, but they individually seemed to offer useful perspectives for the industry to consider in developing their strategies for improved competitiveness in the future.

4.2.2.3 Determination and Prioritization of Industry Major Improvement Objectives

A third step in the strategic planning phase of the framework indicates that it is useful for the industry to determine and prioritize major improvement objectives for the industry to focus on in light of the overall strategic direction or vision for the industry. These major improvement objectives are where the industry will focus considerable, consistent attention since they have been recognized as high priority areas where industry strategy will be most useful. Numerous strategies may be developed for each strategic area. The earlier elements of the ISPC framework, such as the situational analysis, are helpful for this step in the ISPC process, since they provide relevant information about the complex industry and the competitive markets.

As a part of the Michigan apple industry ISPC process, the Task Force spent some time considering various major improvement objectives. A list of twenty or so possible major improvement objectives was generated by the Task Force and other industry discussion for possible focused attention by the ISPC leadership group. After substantial discussion and evaluation that may be considered as related to earlier steps in the framework, the Task Force decided to give some focus to the following major improvement objectives:

- *Quality Management for Fresh Apples*

This area focuses on continually looking for strategies to improve the quality management aspects within the vertically linked segments of the Michigan apple industry to meet modern market and customer requirements.

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- *Variety Evaluation and Strategies*

The objective of this area is to develop appropriate informational research and strategies to enable Michigan growers and apple marketers to produce and market the varieties that will provide the best returns to Michigan growers through meeting various changing customer needs for varieties including the retail trade, consumers, and processors.

- *Domestic Demand Expansion*

In domestic demand expansion, the goal is to research current trends in the U.S. market and develop and implement effective strategies to expand Michigan's market expansion performance working closely with the MAC, which is the Michigan apple industry generic demand expansion organization.

- *Pest Management Threats and Issues*

This area has the objective of considering and evaluating current pest management threats and issues and to develop appropriate pro-active industry strategies to meet or exceed current and future regulations in a cost effective manner.

- *Export Expansion Programs*

An important objective is to identify key potential export markets and to develop strategies to facilitate high performance in export expansion.

- *Increased Marketing of Tray Pack*

In expanding emphasis on tray pack, the objective is to consider strategies that will improve the Michigan apple industry's ability to increase tray pack volume in a profitable manner.

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- *Facilitating and Prioritizing Needed Research*

The objective is to identify research priorities that need to be accomplished, communicate these research needs to appropriate organizations, such as, government agencies, and facilitate appropriate responses by non-industry organizations.

These major improvement objectives have been focused upon at many Task Force meetings because of their especially high potential to improve industry performance. Strategies for each strategic area have been developed as the next section discusses.

4.2.2.4 Development of Specific Strategies for Facilitating Needed Improvement

The ISPC framework indicates that a fourth step in the strategic planning phase is for an ISPC group to develop specific strategies to facilitate needed improvement in the industry.

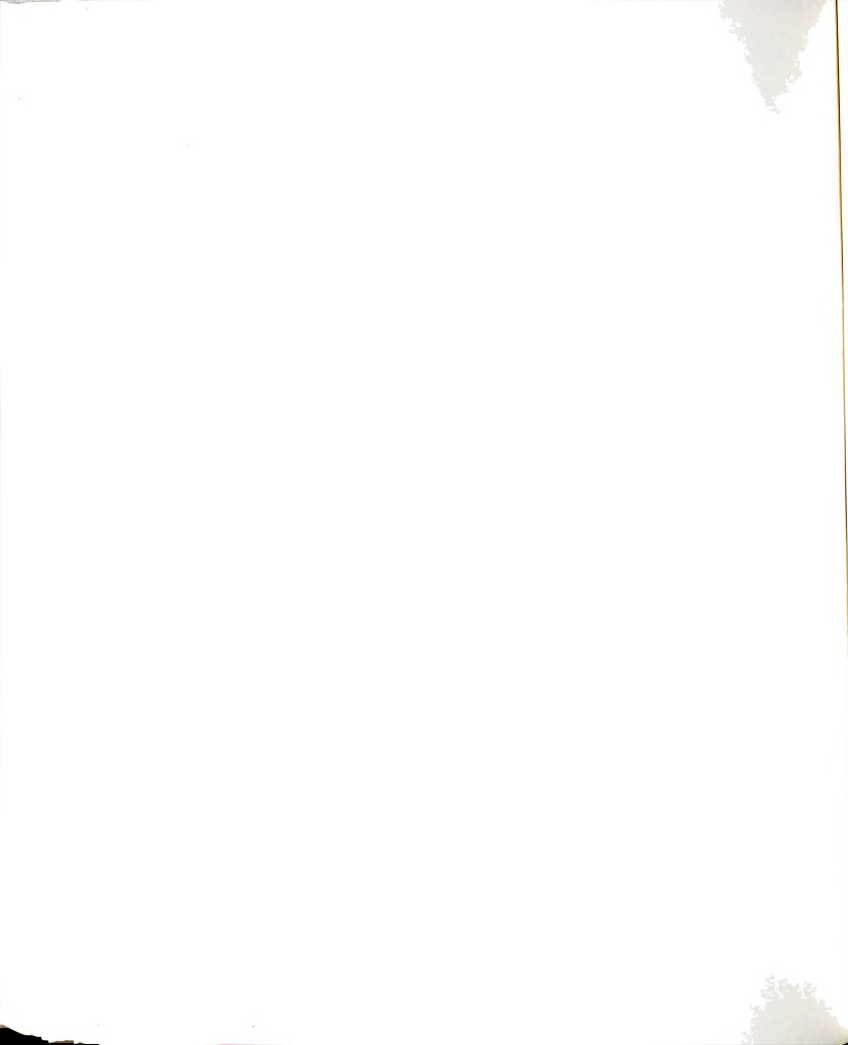
These are the specific strategies that particular group(s), individual(s), etc. within the industry can do to achieve the desired industry objectives.

The Task Force has considered a number of specific strategies to aid the industry. Many have focused upon the major improvement objectives that were previously selected as part of the ISPC process, while others were more situationally prioritized as opportunities unfolded.

Alternative strategies were developed from the situational analysis, overall major improvement objectives, Task Force discussions, suggestions from leaders and MSU analysts, etc. Based on these discussions, and in some cases further analysis, the strategies were discussed by the Task Force, and in some cases recommended for implementation by an appropriate industry organization or segment.

Possible specific strategies were screened to see if they should be supported by the Task Force. Several questions were used to screen if specific strategic would be worthwhile for the Task Force to support or pursue:

- Can it be readily accomplished?



- Will it have positive benefits?
- Will it make a significant difference?
- Is it adequately supported by the appropriate industry segment?

These screening questions have been useful in prioritizing and selecting strategies where a certain amount of industry-level action would be most useful.

The Task Force has developed many strategies for the major improvement objectives. Table 4-4 shows the breakdown of strategies supported by the Task Force for each strategic area. This indicates the high level of attention and expected future improved performance in these areas.

Quality management for fresh apples has had the greatest overall number of delineated strategies and has been discussed at almost every Task Force meeting. The area of quality management and industry efforts in this area are so complex and critical that they will be discussed in detail in the next major section of the chapter.

Another observation from the Michigan apple industry is that the various strategies selected for implementation seemed to fall into four relevant categories:

- 1) strategies to develop information that will influence implementation by individual firms
- 2) strategies selected for industry organizations to implement
- 3) strategies to communicate with non-industry organizations
- 4) strategies to develop or modify market rules and regulations

An illustration of a number of proposed strategies into these four types is provided in Table 4-5.

One type of strategy proposed by the Task Force was for industry organizations to develop key information for use by firms within the industry (Type 1). This type of strategy was the most commonly proposed and emphasized. Informational items for firms to use included the

Table 4-4. Major Strategies Supported by the Task Force**Strategies for the Major Industry Improvement Objectives**

- **Quality Management for Fresh Apples**
 - Total Quality Management (TQM)
 - Maturity Information Program
 - Pre-Harvest Workshops
 - Bringing in a TQM Expert Consultant
 - Premium Grade Standards
 - Mandatory Minimum Quality Standards
 - Developing Pilot Management Practices and/or HAACP Programs
- **Variety Evaluation and Strategies**
 - Information on Consumer Demand for Varieties
 - Shipper Survey on Future Fresh Variety Demand
 - Processor Survey on Future Processor Variety Demand
 - Analysis of Trends in Production by Variety
- **Domestic Demand Expansion**
 - Developed a 5 Year Strategic Plan by the Michigan Apple Committee
 - Increased Funds for the Michigan Apple Committee
 - More Consumer Market Research
- **Pest Management**
 - An Apple Industry Stewardship Plan on Pest Management and Pesticide Issues
 - Efforts to Secure Funding for Integrated Pest Management Research
- **Export Expansion**
 - Work with Other Regions Through the U.S. Apple Export Council
 - Sponsor Industry Visits to Promising Foreign Markets
 - Work to Enable Access to Targeted Foreign Markets
 - Develop Protocols to Overcome Phytosanitary Trade Barriers
- **Increased Marketing of Tray Packs**
 - Information on Opportunities and Economic Returns for Packing Trays
 - Encourage Continued Packinghouse Modernization
 - Encourage Continued Orchard Modernization and Management for More Tray Pack Quality Fruit
- **Facilitating and Prioritizing Needed Research**
 - Industry Survey Information
 - Support Actions to Retain an ARS position in Michigan
 - Efforts to Obtain Federal Fireblight Research Funding
 - Priorities for Needed University Research and Extension

Table 4-5. Types of Strategies Supported by the Task Force and Implementation**TYPE OF ACTION****(1) DEVELOP INFORMATION FOR FIRMS TO IMPLEMENT**

- Total Quality Management (TQM)
 - Pre-Harvest Workshops
 - Maturity Information Program and Harvest Timing
 - Bringing in a TQM Expert
 - Develop Pilot Management Practices and/or HAACP Programs
- Varieties for the Future
 - Processor Survey of Future Processor Variety Demand
 - Shipper Survey on Future Fresh Variety Demand
 - Information on Consumer Demand for Varieties
 - Analysis of Trends in Production by Variety
- Information on Incentives for Packing Trays

(2) DEVELOP STRATEGIES FOR INDUSTRY ORGANIZATIONS TO IMPLEMENT

- MAC 5-Year Program Plan
- Increase Funding for the MAC
- More Consumer Market Research (parts also relate to (1) above)
- Work to Enable Access to Targeted Foreign Markets

(3) COMMUNICATE WITH NON-INDUSTRY ORGANIZATIONS

- Priorities for Needed University Research and Extension
- Efforts to Secure Funding for IPM Research
- Support Actions to Retain an ARS Position in Michigan
- Efforts to Obtain Federal Fireblight Research Funding

(4) MODIFY OR DEVELOP MARKET RULES AND REGULATIONS

- Develop a Premium Grade Standards for Fresh Apples
- Possible Mandatory Minimum Quality Standards for Fresh Apples

Maturity Information Program, a set of strategies to accomplish Total Quality Management, information on quality incentives, information on consumer demand, etc.

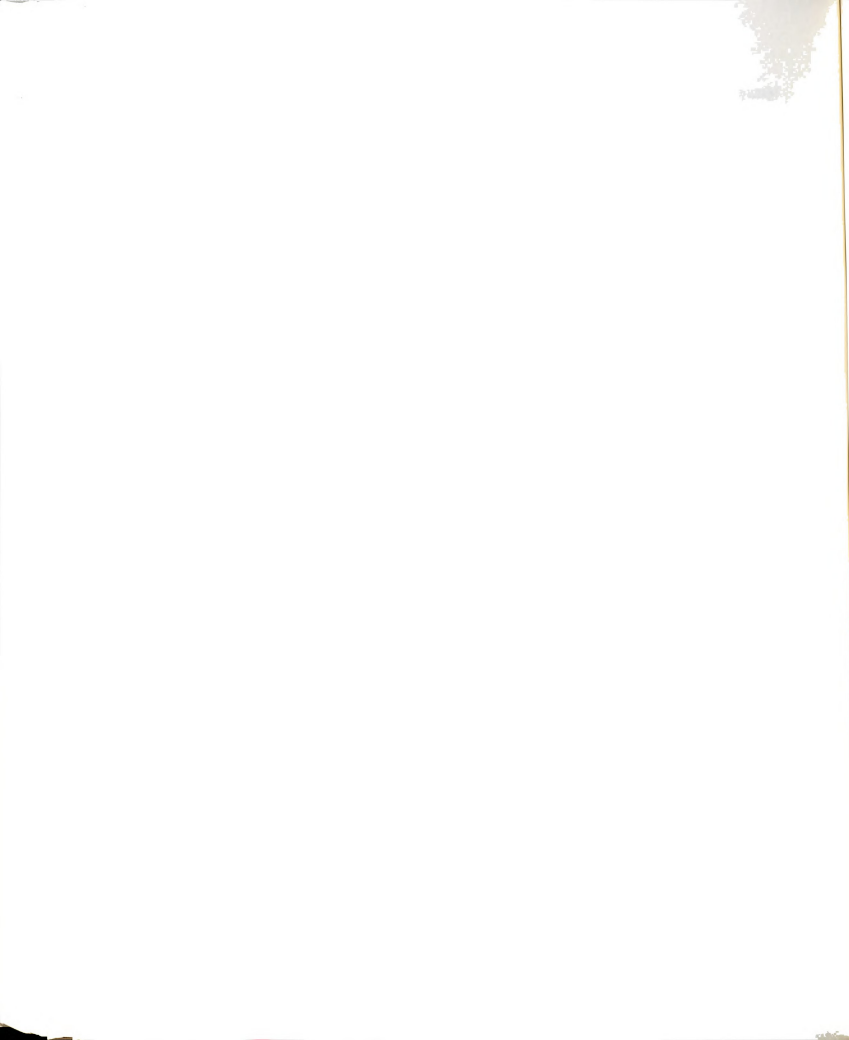
Some strategies proposed by the Task Force were for strategies for industry organizations to implement (Type 2). Within the strategy selection context, it became clear that certain strategies would best be accomplished by particular industry organizations because the strategy would help achieve the objectives of the industry organization. Commonly, the industry organizations volunteered to implement the strategy that had been analyzed discussed and agreed upon by the Task Force.

Another type of strategy focused on communicating industry needs to non-industry organizations. In this, the Task Force recognized that it would be useful if certain research needs were accomplished and decided to communicate the needs to the appropriate non-industry organization, such as, the USDA.

A fourth type of strategy focused on new approaches to develop or modify existing market rules and regulations. These strategies had the goal of improving the playing field or overall marketplace in which the industry operated.

4.2.2.5 Summary of the Strategic Planning Phase

The strategic planning phase of the ISPC framework indicates that several steps are useful in selecting industry strategies that are most likely to improve performance. The process of strategy selection is grounded in the situation the industry is facing, as developed in the situational analysis, while key choices are made in choosing guiding strategies and selecting major performance objectives. Furthermore, because the ISPC group, comprised of various industry leaders, has agreed on the specific strategies with substantial communication with the industry, this means that a substantial level of consensus support for the ISPC strategies may have been achieved. The strategies selected are intended to be those most likely to improve performance and to be implemented.



In the Michigan apple industry case, each step of the strategic planning phase was accomplished -- although to varying degrees. The activities and choices in the steps of the strategic planning phase seemed to be useful in selecting specific strategies which were most likely to improve industry performance and were likely to be implemented due to the consensus developed in the ISPC group through the ISPC process. The strategic planning phase seemed to be a useful and effective approach.

4.2.3 Implementation and Coordination of Specific Strategies

The framework suggests that a third phase in an ISPC process should focus on implementation and coordination of specific strategies. In this, an ISPC group can recommend that certain specific strategies be implemented by appropriate firm(s) and/or industry organization(s) and the ISPC group can serve in a valuable coordinating role. Ultimately, an ISPC process will have limited effectiveness if the strategies that are viewed as having the best potential for improving the performance of the industry are not implemented. Further, considering that many ISPC strategies have strong public good characteristics, it would be expected that strategies that require the industry as a group to support an action and supply needed resources, i.e., broad-based industry actions, would be difficult to get implemented.

As discussed in the section on strategy selection, there have been a number of strategies developed by the Task Force for improved industry performance. A common feature of these strategies has been that each strategy is often accomplished by a group of firms and industry organizations working together. Different groups may form to work on different strategies. For example, the strategy to expand exports has been implemented by the U.S. Export Council, shippers, MAC, U.S. Apple Association, MSU, and USDA. The strategy to increase the assessment of the MAC was implemented by the MAC and Michigan Department of Agriculture.

Often one of the industry organizations may take the lead in implementing a strategy. For example, the MAC led efforts to increase funding for their programs. The lead organization

is likely to provide the key push for the ISPC strategy as well as perhaps much of the resources such as staffing and funding for the strategy.

Three strategies that were supported by the Task Force but were not implemented:

- Expert Consultation for TQM
- Premium Grade
- Minimum Mandatory Quality Standards

These strategies have not been implemented to date. The reason why these strategies were not implemented was due to the lack of consensus support for these strategies within the broader industry. Part of the difficulty in implementing the premium grade and minimum mandatory quality standards was the result of the fact that they focused on changing market rules and regulations that would impact most industry participants and would require broad-based industry support. Hence, they would be expected to be particularly difficult to implement, as indicated by the framework, because they would require substantial industry consensus support for these broad-based strategies as compared to strategies not requiring such an extensive industry consensus. Further analysis of the lack of implementation or "implementation failure" will be presented later in this chapter.

4.2.3.1 Development of an Implementation Plan for Each Strategy

The ISPC framework developed in Chapter 3 suggests that one important task for implementation of a strategy is determining a specific plan of how the strategy will be implemented. As discussed in Chapter 3, there are several possible aspects of this that include:

- Who will accomplish the implementation of the strategy?;
- How will resources be provided for implementing the strategy?;
- What are key steps that need to be completed for the strategy?;
- What is the overall planned timetable to accomplish the strategy?;
- What are the desired/expected outcomes from the strategy?.

The extent to which an implementation plan needs to be developed depends in part upon the complexity of the strategy and necessary coordinated strategies in the industry.

In the case study of the Michigan apple industry, once the Task Force had decided that a strategy should be implemented, the specifics of implementation planning were then practically discussed and to varying degrees assigned to key designated industry leaders and staff.

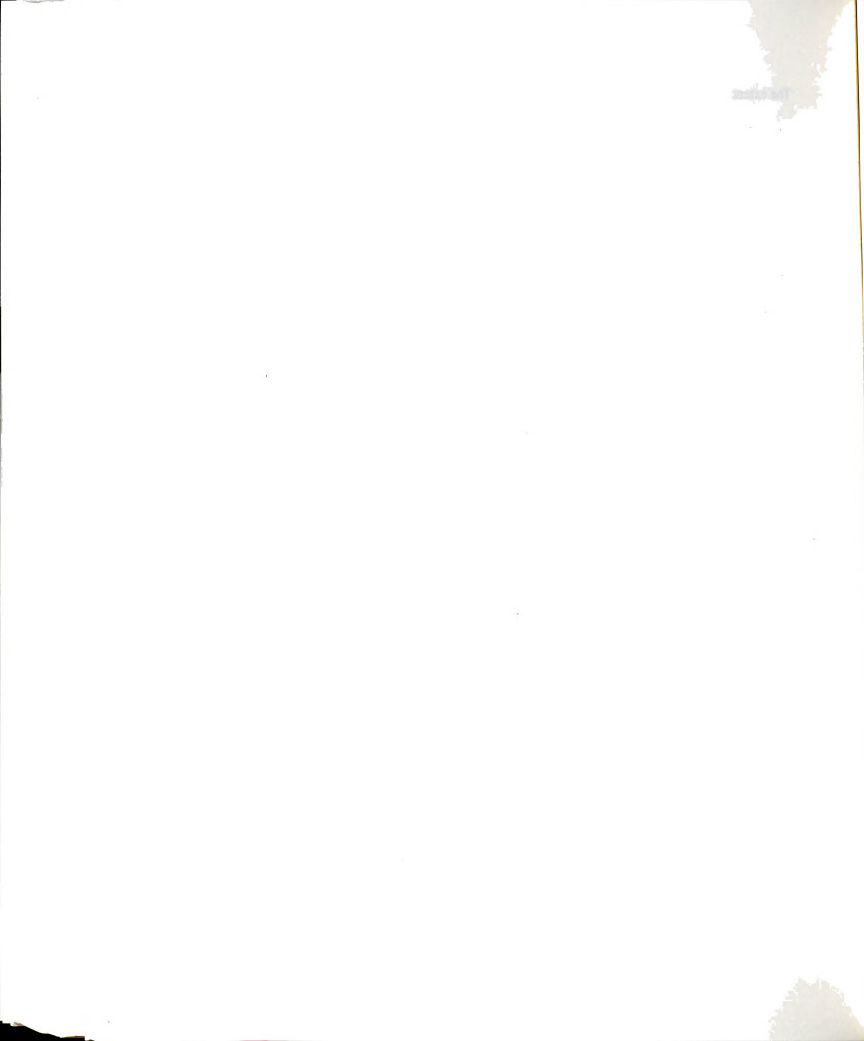
Appropriate industry leaders, representing their particular organization, made voluntary commitments to accomplish particular aspects of these strategies. Almost all strategies of Types 1, 2, and 3 have been successfully implemented at least to some degree using this approach.

Type 4 strategies, that required broad-based industry support, have so far been less successful in implementation than other strategy types. These non-implemented strategies were:

- a premium grade standards for fresh apples
- mandatory minimum quality standards for fresh apples

Part of the reason for the lack of implementation for the above strategies was the need for substantial coordination and strong consensus within several parts of the industry involved in each strategy. The future likelihood of implementing the strategies listed above would likely be improved if an explicit implementation plan to develop the necessary consensus within each industry segment were developed. This is partly because it seems that the consensus developed within the Task Force has not necessarily led to a sufficient industry consensus for implementation.

As would be expected based upon the ISPC framework, the strategies that require broad-based support from the industry were especially difficult to implement. Strategies that did not need broad-based industry support were much more likely to be implemented. Those strategies discussed to date by the Task Force that require a substantial degree of industry consensus include the premium grade, minimum quality standards, and the MAC funding increase. Of



these, only the MAC assessment increase was supported by the required industry segment (i.e., growers in a referendum for this action) and implemented.

It is instructive to look at how consensus for the MAC funding increase was developed, since this may provide some general guidance or principles for implementing needed industry strategies that require substantial consensus. The MAC, as mentioned earlier, is funded by a grower assessment with its primary mission of supporting the promotion and demand expansion for Michigan apples. The MAC staff and board of directors decided a needed strategy should include an assessment increase so the MAC could more effectively promote Michigan apples, and, in part, to help fund needed research including some priorities identified through the ISPC process. In the ISPC process, the survey of Michigan apple growers was an important source of these priorities. This grower survey also indicated an overall support for an increase in the grower assessment -- to be phased in over three years. The MAC staff developed a promotional video to explain why the assessment increase was necessary and a beneficial strategy for the industry. The MAC staff further spent considerable time at grower meetings and other forums discussing and explaining the need for the assessment increase and program expansion. Substantial leadership and promotion were accomplished. Based upon these efforts, the proposed assessment increase passed in a special grower referendum to increase the financial base needed to implement the related program changes to improve industry performance.

In comparison, the proposed premium grade and minimum mandatory standards²⁹ were supported by the Task Force and some leading shippers, but did not receive the adequate consensus building and promotional efforts. These ideas were at different times brought to the shippers association who decided to not support either action as an association. Because shippers are a key participant segment for both of these industry strategies, neither of these strategies

²⁹ The premium grade and mandatory minimum quality standards strategies are discussed and described in the section on which discusses quality strategies in detail.

have been implemented to date. However, they will likely continue to be considered in the future. The benefits of the proposed strategies may not have been adequately and convincingly explained to the shippers. The negative possibilities were discussed by those who were skeptical of the benefits of these approaches.

A comparison between the successfully implemented MAC assessment increase and the non-implemented broad-based strategies in the quality area seems to suggest a pattern about what is needed for successfully developing consensus for strategies that require substantial levels of consensus. All three strategies had similar base support:

- The support of the Task Force
- A survey which indicated if the proposed action was widely supported in the industry and to learn about major objections

These two consensus building conditions or activities were not in themselves adequate for implementation.

Further consensus building efforts were made for the implemented MAC assessment strategy. The strategy that was successful had in comparison to the non-implemented strategies:

- An identified leader, group of leaders, or organizational sponsor
- Organizational staff to develop the strategy, rationale, and explanation the potential benefits of the strategy
- Informational materials developed (reports, videos, etc.) that explained the benefits of the proposed action
- Leadership that spent a large amount time and resources explaining the rationale and potential benefits for the proposed action

At least in the case of the MAC assessment increase, the combination of these seemed to be very effective at building adequate consensus for the proposed action.

The assessment increase is also only an alteration of a currently existing strategy as compared to the other strategies that were essentially new broad-based strategies for the industry. The substantial and ultimately successful effort to implement the assessment increase probably required less additional progress on consensus building because the assessment itself is an already accepted practice. This suggests that even more extensive efforts and carefully crafted implementation planning will be necessary for strategies that are brand new and require a broad-base of industry support.

4.2.3.2 Communication of the Strategy to the Industry

The ISPC framework developed in Chapter 3 suggests that communicating selected strategies by an ISPC group to the broader industry is important for implementing these strategies because there are many decisionmakers in an industry and their actions are often necessary to implement the strategy. A key in this communication effort is to stress the need for the strategy, its potential benefits for the industry, and how the strategy can be implemented.

In the Michigan apple industry, various communication approaches have been used for the various strategies developed. A common approach was for representatives on the Task Force to go to their home organization and to recommend implementation or joint implementation efforts for the strategy. For example, the need for more consumer market research by the MAC was communicated to the MAC by the MAC's executive director, a member of the Task Force. Communication in this type of strategy is relatively easier than a strategy that requires a total industry consensus and an industry vote.

If key decisionmakers were not on the Task Force, then additional communication efforts were used. These included developing articles in industry newsletters, trade publications, university staff papers, and developing discussions with the appropriate industry leaders or group. For example, in attempting to implement the premium grade strategy, this issue was

brought to and discussed with the Michigan Apple Shippers Association and other industry leaders.

4.2.3.3 Obtaining Resources for ISPC Strategies

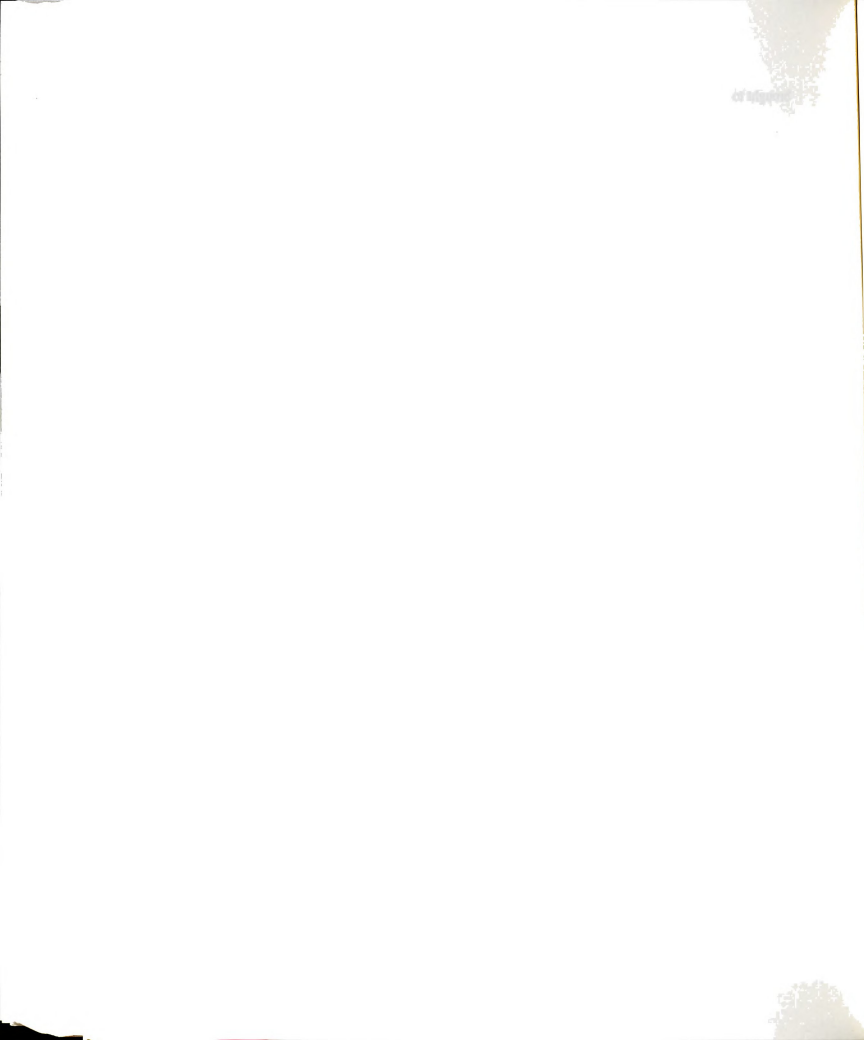
The ISPC framework indicates that one of the key issues in the implementation of any strategy is obtaining the necessary resources that are needed for the strategy. If the necessary resources of funding, staff hours, etc. are not available then the strategy may not be implemented or may be implemented incompletely. An important issue in this is overcoming free rider problems in obtaining resources for ISPC strategies with strong public good aspects.

In the Michigan apple industry case, the most common way for the resources to be provided for a strategy has been through the voluntary actions and/or support of various industry organizations and firms. The combination of firms and/or industry organizations that implement the strategy would most likely also provide the resources to do so. For example, resources to implement the MAC funding increase were from the MAC itself and the Michigan Department of Agriculture.

As would be expected from the ISPC framework, strategies for which individual firm and/or industry organizations were not willing to provide resources were more difficult to implement. An example of this kind of strategy is the proposed mandatory minimum quality standards for fresh Michigan apples. In this strategy, no individual firm or industry organization was willing to make a substantial or sufficient commitment to achieving the strategy. This has contributed to or may even have resulted in the strategy not being implemented at this point although it is still being considered.

4.2.3.4 Progress Measurement

The ISPC framework outlines that another aspect of strategy implementation and coordination should include analysis on the progress of the strategy. This can serve to check on how effective a particular strategy has been in achieving desired outcomes and if modifications in



the strategy are warranted. Progress milestones as they are achieved can further indicate short-term achievements in relation to long-term objectives.

In the Michigan apple industry case, progress measurement has been achieved through Task Force discussions and evaluation of various strategies. In fact, a key aspect of many Task Force meetings has been to consider progress and achievements from particular industry improvement strategies. The strategies have been reassessed periodically by the Task Force and member organizations, especially as key progress has been achieved. Next steps for particular strategies have then been developed.

4.2.4 Strategy Review and Re-evaluation

The strategy review and re-evaluation phase, the fourth phase in the ISPC framework, focuses on developing a comprehensive review of earlier decisions and strategies selected in the ISPC process. This phase recognizes that it is important to be continually aware of the changing circumstances (e.g., market forces, government regulations, etc.) that the industry needs to deal with. As circumstances change, then appropriate strategies may need to change as well. Up to this point in the Michigan apple industry case, such a comprehensive review of strategy for Michigan has not been completed -- partly because the comprehensive ISPC process has only been ongoing for the last three years. There has, however, been an overall keen awareness and attention to changing circumstances that are impacting the industry.

Several informational analyses that could be considered part of such a review of industry strategy have been completed. These include changes in Michigan's market volumes and industry incomes in line with growth positioning for the industry. Tray pack volume and percent have also been assessed. More detail on these efforts will be presented later in this section.

At some point in the future a comprehensive review of all choices and strategies will probably be worthwhile to help to evaluate the industry's progress. This would add to the on-

going analyses for needed future strategies and major improvement objectives that will aid the industry in its imperative overall goal of being competitive and economically viable.

4.2.5 Concluding Observations on Construct Validity

Construct validity, as discussed in Chapter 1, can be established if (1) the theoretical concept has an operational counterpart and (2) the operational counterpart can be objectively measured³⁰. The theoretical construct in this dissertation is the ISPC framework developed in Chapter 3 with all its numerous phases and steps. In the case study of the Michigan apple industry ISPC process, the operational counterpart to this theoretical or conceptual construct is the actual ISPC process in the Michigan apple industry. A key question to address here is whether this construct, i.e., the ISPC framework, adequately describes the actual ISPC process.

This section has described the actual situations and activities of the Michigan apple industry ISPC process in relation to the conceptual ISPC framework developed. This description was developed using multiple sources of evidence including participant observation, written records, and key informants. Each phase and step of the framework seemed to have an operational counterpart in the actual practice of the case study. This indicates that the framework provides an effective description of the activities necessary for an ISPC process. In addition, essentially all major ISPC activities that fell within the constructs of the ISPC framework. Hence, at least in regards to the Michigan apple industry case, the framework meets the test of construct validity.

4.3 Further Reflections on Quality Management Strategies

Section 4.2 reviewed a broad perspective on the ISPC process for the Michigan apple industry. The information provided in the overall review of the many individual strategies could

³⁰ The concept of construct validity is discussed further in Chapter 1. Some sources on construct validity are Yin and Kerlinger.

only provide a limited level of detail related to each particular strategies because of the considerable complexity of the broad process of strategy development and implementation. This section focuses on providing a more detailed description and illustration of how the process worked for selected specific strategies within the quality management area. A second purpose for this section is to elaborate on how the review and re-evaluation phase of the ISPC framework could be approached with a detailed example from the quality management area. This is an example of the type of strategy review and re-evaluation that might be useful for all of the Task Force's major improvement objectives.

Continuously working on and improving quality management, especially the vertical coordination aspects, has been one of the key elements of identified needed strategy by the Michigan apple industry, especially for the fresh segment. Part of the need for a priority focus on this area has been generated by increasingly exacting fresh quality requirements in the marketplace. The need for work in this area by the Michigan apple industry is also accentuated by the effective progress that competitor industries are continuing to make in supplying high quality products. Fundamentally, if Michigan wants to serve a major or even an increasing portion of the fresh apple market, especially in the tray pack segment, then the Michigan apple industry must work to continually improve quality performance in order to meet increasingly exacting customer quality requirements.

There are many facets of quality that the Michigan apple industry must respond to. These include color, sizing, freedom from internal breakdown, uniformity, bruising, and condition. There has been considerable progress in recent years in many of these quality facets. For example, modernization of packing houses with new technology aids effective sorting for size, color, and uniformity.

One aspect of quality, condition, has been particularly problematic in the Michigan apple industry. High condition or having crisp apples is one of the most important for apple

consumers as recent consumer market research has shown (Ricks, Heinze, Beggs, and Miklavcic 1995). However, providing high condition to the market requires the effective management and actions of all segments of the production-marketing chain including growers, packers, shippers, and retailers and there are complex market incentives as well as complex technological aspects. A good reputation in the market for being able to provide apples with consistently high condition would be very helpful in the Michigan apple industry's efforts to increase its demand, market volume, market share and returns.

In their efforts to assist the Michigan industry to progress in needed directions, the Task Force has discussed and considered a number of alternative approaches or strategies to improve the Michigan apple industry's effective responsiveness to changing customer quality needs. Some of these approaches include informational research on the potential benefits of packing more tray pack, the Maturity Information Program, and developing information on many aspects for a Total Quality Management approach for high performance of all of the several vertical levels of the Michigan apple industry's production-marketing chain.

Possible voluntary and/or mandatory changes in grade standards were also considered. These included a possible premium Michigan grade and the idea of mandatory minimum quality standards. Both of these strategies focused on condition for fresh apples and had the goal of improving the Michigan apple industry's performance in quality management.

This section provides a detailed illustration and description of a number of the main quality management strategies supported by the Task Force. It further evaluates the current status of the various alternative strategies for improving the Michigan apple industry's performance and responsiveness to consumer and market demands, mainly in regards to the fruit condition aspect. Each alternative strategies is described, and some ideas for possible next steps to further develop or implement the alternative strategies are discussed. The ISPC framework is

also shown to provide a useful source of ideas for both strategies that have been decided upon but have not yet been implemented.

4.3.1 Total Quality Management

Total Quality Management (TQM) is the concept of comprehensively designing, developing, and implementing a system of producing and marketing products for consistent top quality that has a goal of preventing quality problems before they occur. In the apple industry, a TQM system might be especially important because high performance at all vertical levels in an integrated and coordinated fashion is very important. There are several kinds of potential benefit from this sort of action:

1. Customers may have increased satisfaction due to improved consistency in quality -- for apples, this is especially important for condition.
2. Increased customer satisfaction by consumers and the trade can lead to growing demand for Michigan apples.
3. Improved reputation of the Michigan apple industry in the quality area.
4. Higher quality may return price premiums.
5. There may be increased efficiency if certain resources (such as storage space and time on the packing line) are not used on poor quality lots of apples. This may lead to reduced waste and can aid in more efficiently marketing the product to the appropriate market.

The main need for the industry as a whole to be interested in a TQM approach is that high industry performance on quality requires many segments of the Michigan apple industry production-marketing chain to all achieve top performance in quality. This means in order to continually achieve high fresh quality performance, the quality actions of Michigan growers, packers, storage operators, and shippers need to be coordinated.

Performance by each segment is necessary for achieving high overall industry performance. Key apple quality characteristics such as condition and freshness do not improve after the apples have been harvested. To maintain the key quality characteristics, each industry segment needs undertake a complex set of good management practices to accomplish this. The industry's various participants in the marketing chain need to work together to continually improve quality management with the goal of meeting and exceeding customer expectations. Points in the marketing chain where quality damage occurs need to be addressed in a high performance fashion and high quality customers can be more effectively served.

The important potential benefits of TQM discussed above led the Task Force and overall industry to consider several methods to accomplishing TQM. These included the Maturity Information Program, pre-harvest workshops, and bringing in a TQM expert to examine, promote, and explain the TQM concept to the industry as well as developing pilot programs on good managerial practices and/or HAACP. The following sections discuss these strategies proposed for facilitating a TQM approach to improving quality management in the Michigan apple industry.

4.3.1.1 Maturity Information Program (MIP)

A major influence on the quality of apples, especially for fruit condition and color, is determined by when the apples are harvested. The harvest timing affects the condition, color, sugar content, and taste of the apples. As discussed earlier, condition is a key factor in determining customer satisfaction. Hence, harvesting apples at the appropriate time is an important part of achieving overall high performance in quality management. This is made more complicated because the desired levels of quality characteristics in regards to maturity and color in fresh marketed apples only arise during certain fairly narrow harvest windows that vary by region and even within an orchard.

The Task Force has supported the importance of continuing Maturity Information Program (MIP) by Michigan State University. The goal of the MIP is to improve the knowledge and awareness of the appropriate harvest qualities especially for condition, and dates by region and by variety. Improved knowledge of appropriate harvest dates was developed by Michigan State University research and extension. The industry's shippers firms provided some supplemental funding for this work. Maturity and harvest timing information has been disseminated throughout the industry and seems to be highly useful in aiding quality management decisions by growers along with their packers and shippers. Some of the latest available information on this subject was disseminated to the industry including in a recent pre-harvest workshop.

Further research needs are a particularly high priority for newer apple varieties for the fresh market, such as, Jonagold. The industry has less experience with the newer varieties including the best timing of the harvest for top condition. Furthermore, meeting market quality requirements for new varieties is crucial if the Michigan apple industry is to be successful with new varieties.

Possible Next Steps for the Industry on Maturity Information

The Task Force and other groups in the industry indicate that the MIP is a useful program. Michigan growers are aware of the information and are using it in coordination with their packers in making harvesting and marketing decisions. Further research efforts, especially for newer varieties, seem warranted. Some possible next steps for furthering the MIP program include:

1. Continue to focus additional research on newer varieties.
2. Continue to disseminate information on appropriate harvest dates throughout the industry.
3. Implement MIP on a more widespread basis.

- a. Shippers expand the use of field persons with growers.
- b. Packers and shippers could require growers to use maturity information.
- c. Incentives to make sure all growers, packers, storage operators, and shippers implement what is known to be needed.

The already mentioned successful contributions of the MIP program and the importance of harvest timing suggest that the MIP program is an excellent area for continued future industry efforts to improve performance.

4.3.1.2 Pre-Harvest Workshop

As part of the informational contribution to TQM, the Task Force recommended that extension and industry jointly develop an annual pre-harvest quality workshop on integrated top management practices for fresh market quality. The emphasis is on the needed, although difficult, appropriate management practices for achieving good condition levels and avoidance of bruising. An initial pre-harvest quality workshop was recently accomplished. The goal of the workshop is to review for growers and packers the latest information on quality techniques, management practices, market needs, etc. and thus to aid in improving growers' and packers' harvesting and handling management decisions.

The workshop contained an informational series on the latest Maturity Information Program developments, grower methods to reduce bruising, fruit condition testing methods, market research studies, and other information. University research and extension as well as industry leaders jointly developed and conducted the workshop. Growers and packers learned the most up-to-date information to aid in their quality management decisions.

Possible Next Steps for the Industry on the Pre-Harvest Workshops

The workshop seemed to be a success based upon participant's reaction to the information. Possible next steps for the pre-harvest workshop could include:

1. Plan to do pre-harvest workshops on an annual basis, with expanding geographical coverage, emphasizing similar information on using top management and technologies to improve quality.
2. Develop a workshop planning group representing appropriate organizations to aid in providing the best information on quality management as well as communicating to the industry about the workshop.

This workshop is a useful approach where information that has been developed can be provided and explained to those who can most effectively use the information for improved TQM performance.

4.3.1.3 Expert Consultation for TQM

In the Michigan apple industry, the Task Force considered the idea of a project with a TQM expert to help with the development of information on specific facets of such a TQM system that might be used by firms at different vertical levels to achieve high quality performance for the industry. The idea was that studying such a TQM system, identifying critical points in the system, and developing a pilot model and information might aid growers, packers, and shippers in improving performance. As an initial step, an outside expert was brought in to do a preliminary analysis and to discuss the idea further with the industry, mainly the shipper community. The plan also included the possibility of developing an example TQM plan as information for the industry.

The Michigan Apple Shippers Association eventually decided to not support further study by the expert for a number of reasons, including that they did not see enough benefit from the consultant. This led to some frustration on the part of those promoting the idea of TQM in the industry.

Part of the reason for the lack of support for bringing in a TQM expert was the fear that it might portray an image to buyers of an industry with poor current quality performance. Two other contributing factors may have been that the shippers association did not initiate the consultant project, and the idea of TQM (especially what the industry study might accomplish) had not been fully explained to the shippers. Further, considering that TQM would be implemented by the individual organizations, the industry role would be likely to just aid individual firms with information. It may not be altogether clear to many shippers how bringing in a consultant would help the industry accomplish this.

Possible Next Steps for the Industry to the TQM Consultant Idea

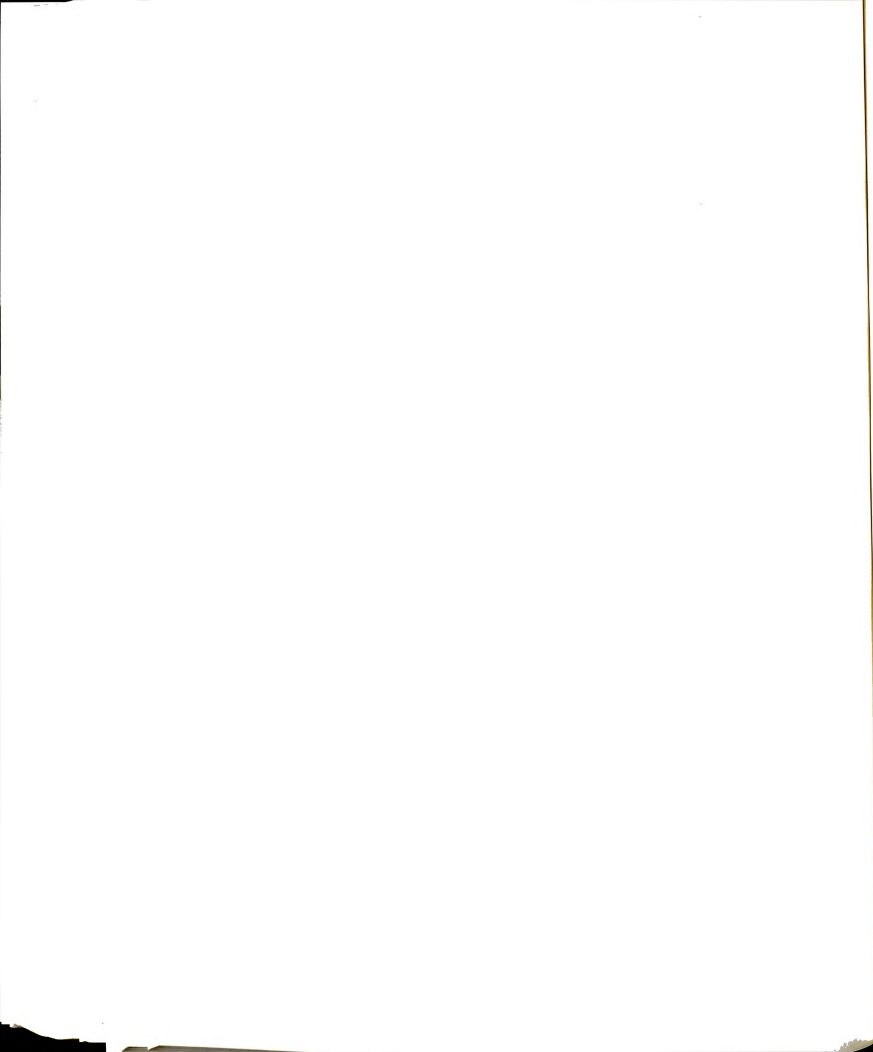
Due to the current lack of progress on this strategy, suggestions based upon the framework include some possible steps to revitalize the TQM consultant idea and build consensus in the industry might include:

1. A clear explanation or articulation of the what bringing in a TQM consultant might potentially achieve and how firms could use the resulting information.
2. Further discussions with influential shippers about more detailed and flexible implementation plans for this strategy.

The idea of bringing in a TQM expert could provide some benefits because the expert might bring considerable experience and knowledge about modern effective TQM practices. This might help the industry to more quickly and effectively respond to consumer quality demand.

4.3.2 Premium Grade

One idea that has been considered in the Michigan apple industry is to develop a premium grade. This premium grade for the Michigan apple industry could aid in more clearly differentiating top quality apples -- especially for condition. The need for this type of grade is that current grade standards do not adequately reflect a number of important quality



characteristics, including condition, that are important to customers. Apples are traded on quality standards that are more exacting than the current grades. Since current grades do not distinguish accurately between high and low quality for condition, some have asserted that, to some extent, high condition fruit is not rewarded sufficiently, since high condition fruit can be confused with and marketed similarly to low condition fruit. A premium grade might increase market incentives for doing an excellent job on condition through better product identification and improve the Michigan apple industry's performance in serving customer needs, especially for high condition fruit.

A premium grade could be another signal to buyers that the Michigan apple industry is serious about being progressive and getting the job done on quality as demanded by the market. This would be best considered as part of an overall effort to improve the quality performance of the industry.

The premium grade would probably contain a high level of certain quality characteristics, probably centering on fruit condition or firmness as one key factor. The intent is that it would be voluntary in that shippers would not have to sell using the premium grade unless they wished to do so. This might further help the industry develop a critical mass of top quality apples that would be useful in marketing to certain types of customer accounts that prefer a high volume of those consistent top quality apples.

One important issue related to a premium grade would be how the grade would be enforced, i.e., how would those using a premium grade be monitored for compliance with the grade. This type of inspection has usually been done by spot inspections by government inspectors.

In general, the premium grade idea has been supported by the Task Force. The idea was brought to the Michigan Apple Shippers Association for the shippers to consider. At that time, the shippers decided to not support, *as a group*, the premium grade idea for Michigan.

At the current time, the premium grade idea has been put "on hold". This idea could perhaps still be useful for the Michigan apple industry at some time in the future.

Possible Next Steps for the Premium Grade

At a future time, the premium grade idea for the industry might gain adequate support for implementation. Some possible alternatives that might be suggested based on the ISPC framework would be to expand consensus and communication within the industry on this topic including:

1. An economic study, i.e., an impact analysis, of the possible or potential benefits of a premium grade for the Michigan apple industry. This could include a comparison with the Washington apple industry efforts in this area. Further, it might be possible to work with some progressive shippers who ship a top condition quality pack to learn the sort of premium top quality gets in the market.
2. Develop further discussion of the premium grade by various segments of the industry, e.g., growers and packers.
3. One alternative option could be for a group of progressive shippers to agree to pack a certain premium grade. This could allow the progressive shippers to make progress in this area and perhaps increase returns for growers for premium fruit. This sort of approach would need to be initiated by individual shippers and could result in a demonstration effect.

Overall, more consideration of the premium grade might be useful for industry performance and progress. With the premium grade strategy, there is a definite possibility that improved industry returns might result. Markets demanding top condition fruit could be more consistently served and premiums from meeting this customer demand may be achieved.

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4.3.3 Mandatory Minimum Quality Standards

Another alternative to address the fact that current grade standards do not address condition might be to use mandatory minimum quality standards. A mandatory minimum quality standard could be used to prohibit the marketing of apples that did not meet a minimum condition level. The minimum condition level could be set so that customer needs on fruit condition are more consistently met. Furthermore, some of the lowest condition fruit, that consumers have been shown to not prefer, would not be marketed to consumers so that increased demand for an industry may be developed as a result of improved consumer confidence in their products. The minimum quality standard can help give greater assurance of at least minimum quality and consistency to buyers.

An example of a minimum quality standards program has been implemented in the Washington apple industry that has a mandatory program where all apples sold to the fresh market from Washington must meet a minimum condition level. This program seems to be an important part of the Washington apple industry's success in domestic and international markets.

The Task Force has had considerable discussions on the topic of the desirability of minimum quality standards for the Michigan apple industry. Several years ago in Task Force discussions, there was considerable support by this group of leaders for a minimum quality standards program for the Michigan apple industry that would focus mainly on condition. However, when this was brought to the larger industry by Task Force members, it was met with considerable opposition, especially by the shippers. One Task Force member lamented that "my ear got chewed off" when bringing the topic up to non-Task Force shippers and industry leaders. A subsequent survey of Michigan apple growers (Woods, 1996), that asked about this question showed a majority of growers in favor of this, although this type of action was supported less than many other possible strategies listed in the survey. A survey of Michigan shippers indicated that shippers were split 50-50 on this issue (Ricks and Woods, Dec. 1994).



With these overall mixed reactions from the broader industry, it is not altogether clear if this idea would be adequately supported for adoption by the industry. Several Task Force members have noted that in the Washington apple industry, it was the growers that were the main force behind Washington's mandatory minimum quality standards - and that they believe that this needs to be the case in Michigan as well if this approach is going to be implemented. Also, in the Washington apple industry it is reported that it was difficult in the first year to meet the new standards, but thereafter the industry has adapted to the new standard. Now the standard seems to have widespread support in the Washington apple industry.

Mandatory minimum quality standards could provide substantial direct incentives to provide more consistent condition fruit to the market. Initially, this might result in more product being diverted to processing markets. In the long run it would be expected that the Michigan apple industry's quality reputation would improve as customers recognize the better, more consistent job that the industry is doing in condition. Customers would be expected to pay more for the better quality apples. The minimum standard could further aid the industry in moving more quickly to a higher performance path in meeting market needs in regards to condition. Overall, this means that over the long run mandatory standards have potential to aid Michigan's competitive position in the marketplace, but firms in the industry would have less flexibility in marketing marginal condition fruit.

Possible Next Steps for the Industry for Minimum Quality Standards

The current status of mandatory minimum quality standards is that more industry consensus is needed before such an action could be undertaken. Some possible next steps that are suggested based upon the ISPC framework include:

1. Increase or promote industry-wide discussion and debate regarding a minimum quality standards program including the potential gains, costs, shortcomings and obstacles.

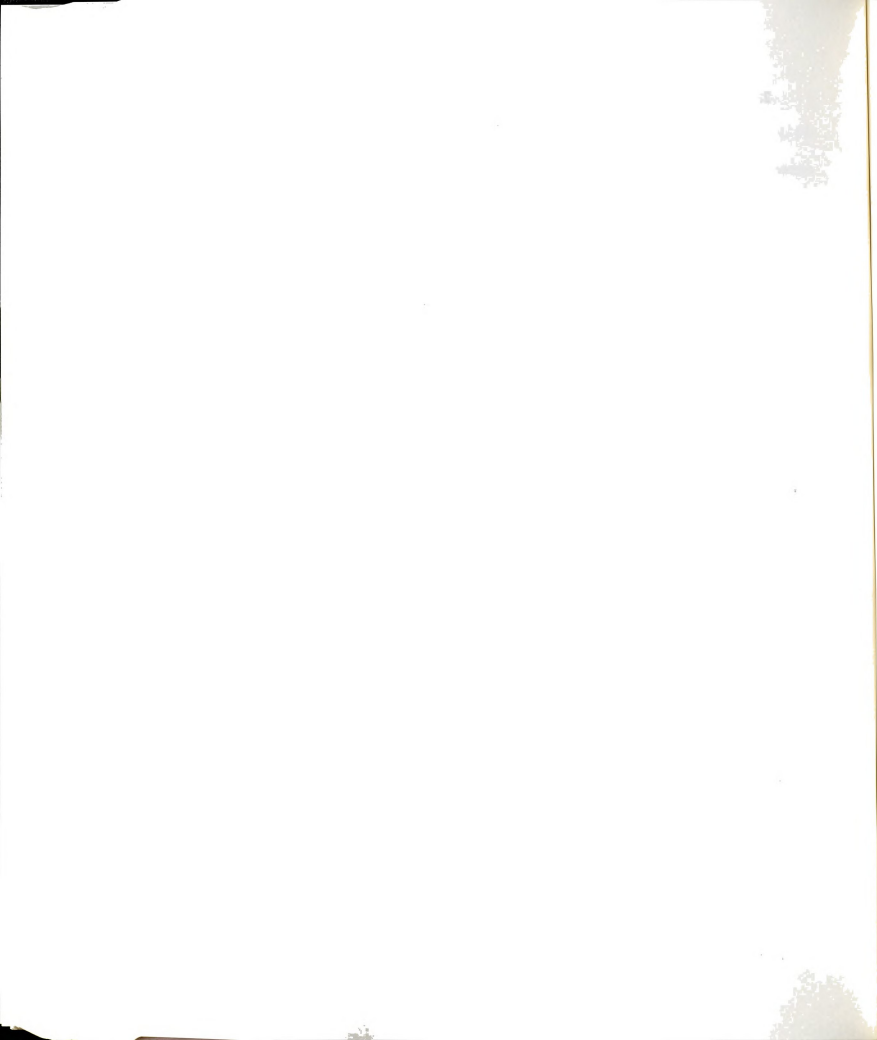
2. Articles in newsletters or industry publications discussing the relative merits of minimum quality standards.
3. Some group or organization taking leadership to push for this type of change.
4. An economic analysis of possible or potential benefits from mandatory minimum quality standards for the industry³¹. That is, it might be useful to develop an impact analysis.

Mandatory minimum quality standards may offer considerable potential benefits that the industry should consider fully, especially considering the competitive threat of the Washington apple industry. Consumer research has shown that they give a high priority to consistently high condition apples. Washington's market share is growing, perhaps in part because of their minimum condition program. The Michigan apple industry needs to respond with high performance in condition if it hopes to compete with Washington and have growing fresh market demand.

4.3.4 Information on Quality Incentives

Market prices and returns to growers, packers, and shippers can provide strong incentives for performance. To help to clarify some of the current market returns in relation to incentives for tray pack and larger size apples, some analysis information was developed by Michigan State University researchers for the industry. The following section summarizes this information and discusses price trends for tray pack relative to bags as well as for larger size apples in bags.

³¹ Ricks and Hinman (1987) discuss this topic. This could be a good start to future economic evaluations in this area.



4.3.4.1 Returns in Tray Pack Relative to Poly Bags

One of the priority strategies identified by the Task Force and other industry leaders as seeming to have potential for the Michigan apple industry in the future is to increase somewhat the state's future emphasis on tray pack. Some in the industry have questioned whether the market provides sufficient price and net return incentives to adequately support this strategic direction for Michigan. Therefore, an analysis was made of market returns and incentives for marketing more Michigan tray packs as opposed to Michigan's traditional heavy emphasis on apples shipped in bags³².

There are a number of reasons why Michigan's somewhat greater emphasis and effective marketing of tray packs seems to be an important opportunity for the future. Tray pack generally is the higher gross return market and compared to bags can generate substantial price premiums at retail and f.o.b. shipper. Demand for apples in tray pack has been growing and is expected to continue growing faster than apples packed in bags. As confirmed in recent consumer market research, more consumers prefer to buy tray pack rather than bags. The Task Force has discussed that the Michigan apple industry needs to shift somewhat from its traditional focus on bags to more emphasis on trays since this may provide some good opportunities for the future. This is partly because bags often provide lower f.o.b. returns and have relatively smaller and overall slower growing market than trays for both the U.S. and export market.

As was discussed earlier, marketing to the tray pack market requires higher quality fruit in regard to size, uniformity and to some extent color than marketing to the bag market. Modernization of packing house technology has raised the ability to achieve higher performance in providing this type of high quality fruit to the market. Recent investments by some packing houses in the Michigan apple industry have increased the Michigan apple industry's capabilities

³² This extends research by Ricks and Schwallier (1989) in this area.

in being able to supply tray pack. This modernization effort could be expanded by more individual firms. If there are strong market price incentives for tray pack with expected future growth, this could provide important incentives for more emphasis on marketing tray pack as opposed to bags.

Table 4-6 shows the prices for Michigan Red Delicious tray pack (40 pound box) relative to poly bag pack (12 - 3 pound bags) over the period 1991 to 1994 for the fall sale, cold storage, and controlled atmosphere seasons³³. The market prices, costs, and net premium for marketing as trays relative to bags are shown taking into consideration the packaging costs and weight differences between tray pack and poly bags. Tray pack weights are about ten percent more per carton than bags that results in an adjustment for weight differences being needed. Tray pack packing also costs about \$ 0.40 more per 40 lb. box. Taking these factors into consideration, a price premium net of the additional costs is developed that shows the premium for a 40 pound box of apples.

Overall the table shows that there is often a substantial premium for packing tray packs as opposed to packing the same apples in bags. This indicates that growers and packers who only pack bags are missing out on some substantial premiums often around \$ 1.50 per 40 lb. unit of apples that are tray pack quality. This premium can often amount to ten to thirty percent increase in price, but, the return to tray pack is highly variable. In some market seasons there is no premium to packing trays relative to bags.

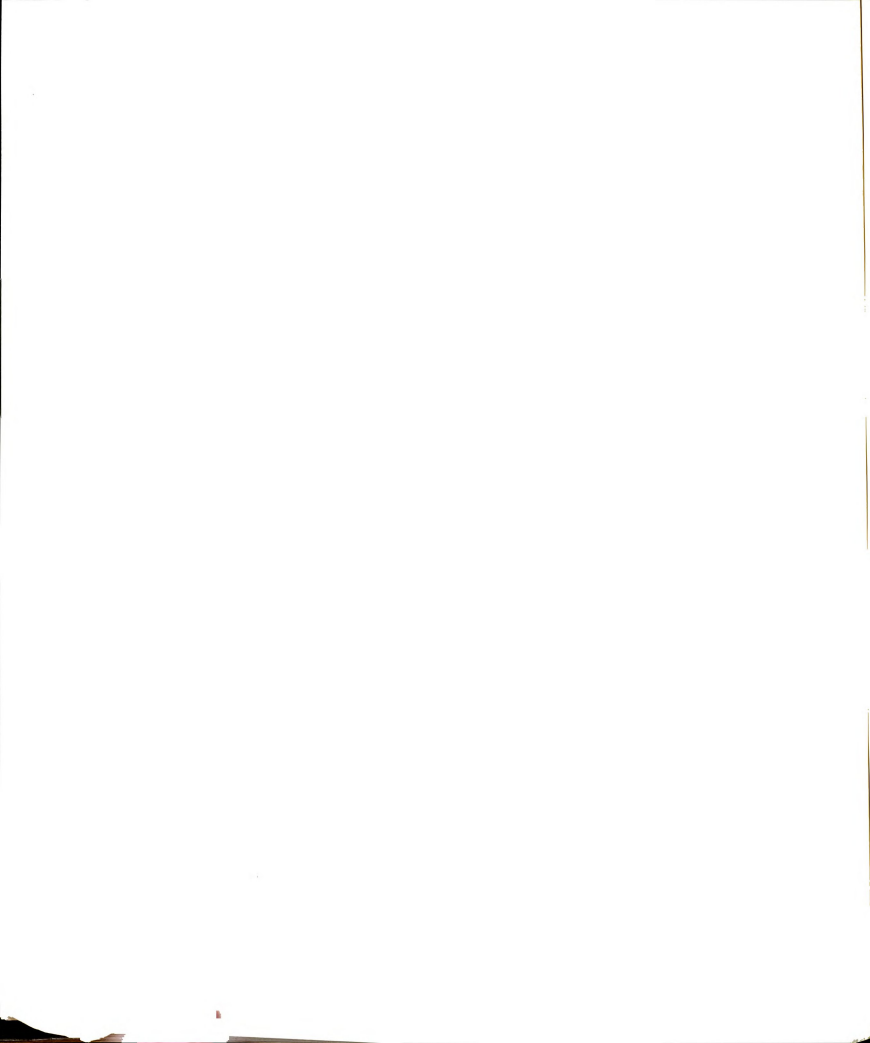
The price premium for tray pack probably reflects several key market factors. One is the improved quality of Michigan tray packs caused by recent packing house modernization. Another is that there is some increasing demand for tray pack. The future seems to point to high returns from the tray pack market segment. It is important for the Michigan apple industry to

³³ The fall season ends about November 5 and the cold storage season is for apples marketed from November 5 until early January from in regular cold storage (i.e. non-CA).

**Table 4-6. Price, Costs, and Grower Returns for Tray Pack Vs. Bags,
Red Delicious, 1991-1994**

FALL SEASON	1991	1992	1993	1994
Average Tray Price (100s)	\$ 13.00	\$ 10.50	\$ 12.00	\$ 11.70
- Adjusted for Weight Difference	- 1.05	- 0.93	- 0.93	- 0.90
- Additional Packaging Costs	<u>- 0.40</u>	<u>- 0.40</u>	<u>- 0.40</u>	<u>- 0.40</u>
	\$ 11.50	\$ 9.17	\$ 10.68	\$ 10.40
- Average Bag Price (2 ½" min.)	<u>10.50</u>	<u>9.25</u>	<u>9.25</u>	<u>9.00</u>
Premium	<u>+ \$ 1.05</u>	<u>- \$ 0.08</u>	<u>+ \$ 1.43</u>	<u>+ \$ 1.40</u>
COLD STORAGE SEASON	1991	1992	1993	1994
Average Tray Price (100s)	\$ 12.50	\$ 10.50	\$ 12.00	\$ 11.50
- Adjusted for Weight Difference	- 1.03	- 0.75	- 0.78	- 0.88
- Additional Packaging Costs	<u>- 0.40</u>	<u>- 0.40</u>	<u>- 0.40</u>	<u>- 0.40</u>
	\$ 11.07	\$ 9.35	\$ 10.82	\$ 10.22
Average Bag Price (2 ½" min.)	<u>10.25</u>	<u>7.50</u>	<u>7.75</u>	<u>8.75</u>
Premium	<u>+ \$ 0.82</u>	<u>+ \$ 1.85</u>	<u>+ \$ 3.08</u>	<u>+ \$ 1.48</u>
CONTROLLED ATMOSPHERE SEASON	1991	1992	1993	1994
Average Tray Price (100s)	\$ 13.50	\$ 10.25	\$ 11.50	\$ 11.50
- Adjusted for Weight Difference	- 1.23	- 0.80	- 0.90	- 1.00
- Additional Packaging Costs	<u>- 0.40</u>	<u>- 0.40</u>	<u>- 0.40</u>	<u>- 0.40</u>
	\$ 11.87	\$ 9.05	\$ 10.20	\$ 10.10
Average Bag Price (2 ½" min.)	<u>12.25</u>	<u>8.00</u>	<u>9.00</u>	<u>10.00</u>
Premium	<u>- \$ 0.38</u>	<u>+ \$ 1.05</u>	<u>+ \$ 1.20</u>	<u>+ \$ 0.10</u>

Source: *Marketing Michigan Fruit*, Market News Service, various issues.



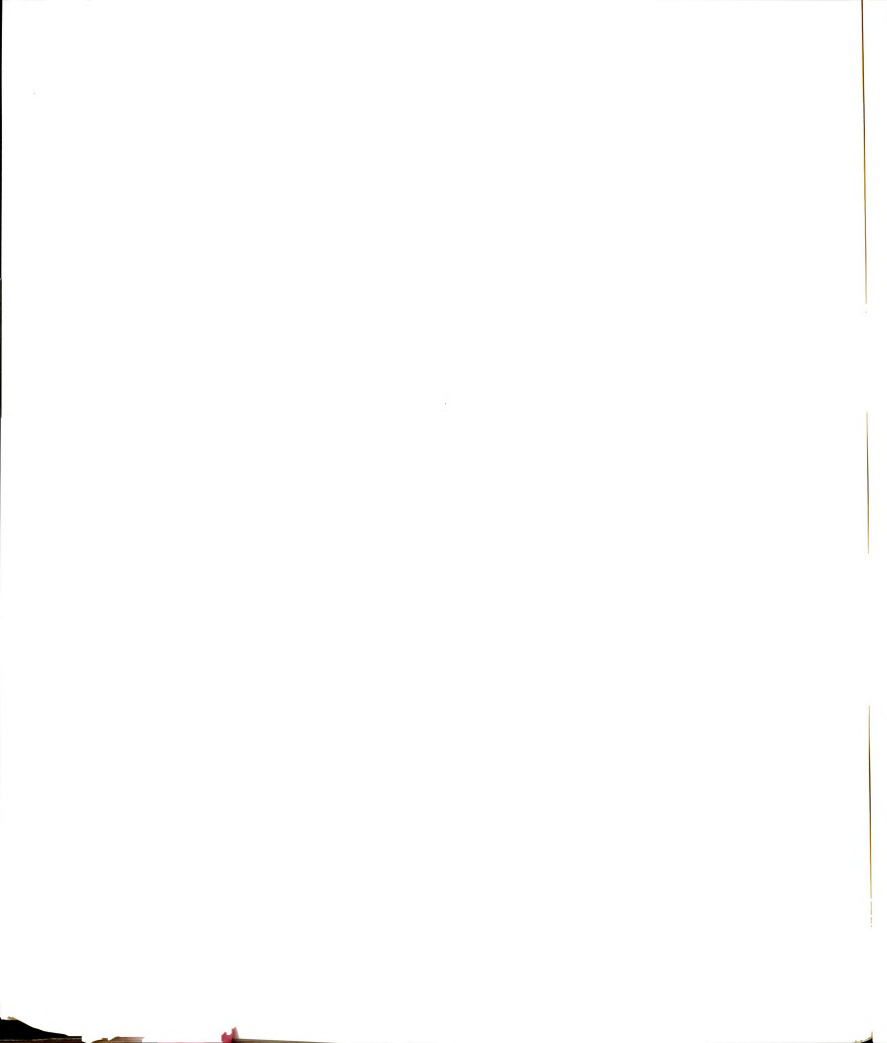
continue modernization of packing houses to gain more access to the returns available in the tray pack market segment.

4.3.4.2 Returns to Size in the Michigan Poly Bag Market

A recent change in marketing Michigan apples packed in poly bags has been a switch from the traditional size of primarily 2 ¼" minimum to primarily 2 ½" minimum apples marketed in bags. The 2 ½" minimum apples have become the main standard in recent years. This increase in the overall minimum size requirements for bagged apples was forced on the industry by the trade, customer demand, and competing suppliers. This increase in the minimum size in Michigan bagged apples also somewhat increases the uniformity of Michigan apples that may help in competition with Washington bagged apples that are more uniformly sized.

To aid in industry adjustments to the new market requirements for size, an analysis was completed on the market incentives for marketing 2 ½" minimum apples compared to the old standard of 2 ¼" minimum apples. This analysis was made for a number of important Michigan varieties. The analysis included prices and returns in Michigan's three main marketing seasons: fall sale, cold storage, and controlled atmosphere (CA). Overall, the analysis indicates that there are higher prices and hence market incentives for packing 2 ½" minimum apples. It is important to be aware of the fact that the market for 2 ¼" apples has really shrunk considerably. This means that there is currently a relatively small volume sold in that market.

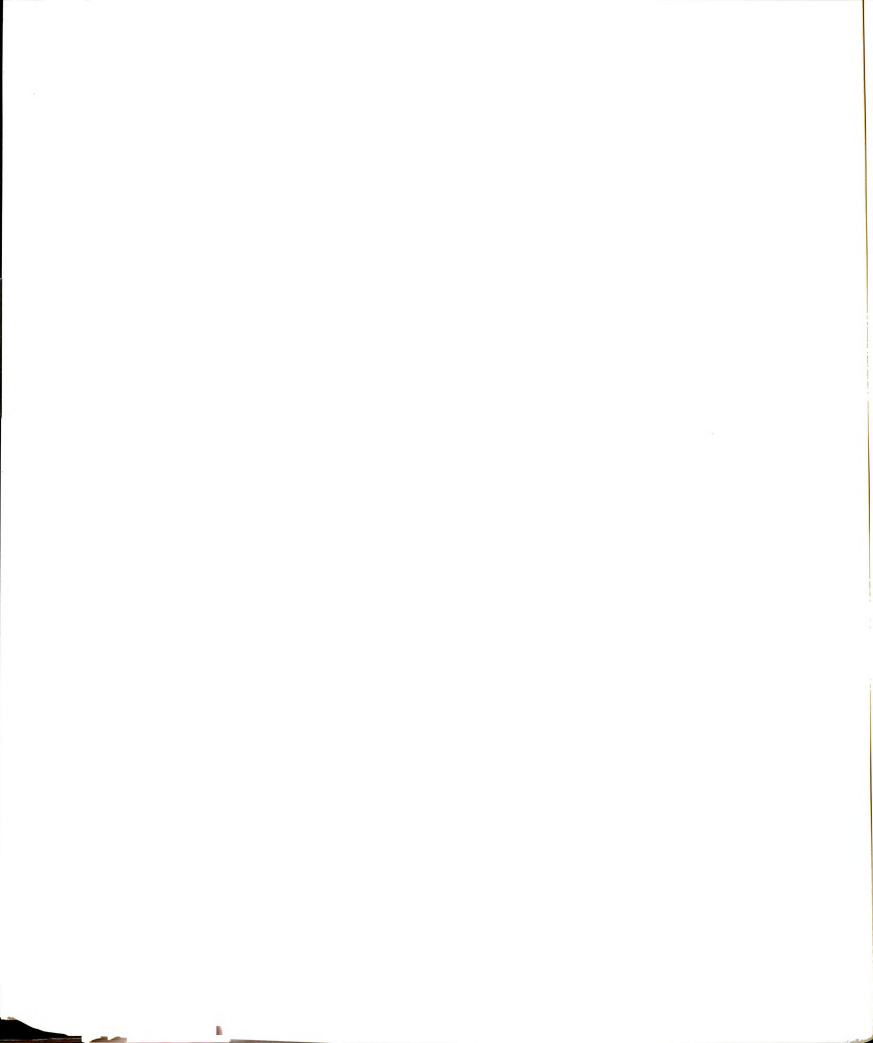
Tables 4-7, 4-8, and 4-9 summarize the analysis results for poly bags (12 - 3 pound bags). for 2 ¼" and 2 ½" apples for fall sale, cold storage, and controlled atmosphere prices for some of Michigan's main varieties in current production. This analysis focuses on the price premiums available for 2 ½" apples relative to 2 ¼" apples. There is an overall indication of an increasing price premium over the time period with the exception of the Empire and McIntosh variety where premiums fluctuate and seem to have declined somewhat over time. The premiums overall have grown to about 15-20 percent of the price received.



**Table 4-7. A Comparison of Michigan Season Average Fall Sale Prices Between
2 ½" and 2 ¼" Minimum Size Apples, 1991-1994**

		1991	1992	1993	1994
RED DELICIOUS	2 ½" min.	\$ 10.50	\$ 9.25	\$ 9.25	\$ 9.00
12 - 3 lb. Bags	2 ¼" min.	<u>9.75</u>	<u>8.25</u>	<u>8.25</u>	<u>7.50</u>
	Difference	<u>\$ 0.75</u>	<u>\$ 1.00</u>	<u>\$ 1.00</u>	<u>\$ 1.50</u>
MCINTOSH	2 ½" min.	\$ 10.25	8.50	7.50	8.50
12 - 3 lb. Bags	2 ¼" min.	<u>9.25</u>	<u>8.00</u>	<u>7.00</u>	n.a.
	Difference	<u>\$ 1.00</u>	<u>\$ 0.50</u>	<u>\$ 0.50</u>	
GOLDEN DELICIOUS	2 ½" min.	\$ 10.50	\$ 9.50	\$ 9.00	\$ 9.25
12 - 3 lb. Bags	2 ¼" min.	<u>9.75</u>	<u>8.50</u>	<u>8.00</u>	<u>7.50</u>
	Difference	<u>\$ 0.75</u>	<u>\$ 1.00</u>	<u>\$ 1.00</u>	<u>\$ 1.75</u>
JONATHAN	2 ½" min.	\$ 10.75	\$ 9.50	\$ 9.00	\$ 9.50
12 - 3 lb. Bags	2 ¼" min.	<u>9.75</u>	<u>8.75</u>	<u>7.75</u>	<u>7.75</u>
	Difference	<u>\$ 1.00</u>	<u>\$ 0.75</u>	<u>\$ 1.25</u>	<u>\$ 1.75</u>
EMPIRE	2 ½" min.	\$ 10.75	\$ 9.50	\$ 8.75	\$ 8.25
12 - 3 lb. Bags	2 ¼" min.	<u>10.00</u>	<u>8.25</u>	<u>7.75</u>	<u>7.75</u>
	Difference	<u>\$ 0.75</u>	<u>\$ 1.25</u>	<u>\$ 1.00</u>	<u>\$ 0.50</u>
GALA	2 ½" min.	\$ 15.50	\$ 15.00	\$ 13.25	\$ 12.75
12 - 3 lb. Bags	2 ¼" min.	<u>14.25</u>	<u>13.5</u>	<u>12.00</u>	<u>10.75</u>
	Difference	<u>\$ 1.25</u>	<u>\$ 1.50</u>	<u>\$ 1.25</u>	<u>\$ 2.00</u>

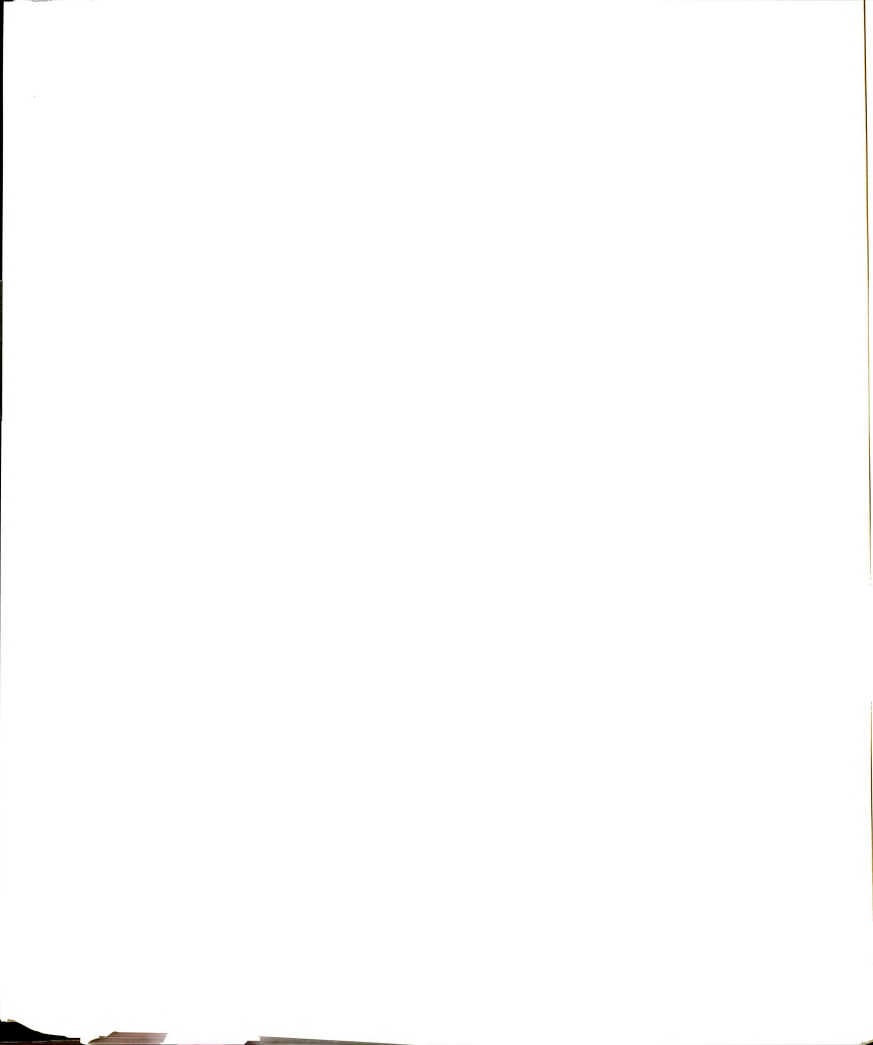
Source: *Marketing Michigan Fruit*, Market News Service, various issues.



**Table 4-8. A Comparison of Michigan Season Average Cold Storage Prices Between
2 ½" and 2 ¼" Minimum Size Apples, 1991-1994**

		1991	1992	1993	1994
RED DELICIOUS	2 ½" min.	\$ 10.25	\$ 7.50	\$ 7.75	\$ 8.75
12 - 3 lb. Bags	2 ¼" min.	<u>9.00</u>	<u>6.25</u>	<u>7.00</u>	<u>7.25</u>
	Difference	<u>\$ 1.25</u>	<u>\$ 1.25</u>	<u>\$ 0.75</u>	<u>\$ 1.50</u>
MCINTOSH	2 ½" min.	\$ 9.50	7.50	7.50	8.50
12 - 3 lb. Bags	2 ¼" min.	<u>9.00</u>	<u>6.50</u>	<u>7.00</u>	n.a.
	Difference	<u>\$ 0.50</u>	<u>\$ 1.00</u>	<u>\$ 0.50</u>	
GOLDEN DELICIOUS	2 ½" min.	\$ 10.50	\$ 8.25	\$ 8.50	\$ 9.00
12 - 3 lb. Bags	2 ¼" min.	<u>10.00</u>	<u>7.25</u>	<u>7.25</u>	<u>7.50</u>
	Difference	<u>\$ 0.50</u>	<u>\$ 1.00</u>	<u>\$ 1.25</u>	<u>\$ 1.50</u>
JONATHAN	2 ½" min.	\$ 10.25	\$ 8.50	\$ 8.00	\$ 9.50
12 - 3 lb. Bags	2 ¼" min.	<u>9.25</u>	<u>7.50</u>	<u>7.00</u>	<u>7.50</u>
	Difference	<u>\$ 1.00</u>	<u>\$ 1.00</u>	<u>\$ 1.00</u>	<u>\$ 2.00</u>
EMPIRE	2 ½" min.	\$ 10.25	\$ 8.25	\$ 8.00	\$ 8.25
12 - 3 lb. Bags	2 ¼" min.	<u>9.50</u>	<u>6.50</u>	<u>7.25</u>	<u>7.50</u>
	Difference	<u>\$ 0.75</u>	<u>\$ 1.75</u>	<u>\$ 0.75</u>	<u>\$ 0.75</u>
GALA	2 ½" min.	n.a.	\$ 15.00	\$ 13.00	\$ 12.50
12 - 3 lb. Bags	2 ¼" min.	<u>n.a.</u>	<u>n.a.</u>	<u>11.00</u>	<u>10.50</u>
	Difference			<u>\$ 2.00</u>	<u>\$ 2.00</u>

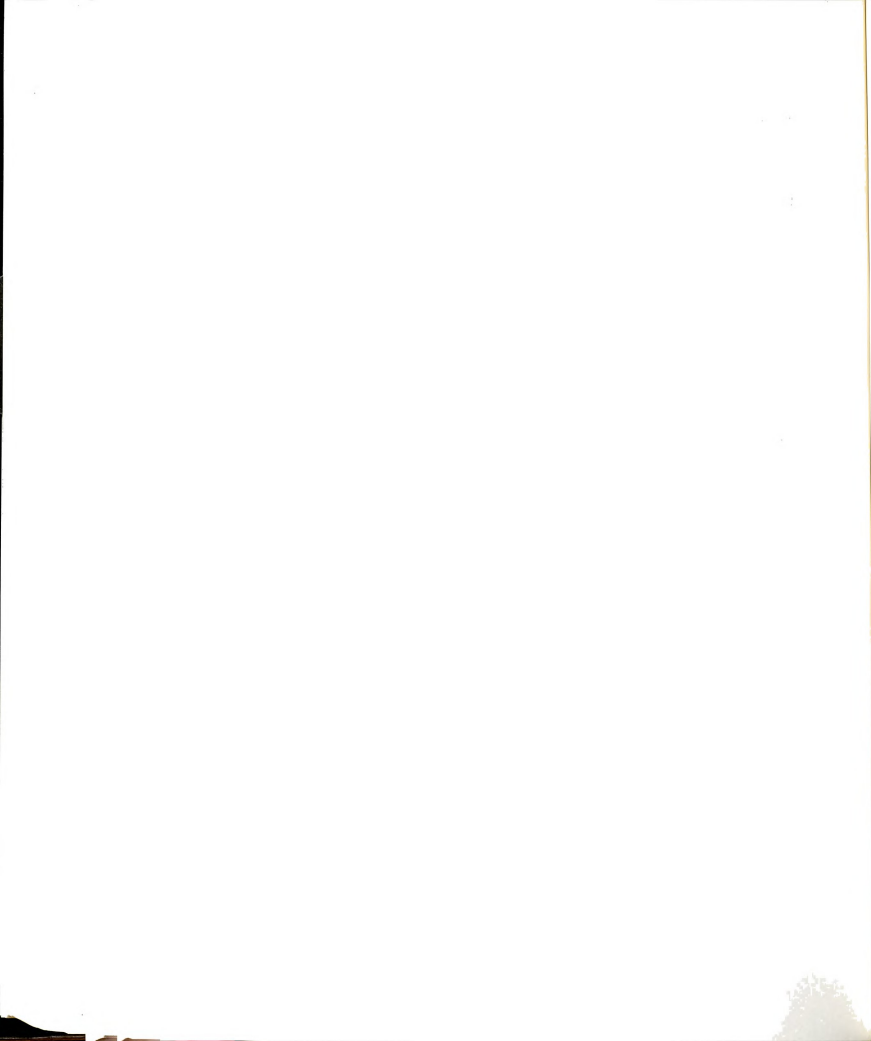
Source: *Marketing Michigan Fruit*, Market News Service, various issues.



**Table 4-9. A Comparison of Michigan Season Average CA Prices Between
2 ½" and 2 ¼" Minimum Size Apples, 1991-1994**

		1991	1992	1993	1994
RED DELICIOUS	2 ½" min.	\$ 12.25	\$ 8.00	\$ 9.00	\$ 10.00
12 - 3 lb. Bags	2 ¼" min.	<u>11.50</u>	<u>7.00</u>	<u>7.50</u>	<u>8.25</u>
	Difference	<u>\$ 0.75</u>	<u>\$ 1.00</u>	<u>\$ 1.50</u>	<u>\$ 1.75</u>
MCINTOSH	2 ½" min.	\$ 11.00	7.75	9.25	9.50
12 - 3 lb. Bags	2 ¼" min.	<u>10.25</u>	<u>7.25</u>	<u>7.50</u>	<u>n.a.</u>
	Difference	<u>\$ 0.75</u>	<u>\$ 0.50</u>	<u>\$ 1.75</u>	
GOLDEN DELICIOUS	2 ½" min.	\$ 11.75	\$ 8.00	\$ 9.00	\$ 10.00
12 - 3 lb. Bags	2 ¼" min.	<u>11.00</u>	<u>7.50</u>	<u>8.25</u>	<u>n.a.</u>
	Difference	<u>\$ 0.75</u>	<u>\$ 0.50</u>	<u>\$ 0.75</u>	
JONATHAN	2 ½" min.	\$ 11.25	\$ 8.75	\$ 8.50	\$ 10.00
12 - 3 lb. Bags	2 ¼" min.	<u>10.25</u>	<u>7.75</u>	<u>7.50</u>	<u>8.75</u>
	Difference	<u>\$ 1.00</u>	<u>\$ 1.00</u>	<u>\$ 1.00</u>	<u>\$ 1.25</u>
EMPIRE	2 ½" min.	\$ 10.50	\$ 7.50	\$ 9.25	\$ 8.50
12 - 3 lb. Bags	2 ¼" min.	<u>9.75</u>	<u>7.00</u>	<u>7.75</u>	<u>n.a.</u>
	Difference	<u>\$ 0.75</u>	<u>\$ 0.50</u>	<u>\$ 1.50</u>	

Source: *Marketing Michigan Fruit*, Market News Service, various issues.



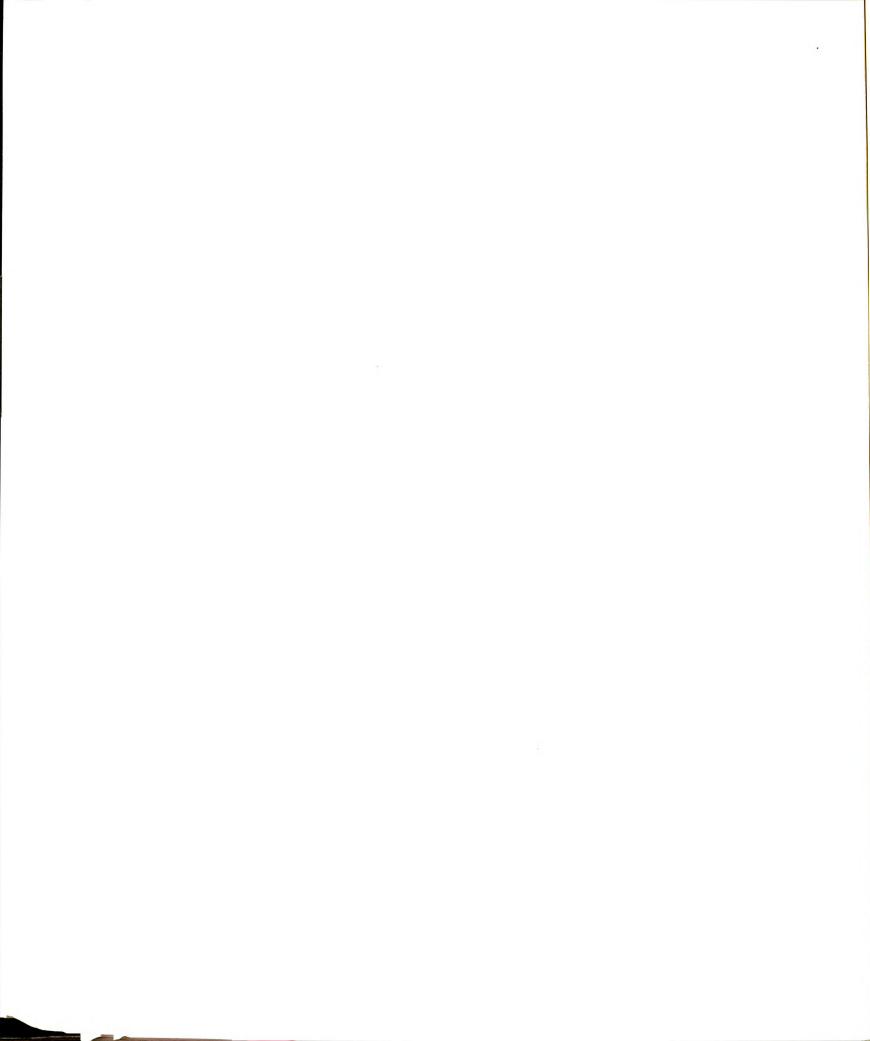
In the future another potentially useful analysis would be to compare the returns available from 2 ¼" minimum bagged market with returns available from the juice market because the juice market is often the alternative if fresh market buyers cannot be found for these smaller apples. This could be compared with the amount received if the apples were sold to the juice market. The costs of packaging and packing would need to be taken into consideration when making this comparison. In some years, returns from the juice market might be higher than returns from small (2 ¼" to 2 ½") apples.

Overall, there are some substantial and growing premiums for marketing to the 2 ½" bag market relative to the much smaller 2 ¼" bag market. Growers can adjust to this market trend by adopting a number of practices for larger fruit size, e.g., thinning, that result in larger apples. A market generated incentive pattern for packing larger size apples is clear from this analysis.

4.3.5 Conclusion to the Quality Management Section

Getting the job done in quality management and meeting the quality requirements of the market are essential to the Michigan apple industry - as it is in other fruit industries. The Michigan apple industry needs to be working hard to meet continually higher competitive requirements for quality. Meeting the higher requirements may aid the industry in achieving improved fresh market returns, market share, and volume.

Over time, a slow response in the condition area may lead the Michigan apple industry down a path of relatively low performance since condition is a high priority quality area as demanded by the market. It is an area where some shippers have indicated they get the most complaints from buyers. If the Michigan apple industry is not as effective as it needs to be in meeting buyer requirements on condition, then overall demand for the industry's apples will not be as high as it could be and efforts to expand the fresh market could be hurt. However, in the



long run, if buyer requirements and needs are pro-actively and effectively met, then increased demand should result.

This section has reviewed several quality management efforts where action or strategies have been proposed to improve industry performance. While there has been some considerable progress in many quality areas, condition remains a problematic area where more attention seems to be needed based upon industry leaders insights. Industry action can continue to play an important role in helping the Michigan apple industry meet current and future competitive requirements. Overall, for industry action to work it will require consistent, focused support of key industry leaders. These leaders must also communicate the need for effective change throughout the industry.

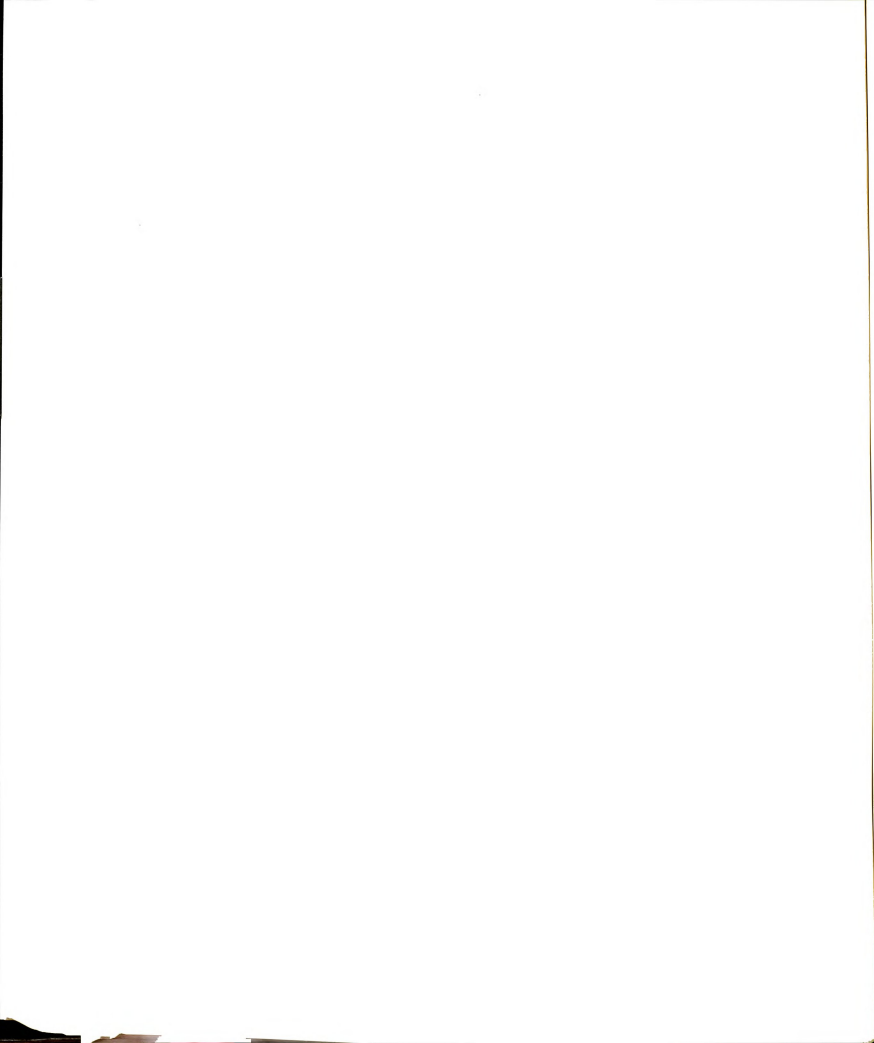
4.4 Assessing the Effectiveness of the ISPC Process in the Michigan Apple Industry

The usefulness of an ISPC process is ultimately measured by the improved performance and desirable outcomes achieved for the industry. Measuring performance and testing to show if improved performance is the result of ISPC is a test of internal validity, i.e. showing causation. For the ISPC process and the framework, this test was succinctly stated in Chapter 1 as Proposition II:

An actual ISPC process that follows the framework of Proposition I can substantially contribute to improved industry performance.

As discussed in Chapter 1, there are three tests of internal validity that will be applied:

- (1) the ISPC process may be shown to have altered the industry's course in ways that can be expected to improve performance;
- (2) the ISPC process can be shown to improve industry performance;
- (3) the ISPC framework can explain undesirable outcomes in an ISPC process.



The following sub-sections discuss these tests and apply them in the Michigan apple industry ISPC case study.

4.4.1 Progress in ISPC Strategies

One test of the internal validity of Proposition II is whether an ISPC process can be judged, in part, to facilitate the development and implementation of more responsive strategies to industry conditions than would otherwise have been pursued. The ISPC process in the Michigan apple industry identified several major improvement objectives on which to focus strategies. Each of these represents a major improvement objective which key industry leaders, after careful consideration, thought certain actions or strategies would be most effective in aiding the industry. This section reviews progress in each of these major improvement objectives.

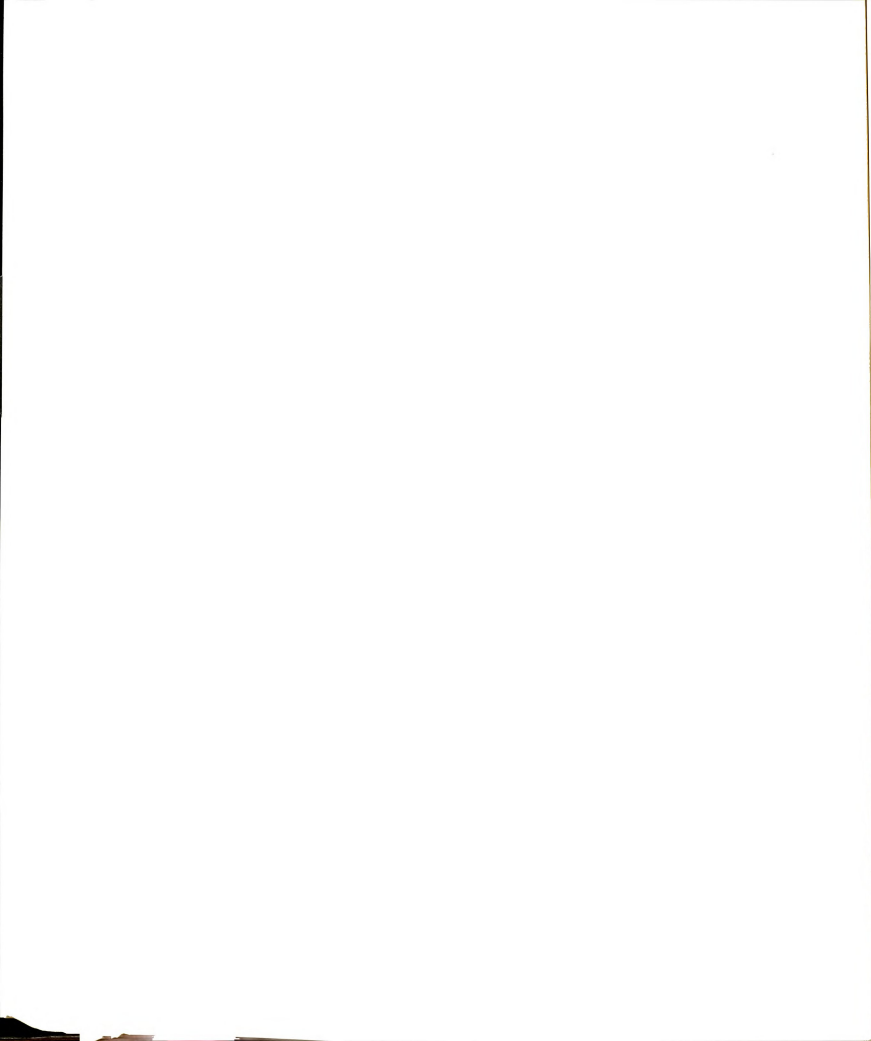
This review provides one test of the effectiveness to date of the ISPC process in the Michigan apple industry. An ISPC process could be considered effective if it can:

- 1) identify areas in which the industry needs to focus strategy and make improvements;
- 2) facilitate strategies to improve industry performance in the priority areas.

The following discusses the specific strategies and progress that were supported by the Task Force. This discussion shows that the Task Force was generally successful in addressing a number of major improvement objectives, developing appropriate strategies, and facilitating appropriate industry responses.

Quality Management for Fresh Apples

Improving quality management for fresh apples has been identified as a top priority for the Michigan apple industry. In this area, a number of specific strategies were supported including several strategies to accomplish Total Quality Management (maturity information program, pre-harvest workshop, expert consultant), information on quality incentives, premium grade, and mandatory minimum quality standards. Of these, the maturity information program



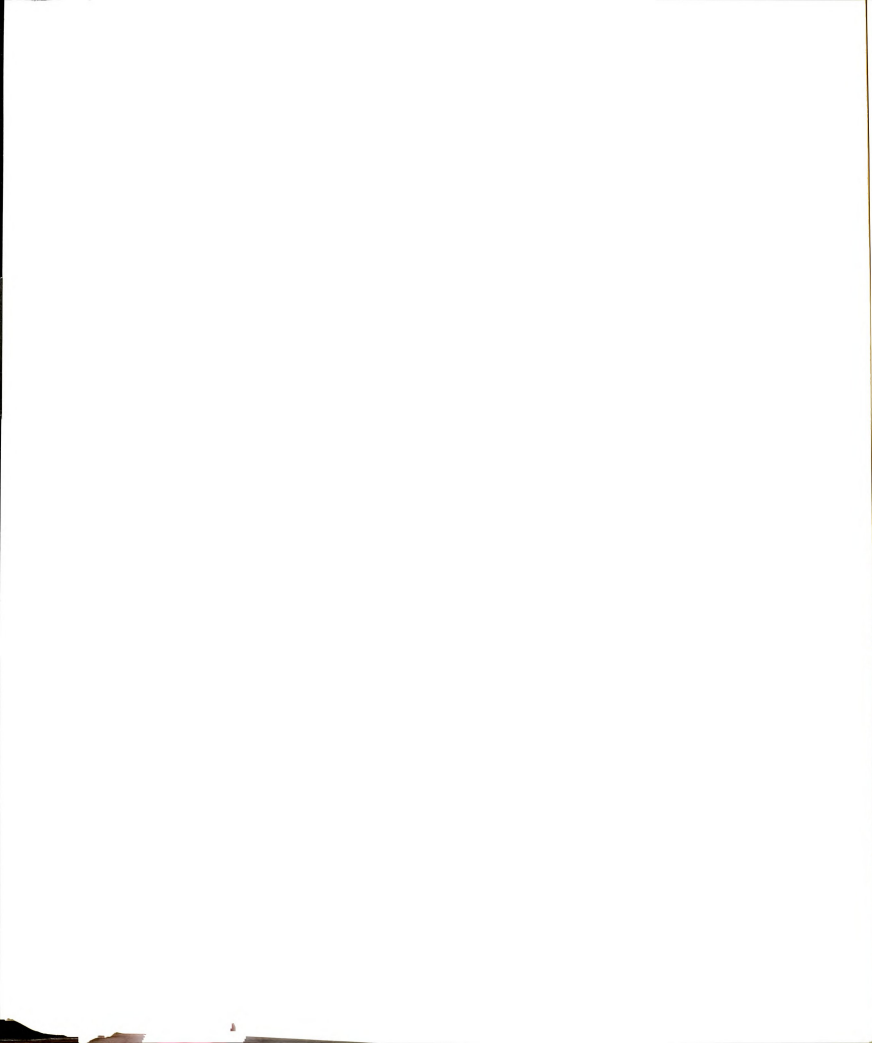
(MIP) and information on quality incentives were ongoing prior to the ISPC process, but the ISPC process enabled greater support for continuing and expanding these two strategies which may not have continued without support from the ISPC group.

There has been an overall increased industry awareness of the importance of quality management. ISPC efforts have helped in facilitating this awareness through industry publications and forums as well as the support of the many strategies in the quality management area. The firms in the industry have further made substantial efforts to improve quality management. The firms' efforts have included increased use of field persons for coordinating needed practices on quality and modernization of packing and storage facilities.

The customer trade reported perceptions of substantial improvements in Michigan's fresh quality with the 1995-96 marketing year. Individuals outside the Michigan apple industry, such as in competing apple industries, have noted Michigan's improved performance in supplying quality apples that meet marketplace requirements in a high performance fashion. While these changes have occurred and they are related to some priority ISPC goals on industry performance, the degree to which these were *caused* by the ISPC process is unclear.

Variety Evaluation and Related Strategies

Variety evaluation and strategies were selected as a priority area as part of an ISPC process because it is important that growers make appropriate variety selections for their required long term investments made with new plantings. There are also major changes in variety demand preferences that cause considerable uncertainty in variety demand due to these changing customer preferences. The other segments of the industry such as shipper, packers, and processors are also very interested in the most appropriate or best varieties being planted in Michigan. To aid growers in the industry in making the most appropriate variety decisions, several research strategies or projects were or are being accomplished by the MSU researchers working with the Task Force and other ISPC efforts.



These variety research efforts focused upon demand and supply for Michigan apple varieties. Consumer market demand for fresh varieties has been one topic in market research (Ricks, Heinze, and Beggs, 1996). This demand for varieties has also been measured through a survey of shippers about their expectations for fresh demand (Ricks, Lyford, and Woods, 1996). Processor demand by variety is currently being analyzed through an on-going variety survey of processors. In addition to the demand analyses, an analysis of current supply by varieties is being concluded. These reports have or will be communicated widely to the industry. Together, this information on supply and demand by variety is providing timely information to growers to aid in their variety selection decisions.

Domestic Demand Expansion

Domestic demand expansion for Michigan apples was designated as an important major improvement objective during the ISPC process because the U.S. market is where the vast majority of Michigan apples are sold. Expanding domestic demand could also increase both sales volume and prices that would lead to higher returns to Michigan growers and a more economically viable industry. The discussions in the Task Force and industry surveys identified several strategies that would be useful in expanding domestic demand. These strategies focused on the MAC because that industry organization is the grower funded organization with a primary responsibility for demand expansion. These strategies included:

- more emphasis in advertising, promotion, and merchandising programs on new Michigan varieties with preferred characteristics;
- an expanded use of trade field persons;
- new and expanded efforts to use various media to promote and advertise Michigan apples;
- an assessment increase for the MAC to provide the funding to develop these new areas;

- increased market research on consumer and trade preferences.

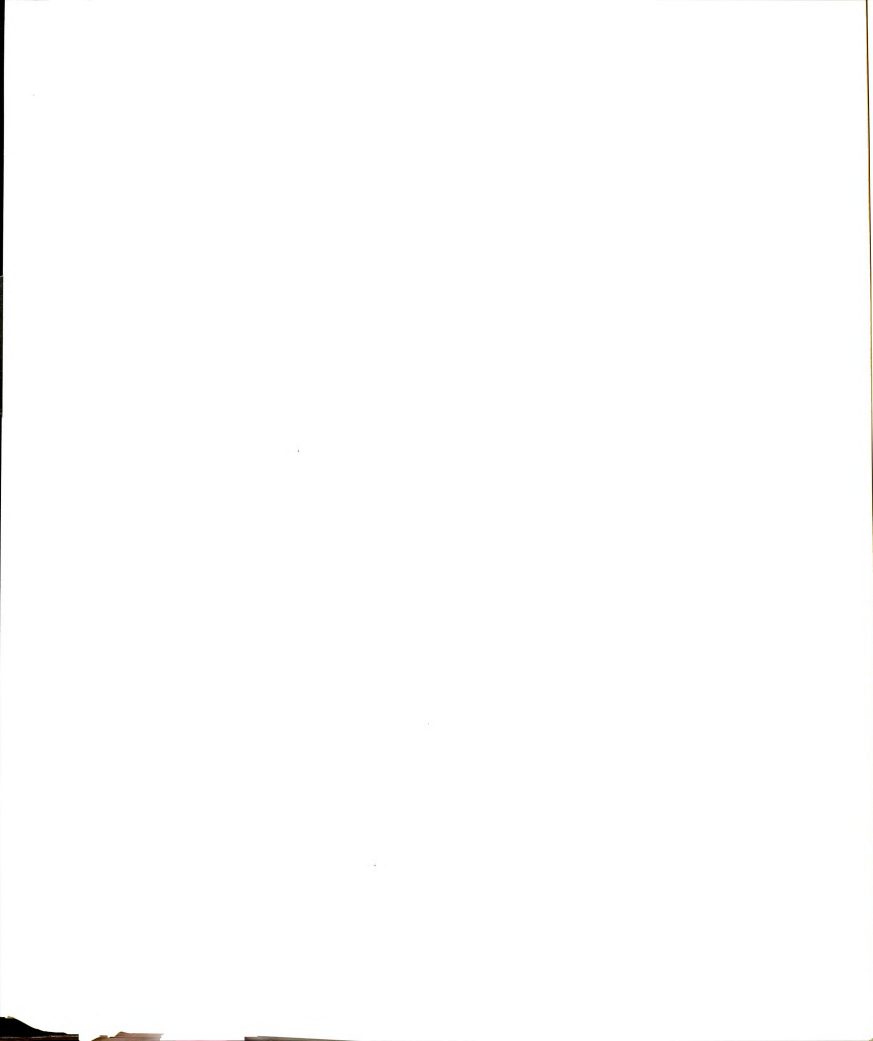
These identified strategies were useful for the MAC in focusing on the priority areas to expand demand.

In its recently developed strategic plan, the MAC included the priorities and industry strategies identified by the Task Force as well as much information from the ISPC activities including the industry surveys requested by the Task Force. A considerable effort by the MAC focused on achieving industry support through a referendum for an assessment increase to pay for the expanded and new program focuses. The referendum passed that raises the budget base for the demand expansion programs. The MAC is now implementing the major new program components with the improvement objective of domestic demand expansion through its larger financial base.

Pest Management

In recent years, there has been increasing consumer and government concern about food safety and the environment in regards to pesticide use. Pesticides are, on the other hand, crucial to producing market acceptable-quality apples in Michigan because pesticides are necessary to control the many pests that effect the quality and quantity of apples produced. Hence, pesticide availability and effective pest management strategies such as Integrated Pest Management are very important issues in the Michigan apple industry. The Task Force recognized this major improvement objective as important because the industry wants to be progressive and responsive to these public needs as well as to provide the market demands for top quality fruit that is free from pest damage. This would enable the industry to produce the quality demanded by the market as well as maintaining the consumer's perceptions of apples as a healthy food.

The Task Force and the ISPC process have made some important contributions in this area. The major industry-university ISPC effort developed a landmark *Stewardship Program for the Michigan Apple Industry Through Integrated Pest Management*. This report was based upon



discussions and analysis with the Task Force working closely with a multi-disciplinary team of MSU research and extension staff as well as with all segments of the Michigan apple industry. The report discusses the various pest management needs and issues for the Michigan apple production and considers a number of different methods to most effectively improve the use of Integrated Pest Management. The overall goal was for the industry to be pro-active in addressing the pest management issue, to allow the reduction in the amount of pesticide use, and to decrease the cost of pest management. Areas where additional research would be most useful were identified. The report was subsequently picked up by the national apple industry organization and viewed as a "model" of how to go about putting such a report together. This information was also used by the national apple industry organization (The U.S. Apple Association) in their various work on pesticide activities.

Export Expansion

As part of the analysis for ISPC, export markets have been evaluated as an excellent opportunity especially for Michigan. Some export markets have different, less exacting quality requirements than the domestic market. Michigan apples that do not meet quality requirements for U.S. customers may be able to earn a good return in certain foreign markets. Furthermore, expanding export markets provides more outlets and demand for Michigan apples. Historically, export sales have not been a large percent of the overall market for the Michigan apple industry.

The Task Force identified the export area as an important opportunity for Michigan based on information developed in the situational analysis and discussions of the Task Force. Subsequently, several shippers visited some export markets as part of a market exploration project done with the U.S. Apple Export Council and made valuable contacts. In the 1995 season, a substantial volume of exports went to Brazil. This helped raise overall prices for Michigan apples. Also, the MAC worked with the U.S. government to ensure that Michigan apples could be exported to Brazil in relation to phytosanitary requirements. The MAC did this

along with MSU research through developing a export protocol to meet Brazilian phytosanitary import requirements in a reasonable manner.

Increased Marketing of Tray Packs

Another area of emphasis by the Task Force and the apple industry analyzed and implemented strategies to facilitate effective industry responses in tray pack marketing. Traditionally, the Michigan apple industry has had a very heavy marketing emphasis on polybags. This change in emphasis by the industry is sought to take advantage of increasing opportunities in tray pack. As discussed earlier, this shift in emphasis is based upon market trends and consumer research that indicate that more consumers prefer to buy apples in bulk displays than from tray pack. However, tray pack often requires apples which are larger and more uniform in size and color.

In response to the discussions by the Task Force and information from industry surveys, some information was developed by MSU to measure the relative returns and hence market incentives for tray pack compared to bags. This information on returns and market incentives was developed to indicate the variable price premiums available from marketing tray pack. This information is discussed Section 4.3.1.1 and summarized in Table 4-6.

Another analysis of the changing trends in the Michigan apple industry's tray pack volume and percentage marketings relative to bags was completed. This information described recent Michigan industry performance and trends in regard to expanding tray marketing by major apple variety. The Task Force may find this information useful when evaluating this strategic area.

Facilitating and Prioritizing Needed Research

One of the areas for which the Task Force seems to have been very effective is in communicating, facilitating, and prioritizing Michigan apple industry needs to non-industry organizations. Non-industry organizations, such as the USDA or MSU, have an interest in the

performance of the industry and can provide resources in various priority areas. The Task Force seems to be effective at providing a collective industry "voice" to communicate these priority needs.

The communication of the industry's needs to non-industry organizations has developed some specific beneficial outputs for the Michigan apple industry. One of these is to strengthen research support and funding. Research funds have been requested in several high priority areas that the Task Force has supported. These include Fireblight research, Integrated Pest Management research, technical characteristics of varieties for processing, consumer market research, retention of an ARS presence in Michigan, and variety surveys. An example of this is a recent substantial additional commitment by the U.S. government to fund Fireblight research at MSU. In another example, industry research priorities for needed research by MSU and extension have been developed.

The strengthened and broad-based industry voice seems to be effective at promoting effective responses by non-industry organizations. Non-industry organizations are prompted to respond because the ISPC leadership group, i.e., the Task Force, represents the collective will of the industry. These responses should be particularly effective because they are based within the overall context and awareness of the industry's future competitive advantage.

4.4.2 Considering Broad Measures of an Industry's Performance

A second way to test the internal validity of Proposition II is to analyze broad measures of economic performance, such as market share and relative prices, that describe the competitiveness and economic viability of the Michigan apple industry. To the extent that performance can be shown to increase as a result of ISPC, then some reasonable level of confidence in causation can be developed. However, these broad measures are impacted by many factors and only some of these may have been influenced by the ISPC process. For example, if the ISPC process identified improvement in a particular broad measure, as the

Michigan apple industry ISPC process did for tray pack volume, then if improvement has occurred ISPC may have been the cause. Alternatively, some broad performance measures may take many years to change, e.g., total volume produced for perennial crops, which means that those measures would need a long period of time to measure the extent they are impacted by an ISPC process. Overall, since many short and long term forces affect broad industry performance trends, the effect of ISPC can only be tentatively assessed at this point in time.

Recent broad measures of economic performance, that were especially noteworthy with the 1995-96 crop, indicate that the Michigan apple industry's competitiveness and economic viability seem to be improving. This section will consider and analyze several important performance trends for the Michigan apple industry -- at least to the extent that data is available. These trends include sales volume by major market, total value of Michigan apples, market share, relative prices, tray marketing, and profitability.

Sales Volume by Major Market

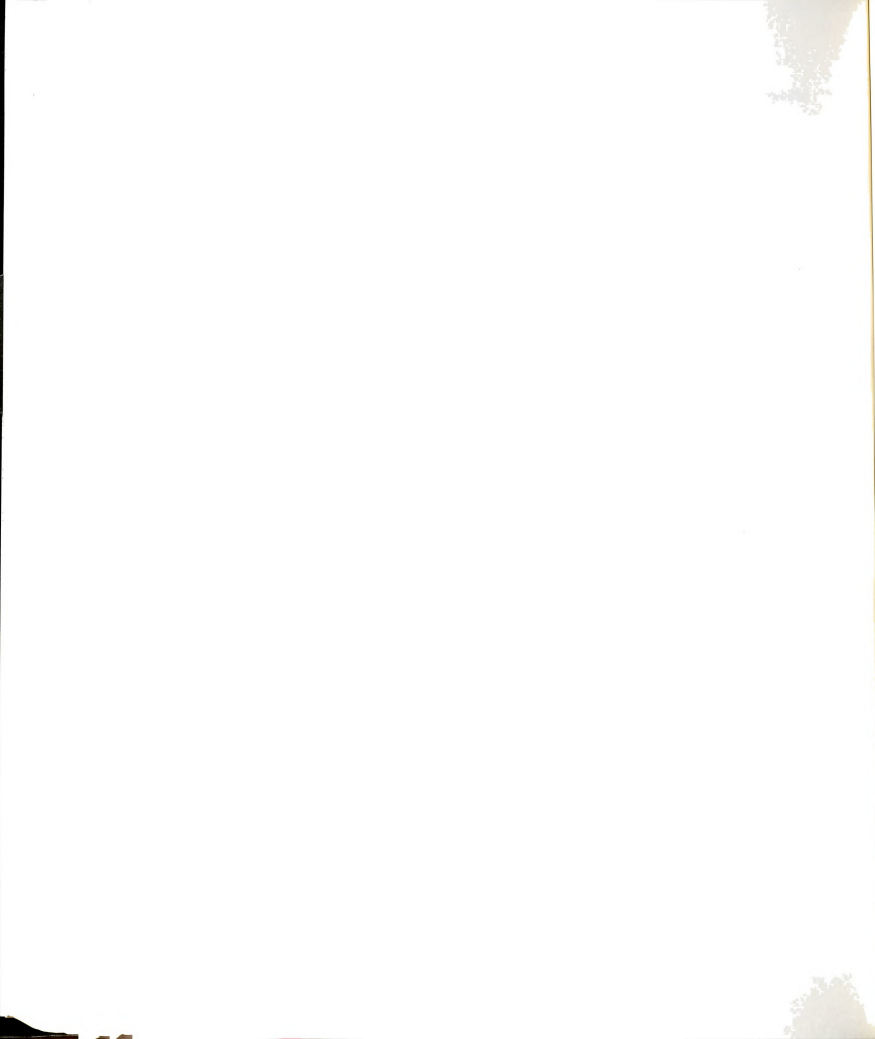
Sales volume is one indication of performance for a commodity industry. It would be expected, all other things equal, that an industry's performance and competitive position would be improving if sales volume to major markets was increasing because this would provide information on overall growth of market demand for the industry's products. In an apple industry, sales volume can be expected to vary based upon weather conditions in a given production season as weather affects total supply that can be marketed. Therefore longer term trends are an appropriate measure of progress in regard to sales volume.

Three major markets of the Michigan apple industry are the fresh, canning, and slice markets. Table 4-10 provides information relating to overall market volume for these major markets. This indicates strong performance for the Michigan apple industry especially in the 1995 marketing year.

Table 4-10. Selected Key Broad Performance Measures for the Michigan Apple Industry, 1987-1995

<u>Measure</u>	<i>Pre - ISPC</i>						<i>Post - ISPC</i>		
	1987	1988	1989	1990	1991	1992	1993	1994	1995
SALES VOLUME (mil. bu)	25.0	19.8	22.6	17.9	21.0	25.0	24.3	24.3	29
Fresh	9.3	5.5	7.6	6.0	6.7	9.5	8.6	7.6	9.5
Sauce	4.6	4.8	5.2	5.3	5.5	6.0	6.3	6.1	6.3
Slice	3.0	2.9	3.3	2.6	2.6	2.1	2.6	2.6	3.1
TOTAL VALUE (Mil. \$)	80	73	78	83	96	90	87	88	120
200									
MARKET SHARE (% of U.S. Market)									
Fresh	7.0	4.4	5.5	4.5	5.0	6.9	5.9	5.0	6.9
Sauce	14.9	14.3	16.4	16.2	17.5	16.7	19.9	18.3	19.6
Slice	50.2	45.2	43.5	36.2	38.4	36.5	39.1	36.1	47.1

Source: Non-Citrus Fruits and Nuts, USDA, various issues.



In the fresh market, 1995 was an excellent year with 9.5 million bushels marketed fresh. This matches that highest marketed volume (in 1992) to this market. Furthermore, the sales volume during the 1993-1995 post-ISPC period to the fresh market was greater than in the three preceding years which were pre-ISPC. This indicates some improved performance for fresh market volume that is in line with the growth positioning goals developed for the Michigan apple industry through ISPC. This performance probably reflects the Michigan apple industry's efforts to improve its competitiveness in this area including the ISPC efforts.

Michigan's canning³⁴ or sauce market increased substantially from the late 1980's (average 4.9 million) and early 1990's volume (average 5.7 million) in the 1993-1995 marketing years which are post-ISPC (average 6.2 million). Sauce market share improved substantially in the recent years of 1993-95 with almost a 20 percent share of the market up from 16 percent market share in the three previous years. The goal for the industry in its ISPC growth positioning for sauce volume was to continue the gradually increase in volume. Performance over the 1993-1995 period represents some success on this goal and continuing strong competitive position in the sauce market.

The apple slice market is another important market for Michigan. The time period 1993-1995, since ISPC began, has shown an increase in slice market volume that is especially important given the declining volume in the market had previously been declining during the 1990-1992 period (Pre-ISPC). This performance is the strongest for the industry since the 1989 marketing year and is in line with the rebound growth positioning goal for this market established by ISPC which was to increase market volume.

³⁴ Most of the canning market for Michigan is for applesauce with some also for baby food, canned apple slices, and pie filling. Given the predominance of applesauce, this market segment is simply referred to as "sauce" after this point.

The overall sales volume picture shows that the Michigan apple industry is progressing towards the goals that were developed through growth positioning in the ISPC process. The high level of fresh market volume is particularly relevant to the ISPC process because the ISPC process and strategies have focused much of their attention on this market segment. Overall, up to this point, this broad industry performance measure would tend to support the hypothesis that the ISPC process is contributing to improved performance. On the other hand, more time is needed before this can be clearly established.

Value of Michigan Apples

The value of an industry's production provides one indication in an overall sense of the size and economic health of an industry. In general, more value indicates a better performing industry. The increase in value could be based upon increases in market volume or prices for an industry's products.

During the 1993-1995 (Post-ISPC) years, Michigan had strong performance in regards to total value of the apple crop. In the 1995 marketing year, the Michigan apple industry earned \$ 120 million to growers that is by far the best year in Michigan history of total industry grower returns. This to some extent reflects a favorable national supply for the Michigan industry because the Washington apple industry had somewhat of a short year compared to its longterm growth trend. Nonetheless, this high performance on aggregate grower income also to some degree reflects enhanced overall industry performance in meeting customer needs and creating value. The ability of the Michigan apple industry to market its high volume of production in the 1995-96 marketing year at good prices is likely reflective to some extent of the strategies promoted by the ISPC process and the effective responses by the many competitive firms in the industry.

Market Share

Greater market share is often viewed as one of the key indicators of firm success -- especially for large firms. An industry's performance in the various market segments it serves can be examined in a somewhat similar fashion. Expanding market share in a particular key market might indicate that the price, quality, and service combination offered by an industry is becoming more competitive with other industries than previously in that market.

Market share of fresh markets is especially of interest because the ISPC process and the Task Force has had a strong focus on improving quality management and other strategies for fresh apples. As has already been discussed, the fresh market may potentially provide higher grower returns as well as requiring higher quality levels. However, market share for the Michigan fresh, sauce, and slice market all provide some indication of the Michigan industry's performance. The market shares for the Michigan fresh, sauce, and slice market are shown in Table 4-10.

The Michigan apple industry's fresh market share for the 1995 marketing year was almost 7 percent of the U.S. market. This is similar to the other relatively high market shares achieved in certain recent years such as the 1992 and 1987 marketing years. This probably indicates increased performance for the Michigan apple industry in the 1995 marketing year (as well as favorable market conditions). The increase in market share in the 1995 marketing year is strongly in line with the overall growth positioning, identified by the ISPC process, that seeks to achieve somewhat higher fresh market share.

The ISPC goal for the Michigan sauce market in growth positioning has been to continue increasing market share. The recent performance in the post-ISPC period of the 1993-95 marketing years has been an overall increase in market share over prior years that indicates that this performance goal was met strongly.



The slice market share was quite high in the 1995 marketing year as the Michigan industry had a 47 percent market share. This result is similar to the market share achieved in the late 1980s that the industry's ISPC identified growth positioning had hoped to attain. Overall, the current market result has substantially exceeded the ISPC growth positioning goals that sought to maintain current market share for slices.

The market share performance measure strongly indicates that the Michigan apple industry is achieving strong performance with greater market share as well as attaining its growth positioning goals for the main markets that it serves. These results would be supportive of the hypothesis that the ISPC process is contributing to these market goals and playing an important role in improving industry performance.

Relative Prices

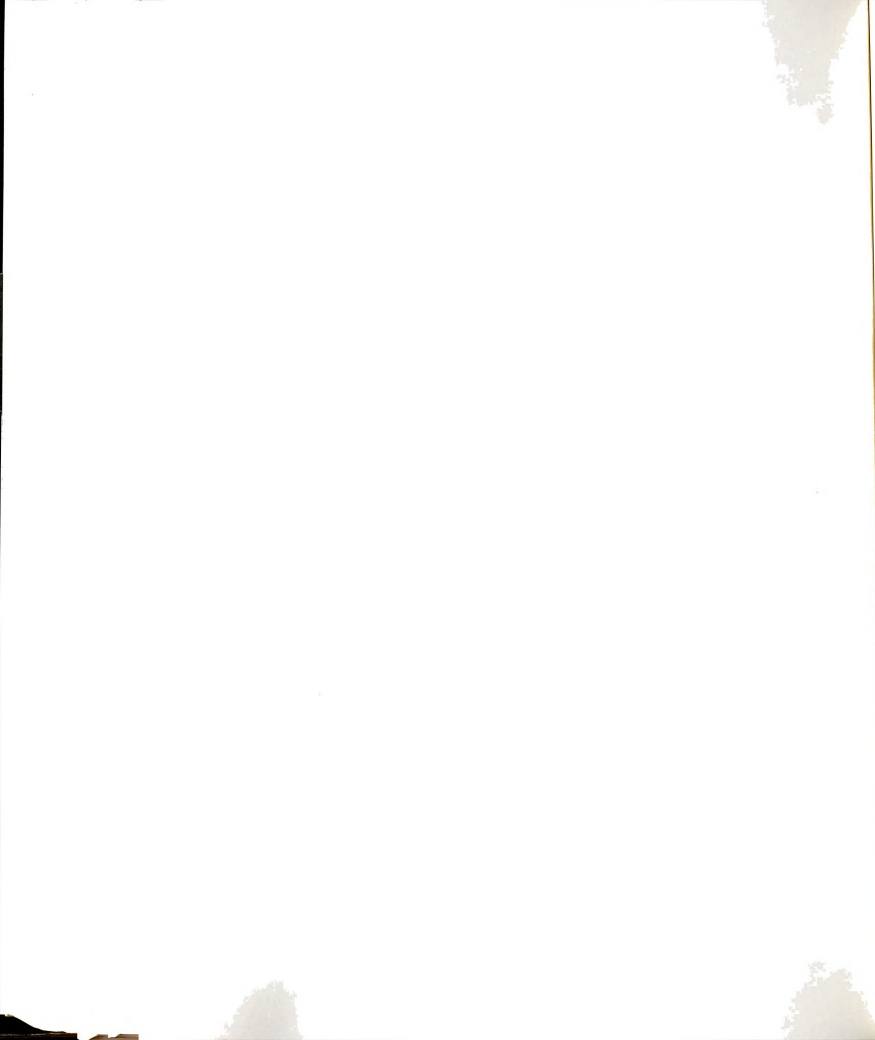
Another important indicator of competitiveness in apple markets is market prices of an industry's products. As an industry's market price increases this could indicate higher performance of the industry. However, higher market prices for an industry's products could reflect temporary increased relative scarcity or a short market while lower market prices could reflect abundant supplies. This means that a more appropriate measure for an industry's performance would be the industry's prices relative to competing industries. The industry's prices could be compared with overall market prices for the commodity or with prices of a key competitor for a particular product. Table 4-11 summarizes Michigan and U.S. fresh and processed grower prices to assess relative prices and Michigan's performance in that regard to this measure which is an important performance measure from the grower's perspective.

As shown in Table 4-11, Michigan average fresh prices were 56 - 71 % of the U.S. prices for the 1990-95 period -- although there was considerable annual fluctuations. Michigan's relatively lower price probably is a reflection of its historical focus on the relatively lower priced bag market and its tendency to compete strongly on price.

Table 4-11. A Comparison of Michigan and U.S. Grower Prices for Fresh and Processed Apples, 1990-1995

	<u>Pre - ISPC</u>			<u>Post - ISPC</u>		
	1990	1991	1992	1993	1994	1995
Michigan Fresh Grower Prices (¢/lb.)	14.8	16.4	11.0	12.0	12.5	15.0
U.S. Fresh Prices (¢/lb.)	20.9	25.1	19.5	18.4	18.6	23.8
Relative Fresh Price - Michigan/U.S.	71%	65%	56%	65%	67%	63%
Michigan Processed Prices (\$/ton)	161	168	140	131	135	145
U.S. Processed Prices (\$/ton)	144	171	130	107	114	158
Relative Processed Price - Michigan/U.S.	112%	98%	108%	121%	118%	92%

Source: *Non-Citrus Fruits and Nuts*, USDA, various issues.



Overall, a positive change in the Michigan industry's performance should be noted for relative fresh prices. During the 1993-1995 period there seemed to be less fluctuation in this post-ISPC period as compared to the three previous years and the three year (1990-1992) decline in relative fresh prices prior to ISPC was halted.

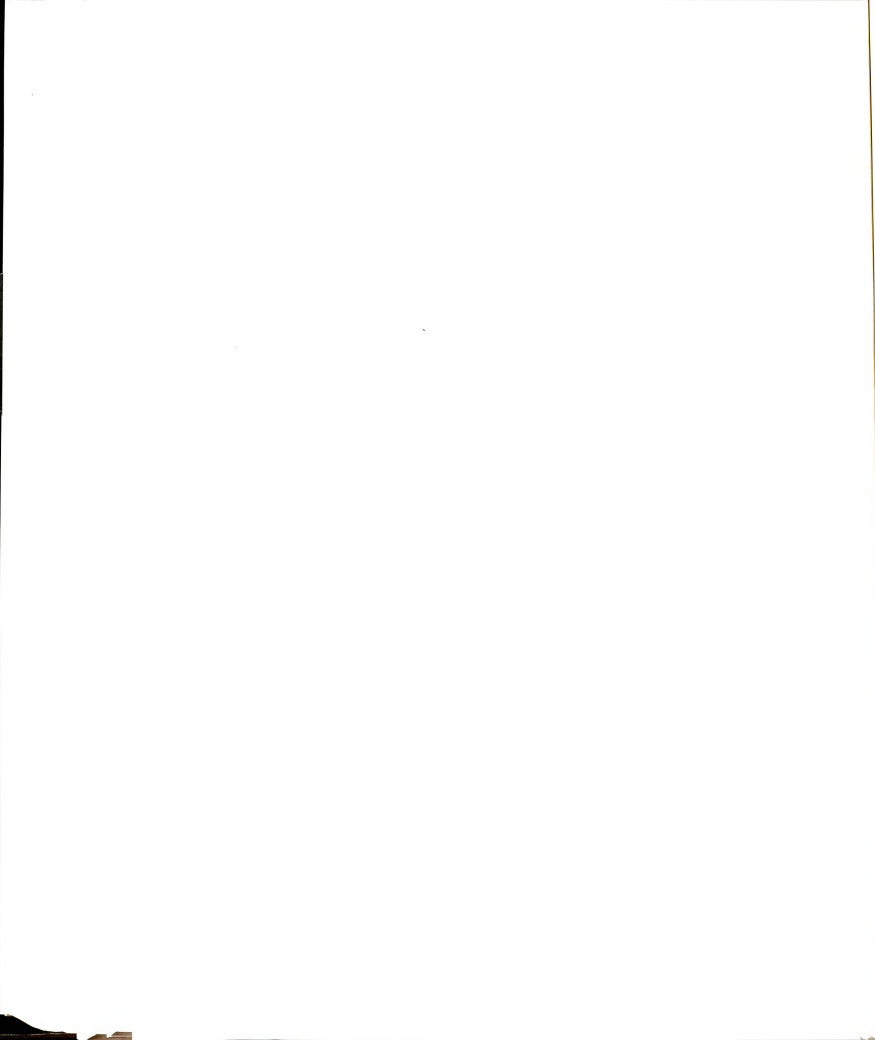
Considering that substantial percentages of Michigan apples are processed, it is also important to consider relative processing prices. Table 4-11 indicates that Michigan processed apples generally receive substantially higher prices than average U.S. grower processed prices. This indicates that there seems to be a consistent relationship in which Michigan apples receive higher prices than competitors.

This probably reflects high performance in meeting processor needs as well as strong group bargaining for processed apples. It may also reflect the fact that Michigan markets more higher value processed products such as sauce and slices as compared to comparatively low value juice.

In regards to the ISPC process, relative prices have been higher overall in the post-ISPC 1993-95 period as compared to the three previous years. This suggests that the ISPC process may have helped to enable the higher relative processed prices. More time would indicate if this will continue.

Tray Marketing

As has already been discussed, increasing tray pack marketing has been designated in the ISPC process as a major opportunity for the Michigan apple industry. Nationally the tray pack market segment is growing and generating relatively high possible returns that are important for Michigan to have an increasing part of. Success in this area would have increased volume of tray pack sold as well as a relative percentage increase in the percent of tray pack relative to bags. The following section discusses current trends in tray pack marketing for Michigan's main



fresh varieties of Red Delicious, McIntosh, and other important varieties and look at progress in tray marketing for Michigan aggregating across all fresh varieties.

Figure 4-3 shows the percent of fresh Michigan apples sold in tray pack relative to bags, aggregating across all varieties. Since 1992, there has clearly been an increasing trend in tray pack market volume and an overall important shift towards tray pack. By 1995, over 20% of Michigan fresh apples were sold in tray pack compared to 13% in 1992.

Much of the increase in tray pack marketings has been of certain established varieties with large sales volumes, such as, Red Delicious. As Figure 4-4 shows the percentage of Red Delicious sold in tray pack increased from around 11% in 1991 to about 16% in the 1995 marketing year. This increase is especially important because the Red Delicious variety has such a large volume compared with other varieties.

Table 4-12 provides information on tray pack volume for Michigan's major fresh varieties. The amount of Michigan apples marketed in trays of all major fresh varieties except Romes expanded dramatically over the time period 1990 to 1995. This indicates Michigan's expanding capabilities in marketing tray pack demanded by the market. Increased tray pack marketings may also be a result of increased market incentives for tray pack as discussed earlier in this chapter and shown in Table 4-6.

The percent of all major fresh varieties (except Romes) sold in trays has also expanded somewhat as Table 4-13 indicates. Established varieties shifted more towards tray pack than had traditionally been the case. Newer varieties marketed from Michigan, such as Fuji and Gala, have a much higher percent marketed as trays than more established varieties such as Red Delicious. This is having a strong impact on aggregate tray marketing levels because these newer varieties are expanding production rapidly in Michigan. These two factors have contributed to the overall expanded tray percentage for Michigan apples and indicates that the

Figure 4-3. Percent Tray Pack of Total Michigan Fresh Volume

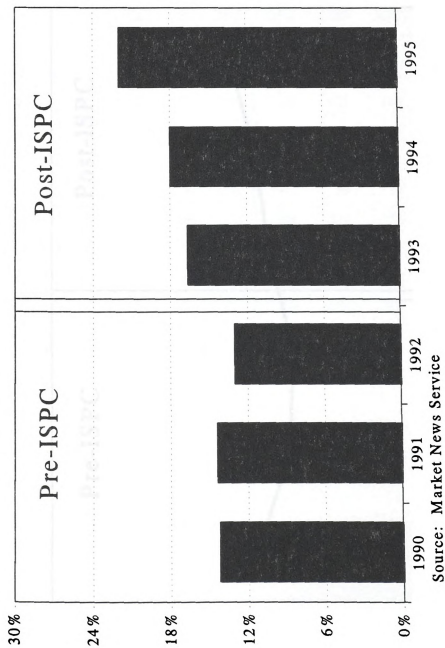
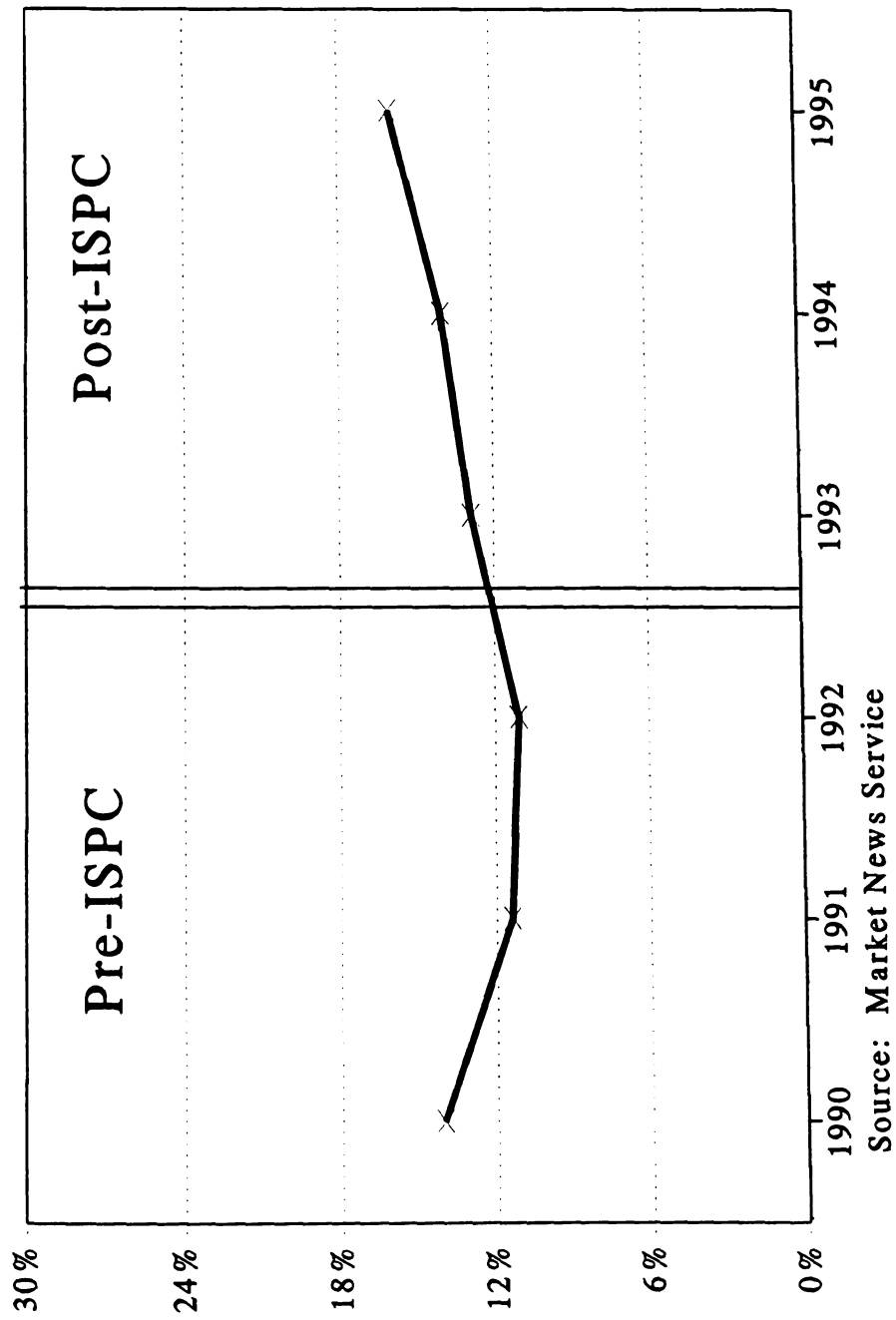


Figure 4-4. Red Delicious Tray Percent
of Total Fresh Red Delicious Volume



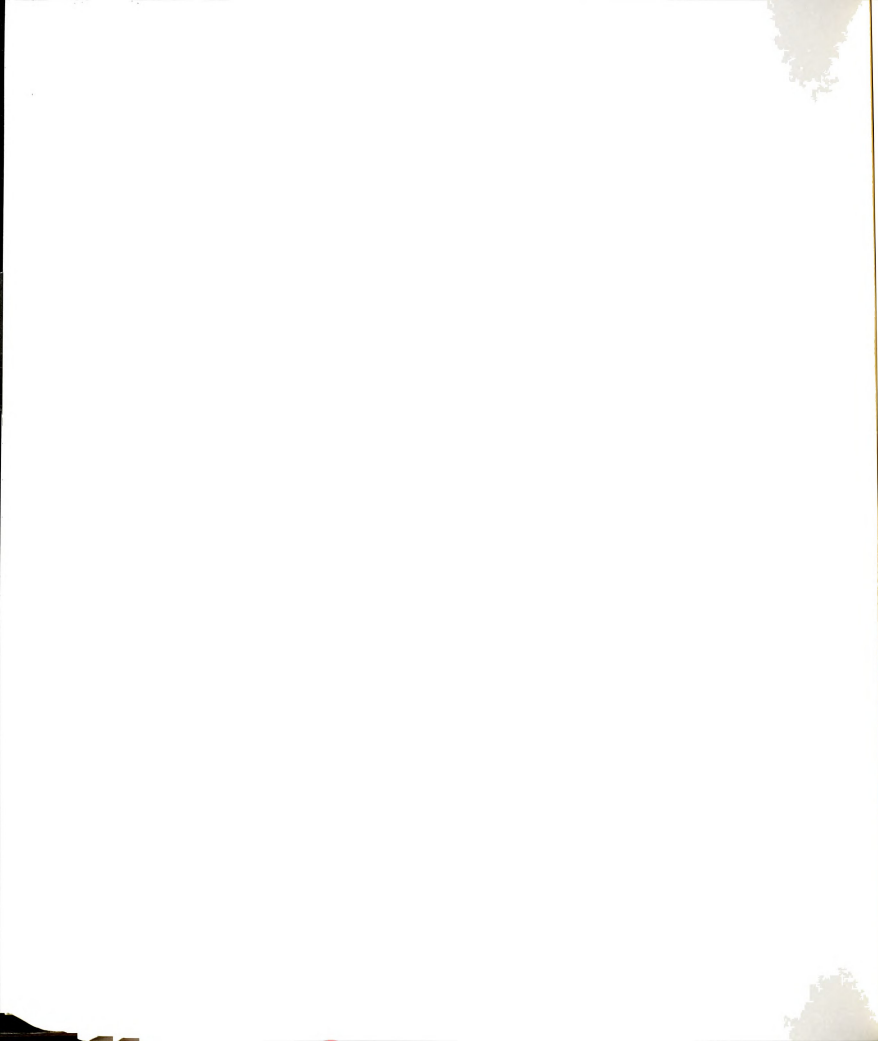


Table 4-12. Tray Pack Volume for Selected Michigan Varieties, 1990-1995

	<u>Pre - ISPC</u>			<u>Post - ISPC</u>			% Change 1990-95
	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	
	-----Thousands of 40 pound units -----						
Red Delicious	383	221	393	379	382	521	+ 36%
Jonathan	83	106	102	112	103	143	+ 72%
McIntosh	90	90	116	111	134	155	+ 72%
Gala	n.a.	12	28	49	54	101	+ 741%*
Fuji	n.a.	n.a.	n.a.	n.a.	10	21	n.a.
Empire	152	180	151	286	222	325	+ 115%
Golden Delicious	13	15	21	23	19	27	+111%
Romes	90	133	44	73	60	68	- 24%
Total	784	851	931	1129	1056	1507	+ 92%

* 1991 to 1995.

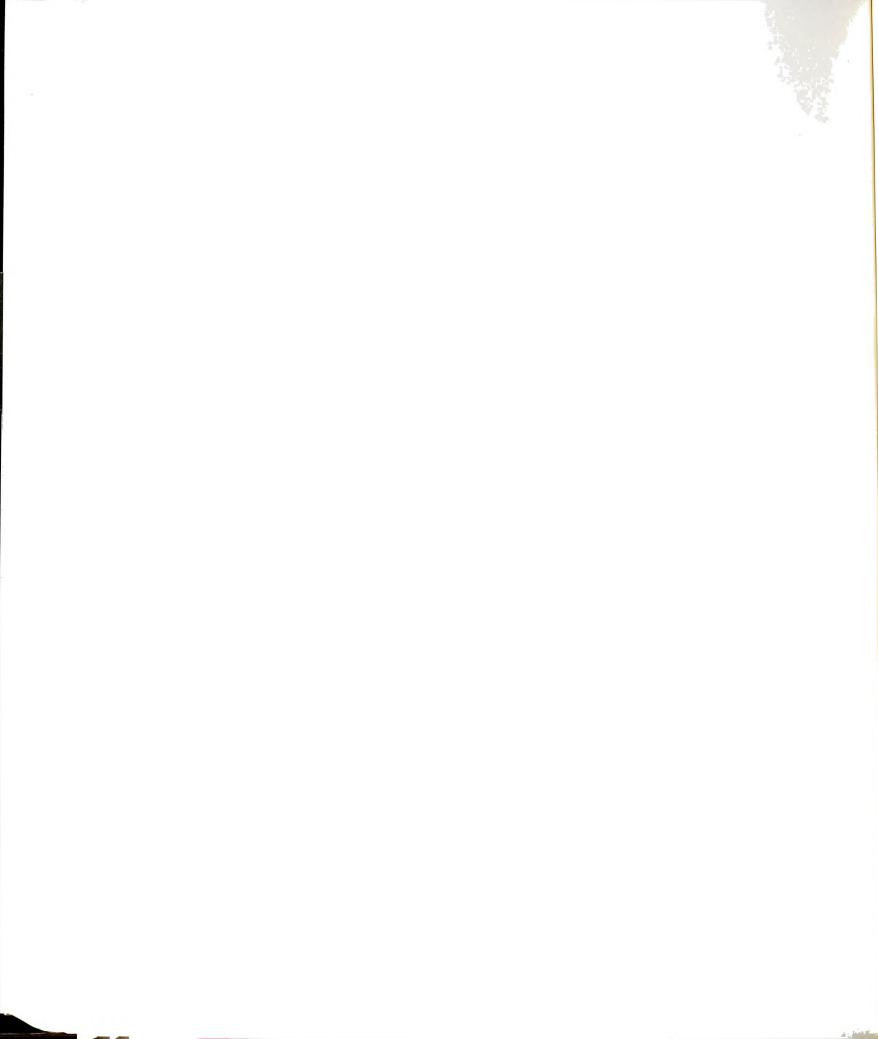
Source: *Marketing Michigan Fruit*, Market News Service, various issues.



Table 4-13. Tray Pack Percentages for Selected Michigan Varieties, 1990-1995

	<u>Pre - ISPC</u>			<u>Post - ISPC</u>			% Change 1990-95
	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	
Red Delicious	14 %	11 %	11 %	13 %	14 %	16 %	+ 2 %
Jonathan	10 %	11 %	13 %	14 %	14 %	16 %	+ 6 %
McIntosh	16 %	16 %	21 %	17 %	25 %	19 %	+ 3 %
Gala	n.a.	44 %	32 %	45 %	33 %	44 %	n.a.
Fuji	n.a.	n.a.	n.a.	n.a.	56 %	52 %	n.a.
Empire	52 %	48 %	41 %	52 %	49 %	52 %	+ 0 %
Golden Delicious	3 %	4 %	4 %	7 %	4 %	5 %	+2 %
Romes	14 %	18 %	10 %	13 %	11 %	13 %	- 1 %
Total	14 %	14 %	13 %	17 %	18 %	22 %	+ 8 %

Source: *Marketing Michigan Fruit*, Market News Service, various issues.



Michigan apple industry is making substantial progress on achieving its goal of increasing emphasis on tray marketing.

Profitability

One important measure of industry performance is how profitable are firms within the industry. Fundamentally, if an industry is to grow and be successful, firms must achieve an adequate return on their investment to cover their costs including overhead costs and costs for new investments and modernizations needed to be competitive. Increasing profitability to growers could also indicate that growers and their industry are doing a better job of providing value to customers taking into consideration their costs. As part of an overall long term assessment of the effectiveness of the industry's success, it would be useful to measure profitability of growers and other apple industry segments such as shippers, processors, and fresh packers.

Measuring profitability is complex and must take into consideration many factors that are beyond the scope of the dissertation. This measure is listed here because it is considered an important potential measure that an overall evaluation of the effectiveness of ISPC process should consider. One likely important reference for measuring profitability for Michigan apple growers is from Kelsey and Schwallier (1989) in which grower profitability is evaluated to some degree. Kelsey and Schwallier evaluate the cost of producing fresh apples in Michigan taking into consideration labor costs, equipment costs, variable costs, overhead costs, and prices received from marketing fresh apples. This study could be updated to develop time series observations of the industry's profitability including prices as well as costs.

4.4.3 Testing Prescriptive Elements in the ISPC Framework

The ISPC framework developed in Chapter 3 represents a synthesis of conceptual and theoretical aspects that are drawn from many sources. As discussed in Chapter 1, a third way to test the internal validity of such a framework is to consider situations in which the procedures

indicated by the framework were not necessarily followed. If the actual practice achieves success, despite not following the framework, then this would indicate that the framework is perhaps not complete and/or should be modified, at least, in regard to the specific elements of the framework related to the situation. However, if the framework's procedures are not followed and this leads to some aspects of an ISPC process being ineffective, then this would indicate, at least tentatively, that the framework has additional internal validity because this tends to substantiate the framework as an appropriate model for an ISPC process.

By and large, the experience of the actual practices of the Michigan apple industry ISPC case were consistent with the ISPC framework developed in Chapter 3. This means that the ability to apply the third test is limited. However, all the ISPC framework's prescribed actions were not always followed in the phase of *implementation and coordination of specific strategies* especially for the two broad-based industry strategies that addressed:

- (1) Premium grade standards for fresh apples
- (2) Mandatory minimum quality standards for fresh apples

Some main problems related to these strategies have been that while the ISPC group supported the strategies, the larger industry has not moved to implement them or even given the strategies substantial industry-wide consideration. The following discusses: (a) what specifically would the ISPC framework suggest would be effective and why in implementing and coordinating broad-based strategies, (b) what specifically was done in regard to each strategy, and ^o how the gap between (a) and (b) may explain the lack of implementation to date in strategy development and implementation.

4.4.3.1 Broad-Based Strategy and the Framework's Prescription in Implementation and Communication

Broad-based strategies are industry strategies that require a broad-base of industry support for the strategies to be implemented. Implementation of a premium grade would require

the support of most of the shipper segment in the industry while mandatory minimum quality standards would require the support of most of several industry segments of the fresh marketing chain including growers, packers, and shippers. Hence, both these strategies that have not yet been implemented are broad-based industry strategies.

The framework argues that it is particularly vital for broad-based strategies for the industry to work to develop consensus. A first level of consensus can be achieved through consensus support of the ISPC group. However, the ISPC framework indicates that this is not sufficient for broad-based strategies, and the industry needs to generate a well-developed implementation plan and use an effective communication plan for the broader industry if such a strategy has a sufficient consensus for implementation. This communication plan should describe why the strategy is needed and the positive and negative features of the strategy. Furthermore, the main reasons why the ISPC group decided on the strategy should be explained. The framework indicates that this set of information should be communicated to the industry in several forms such as written reports, articles in industry periodicals, etc.

4.4.3.2 Actual Implementation and Communication Planning and the Gap

The previous section discussed the elements of the ISPC framework that address implementation and communication planning for broad-based industry strategies. It is asserted here that a main reason why the two indicated strategies were not implemented by the industry had to do with ineffective implementation and communication planning for the two non-implemented broad-based strategies, the premium grade and minimum mandatory standards. The following two sub-sections discuss actual activities accomplished for these strategies in those areas and the resultant gap between the actual activities and those prescribed by the framework.

4.4.3.2.1 The Premium Grade

The premium grade strategy³⁵ is a strategy to identify a specific set of high quality levels, mainly focused on fruit condition, that shippers could voluntarily use in marketing their premium apples. This strategy was supported by the ISPC group and some influential shippers on the Task Force. Subsequently, a two-page paper that described the premium grade strategy was developed. The strategy was then brought to the Michigan Apple Shippers Association to consider the desirability and implementation of the strategy. In the ensuing meeting of the Association, discussion seemed to focus on the possible negative aspects of the premium grade rather than the possible benefits, and some shippers did not seem to be very familiar with the strategy. Furthermore, the influential shippers, who supported the premium grade in the ISPC group, did not push strongly for the strategy in the meeting. The overall result was non-support by the Association for the strategy. To date the premium grade strategy has not been implemented.

The ISPC framework would suggest that improved implementation and communication planning would have increased the likelihood of implementation of the premium grade. The framework argues that a well-developed implementation plan should be developed for a broad-based strategy, and it does not seem that one was developed for the premium grade. The communication plan for the premium grade seemed to revolve around one two-page paper describing the strategy and word of mouth discussion in the industry. Other communication devices such as industry newsletters, forums, etc. were not used extensively. It is not clear that a full articulation of why the strategy could be beneficial and its positive and negative benefits was developed. When the Shippers Association met to discuss and vote on the premium grade, it is likely that a number of shippers were not really sure why they should support the strategy

³⁵ The premium grade strategy is discussed in more detail in Section 4.3.2.

and tended to focus negatively on the strategy based, in part, on rivalry among shippers. This suggests that an important reason why the premium strategy might have been because of insufficient implementation and communication planning.

4.4.3.2.2 Minimum Mandatory Quality Standards

The idea for the minimum mandatory quality standards strategy³⁶ had the goal of establishing a minimum quality level for all Michigan fresh apples, focusing on fruit condition. The need for this strategy was identified by the Task Force because of the successful use of a similar approach by a major competitor industry and its potential ability to improve quality management in the Michigan apple industry, a major improvement objective. The Task Force has supported this idea, but when the idea was brought to the larger industry in tentative discussions -- there was an overall negative reaction. This led to further progress on the idea not being made even though there were several later Task Force meetings in which support for the minimum mandatory quality strategy was discussed and reiterated.

It can be suggested from the ISPC framework that a possible reason for the lack of implementation (or even full consideration) of the minimum mandatory quality standards may have been the result of insufficient implementation and communication planning. In the implementation planning, it seems clear that the ISPC group did not fully appreciate the level of effort that would be necessary to achieve implementation of this strategy. When opposition surfaced, then further implementation planning should have occurred including the methods and feasibility of convincing or overcoming this opposition. Another part is that in communication planning, an effort could have been mounted to describe the possible benefits and costs of the proposed strategy as well as why it could improve industry performance substantially. This has not been accomplished to date for the minimum mandatory quality standard. Overall, it can be

³⁶ Section 4.3.3 discusses this strategy in more detail.

suggested based upon the ISPC framework that the lack of implementation of the minimum mandatory quality standard might be expected because an entire set of needed activities in regards to implementation and communication for such a broad-based industry strategies were not accomplished.

4.4.4 Summary of the Tests for Internal Validity

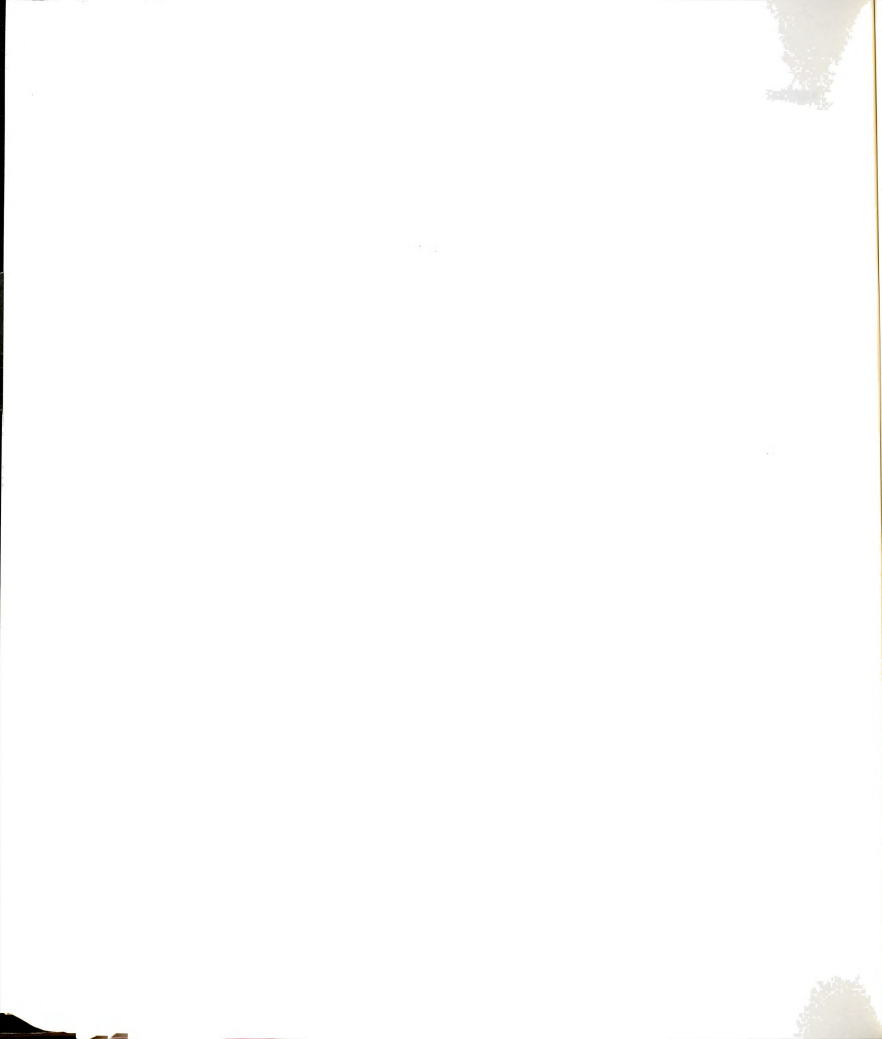
Section 4.4 in total has developed three tests of the internal validity of Proposition II about the ISPC framework. The importance of this Proposition is central to examining the usefulness and effectiveness of the ISPC framework because the ISPC framework is only useful to the extent that it can serve as an effective guide to an ISPC process that substantially contributes to improved industry performance. The Michigan apple industry case has provided one opportunity to examine the internal validity of the Proposition.

The first test examined whether the Michigan apple industry ISPC process had changed the future course of the industry. It was found that the ISPC process has resulted in strategies in areas that were deemed most likely to result in improved industry performance. Some highlights of this are that the ISPC process in the Michigan apple industry seemed to be synergistically effective at:

- highlighting major improvement objectives for the industry to focus upon;
- facilitating appropriate industry responses (e.g., pre-harvest workshop, consumer market research, etc.);
- communicating industry needs and priorities with non-industry organizations such as the USDA, Federal Government, MSU, etc.

These indicate that the Michigan apple industry ISPC process has developed and implemented strategies that *can be expected to result in improved industry performance*.

The second test of internal validity focused upon broad measures of economic performance for the Michigan apple industry. These included sales volume, market share by



major market segment, value, relative prices, and tray pack volume. Changes since the beginning of the ISPC process were examined and results, while necessarily tentative at this point, indicate generally improving industry performance. Furthermore, the ISPC growth positioning goals for the industry have achieved excellent progress to date by the industry. These facts suggest that the ISPC process in the Michigan apple industry is making a substantial contribution to industry performance.

The third test of internal validity focused on situations in which some activities that were suggested by the ISPC framework were not accomplished thoroughly in the practice of the industry. In this section, the experienced difficulties in implementing two specific broad-based strategies were considered. These two strategies were among those considered as potentially the most beneficial for the industry's fresh segment according to the ISPC group; however, they have not been implemented and did not seem to even receive full consideration by the broader industry. It seems that the main reasons for this had to do with insufficient consensus building and implementation planning for the strategies which the ISPC framework indicates are essential activities for broad-based strategies. This supports the internal validity of the framework in prescription.

Each of the three tests support the internal validity of the framework based on the experiences and outcomes from the Michigan apple industry ISPC process. This means that there is support for Proposition II, i.e., an ISPC process, guided by the framework, can substantially contribute to improved industry performance.

4.5 Synopsis

This chapter has focused upon ISPC efforts in the Michigan apple industry. After providing some background, the ISPC framework developed in Chapter 3 was related to experiences in the context of the Michigan apple industry's ISPC efforts. This provided an

illustration of the situations, activities, etc. of the Michigan apple industry as a case study. This further served as a practical example of ISPC and provided support for the construct validity of the framework. The ISPC framework is consistent with the Michigan apple industry's ISPC process experiences.

A further effort in this chapter focused on establishing that the ISPC process in the Michigan apple industry has contributed to improved industry performance and thus provides a type of test of the framework's internal validity. Three tests were used in examining this proposition. The first two tests respectively indicate that the framework's application in the Michigan apple industry ISPC process has (1) contributed to altering the course of the industry that can be expected to lead to improved performance and (2) improved industry performance has resulted during recent years (although the results are tentative at this point). Further, the internal validity of the prescription of the framework was supported in a third test where some of the framework's prescriptive elements seemed to be useful in explaining undesirable industry outcomes (i.e. lack of implementation of certain strategies) and prescribing some effective approaches. In an overall way, the internal validity of Proposition II has been supported by this case.

Overall, it was found that ISPC seemed to be effective at aiding an industry in making important responses to improve competitiveness and economic viability. Strategies were identified and implemented with this goal in mind. The industry, as a commodity producing region, seems to be improving performance in creating value through ISPC.

CHAPTER 5
INDUSTRY STRATEGIC PLANNING AND COORDINATION
IN THE U.S./MICHIGAN TART CHERRY INDUSTRY

The U.S./Michigan tart cherry industry has recently taken some steps toward an ISPC process. This provides another opportunity to explore and analyze the ISPC process in an industry case. To the extent possible, the ISPC framework, developed in Chapter 3, is illustrated with the cherry industry experience. The application of the ISPC framework is necessarily limited in the tart cherry case because the ISPC process in this industry has only been ongoing for a short period of time. The short time period means that only construct validity and the prescriptive test of internal validity (test 3) can be assessed and that these tests of validity can only be through the parts the ISPC framework that have been used.

The first section of the chapter provides an overview of the U.S./Michigan tart cherry industry. The second section evaluates the extent to which the experiences of the U.S./Michigan tart cherry industry correspond with the framework as a test of construct validity. The third section considers the prescriptive test of internal validity where the framework, if it is not followed, can be shown to explain undesirable industry outcomes. The fourth section describes the extensive impact analysis that was done for a number of key aspects of the proposed U.S. tart cherry federal marketing order.³⁷ This is an important example of impact analysis as discussed in the ISPC framework developed in Chapter 3, and this impact analysis was used in facilitating this broad-based industry strategy. The fifth section summarizes key findings of this chapter.

³⁷ The impact analysis was developed by the author of this dissertation working with Dr. Donald Ricks.

5.1 Overview of the U.S./Michigan Tart Cherry Industry

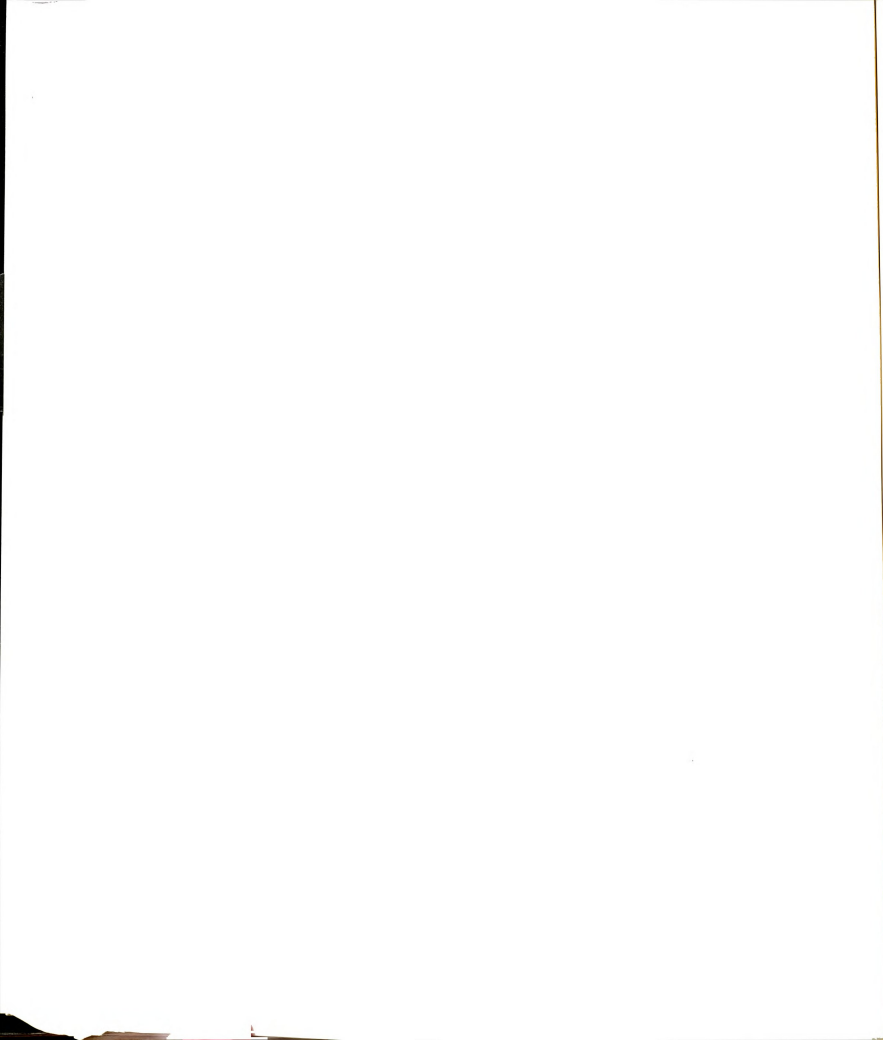
Tart cherries are a perennial tree crop, grossing from \$ 25 to 52 million in U.S. grower returns in recent years. Tart cherry production is located in a number of states including Michigan, New York, Utah, Wisconsin, Washington, Oregon, and Pennsylvania. Over seventy percent of total U.S. production is concentrated in Michigan. Thus, the U.S. tart cherry industry can be referred to as the U.S./Michigan tart cherry industry. Those who commonly identify themselves as part of the tart cherry industry are tart cherry growers, processors, and industry organizations that work closely with growers and/or processors.

There are common and extensive vertical linkages between growers and processors because almost all tart cherries are processed. Tart cherries are processed into a number of forms including frozen, pie filling, canned, and juice. Tart cherries are then generally sold by processors in these processed forms as non-differentiated commodities (Hinman and Ricks, 1991) to food manufacturing, food service and grocery customers who in turn market tart cherry products to consumers as shown in Figure 5-1.

In terms of vertical coordination, the numerous tart cherry growers³⁸ often have longterm relationships with their less numerous processors³⁹. In fact, growers have often vertically integrated into processing through grower processing cooperatives. Further stages in the production-marketing chain do not have such close longterm relationships. For example, since food manufacturing and grocery customers generally deal with many food products along with tart cherries, and because tart cherries are often viewed as a minor product by these firms, they usually buy cherries on a spot market basis. However, the overall marketing activities

³⁸ The 1995 Michigan Rotational Fruit Survey listed 846 tart cherry growers for the state of Michigan.

³⁹ The 1994 Red Tart Cherries Crop Statistics & Market Analysis listed 64 processors.



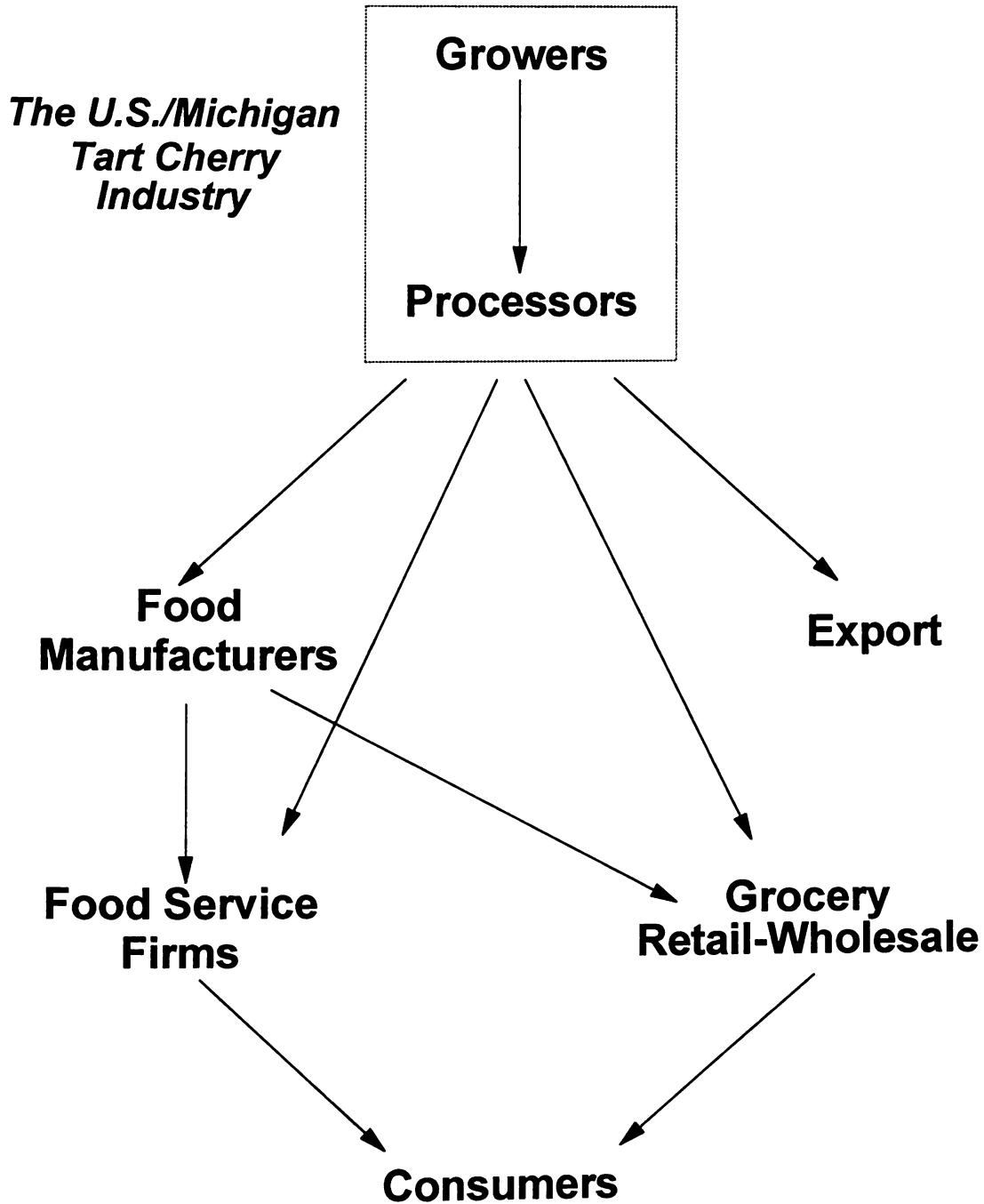


Figure 5-1. The U.S./Michigan Tart Cherry Industry and Marketing Channels

(e.g., pricing, product line decisions, advertising, etc.) of these customers have important effects upon overall demand for tart cherries and thus have substantial indirect impacts on growers and processors.

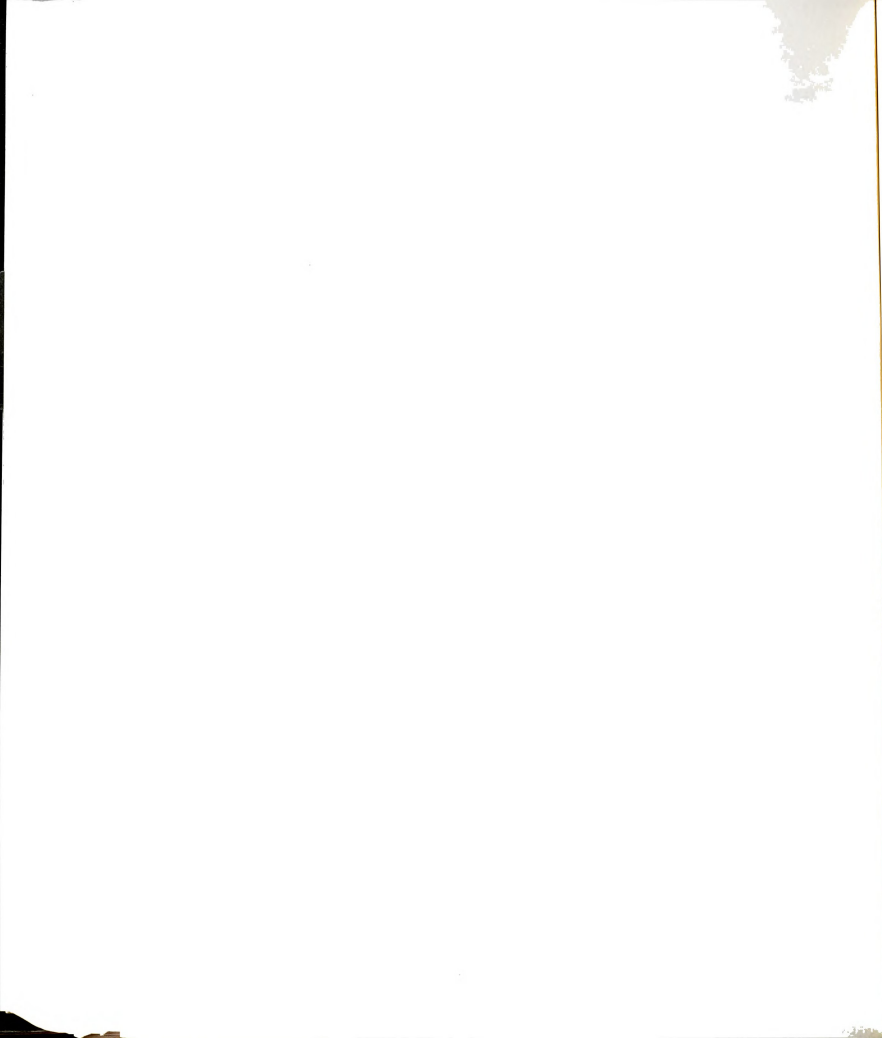
One key feature of the overall tart cherry market for the U.S./Michigan tart cherry industry is that demand is price inelastic. That is, relatively small changes in volume marketed causes a greater variation in prices -- especially at the farm level. This is a problem because there is commonly substantial variation in tart cherry production.

Production of tart cherries can be quite volatile from year to year due largely to weather effects such as spring freezes and the concentrated of production in relatively localized areas, such as, Michigan and in the other nearby major tart cherry producing states of New York and Wisconsin. The fluctuations in supplies, in combination with the inelastic market demand, results in prices and returns to growers which are exceptionally volatile from year to year. For example, in the 1982 marketing year tart cherry grower prices were 13.5 ¢/lb. with a total market supply of 264 mil. lbs. while in the following 1983 marketing year tart cherry grower prices were 49.1 ¢/lb. with a total market supply of 169 mil. lbs.

Acreage adjustments at the grower level take a number of years, since tart cherries are a perennial crop with a planning horizon of many years. This means that there can be periods of relative oversupply or undersupply in tart cherry production along with the frequently volatile prices.

Ricks *et al* (1978) note that the volatile tart cherry prices impose a high level stress due to risk and uncertainty on all phases of the tart cherry production-marketing system. They note that this leads to a number of negative effects which are (p.12):

1. Hampers development and introduction of new cherry products.
2. Reduces the number and frequency of cherry products offered for sale by restaurants and other food service establishments.



3. Causes consumers and food service managers to discontinue buying and using cherry products (for some this remains a fairly permanent behavior pattern).
4. Restricts manufacturer's promotional activities for tart cherry products.
5. Reduces the budget of industry promotional organizations and thus hampers and disrupts their promotional activities.
6. Reduces the amount of shelf space and hence consumer exposure to cherry products in retail grocery stores.
7. Hampers the development of export markets.
8. Reduces the incentive for processors to build sufficient processing facilities to handle the largest crops.

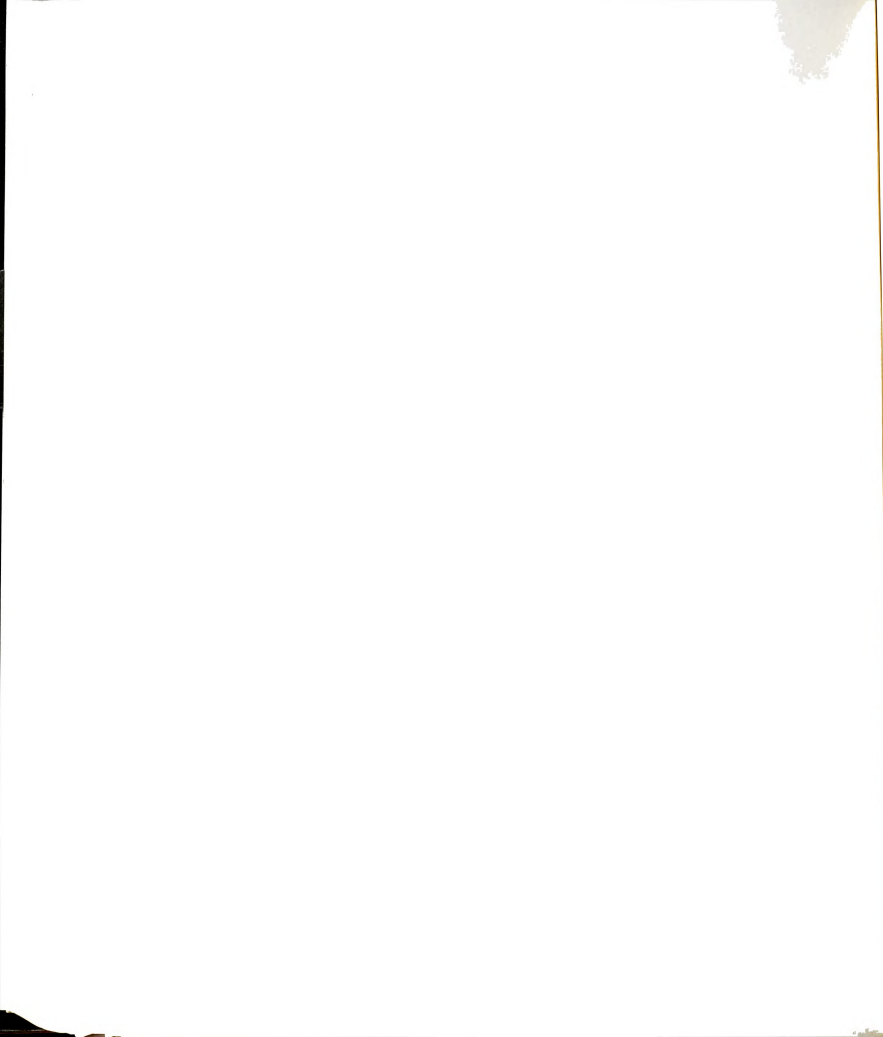
This indicates the real problems caused by volatile tart cherry prices and this remains as a central issue in the U.S./Michigan tart cherry industry. Indeed, the supply management provisions of the recently ratified tart cherry FMO are designed to reduce this price volatility.

5.2 The ISPC Framework Applied with the U.S./Michigan Tart Cherry Industry

Leaders of the Michigan/U.S. tart cherry industry decided in 1996 to undertake a comprehensive round of an ISPC process. Although this particular effort is in its early stages, it can provide some useful insights as an early-stage industry case study. At the current time, the process initiation phase of ISPC is underway. The following relates the experiences in the U.S./Michigan tart cherry industry case up to this point in time to the ISPC framework developed in Chapter 3.

5.2.1 Process Initiation

The ISPC framework indicates the first step in ISPC is process initiation. This involves steps for heightened awareness of needs and decisions by industry leaders that industry strategic planning and problem solving can be useful. In the U.S./Michigan tart cherry industry, initiation began because some industry leaders were impressed with the recent results of ISPC in the Michigan apple industry and saw the possibility of gaining similar benefits for their industry. The very low tart cherry prices for the 1995 crop further propelled interest in ISPC because there was an increased awareness in the industry that there were significant problems in the



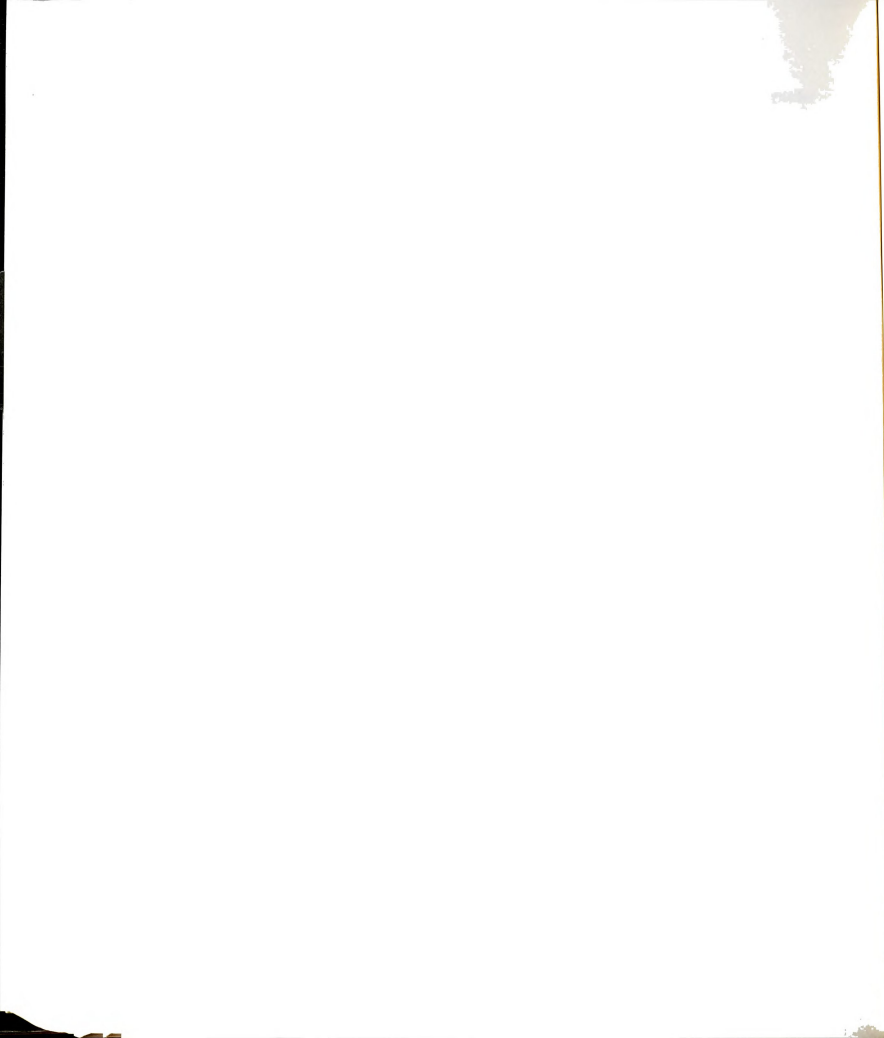
industry and that changes needed to be made. In essence, this meant that the climate was favorable to begin an ISPC process.

Several industry organizations played an important role in considering ISPC for the U.S./Michigan tart cherry industry. These organizations represent ongoing industry group efforts towards improving industry performance. Three industry organizations played pivotal roles of particular note. The Cherry Marketing Institute (CMI), which is an organization funded by growers with the goal of expanding demand for tart cherries, provided early impetus for the ISPC efforts. The Michigan Agricultural Cooperative Marketing Association - Tart Cherry Division (MACMA), a cooperative group focused on cherry marketing, was also involved. Michigan State University (MSU) through extension and research in the department of agricultural economics has had a long term focus on improving the performance of the U.S./Michigan tart cherry industry.

5.2.1.1 Articulation of an Industry Need for an ISPC Process

The framework developed in Chapter 3 indicates that one essential task in ISPC process initiation is for the industry to articulate a need for an ISPC process. This requires some substantial industry support for an ISPC process at least among a core of top industry leadership. This support is essential because an ISPC group and an ISPC process need to have a sufficient mandate to represent an industry.

The articulation of the need for a U.S./Michigan tart cherry ISPC process came in several parts. Initially, staff from CMI, MACMA, and MSU met to consider a comprehensive ISPC effort, and they supported the idea. After several meetings of the staff development committee, a large industry ISPC conference was held with representatives from key Michigan tart cherry firms and industry organizations participating. This group decided by consensus that developing an ISPC process for the broader U.S./Michigan tart cherry industry would be potentially useful. Subsequently, a national conference of leaders from the major tart cherry



producing states throughout the U.S. was held and the participants decided to support the ISPC idea for the tart cherry industry. Furthermore, the group decided to form an ISPC leadership group, called the Tart Cherry Industry Council (Council).

5.2.1.2 Formation of an ISPC Leadership Group

The framework developed in Chapter 3 indicates that another important task in ISPC is group formation. This ISPC group can provide a core leadership role for the ISPC process. It may also facilitate some strategy decisions for the industry.

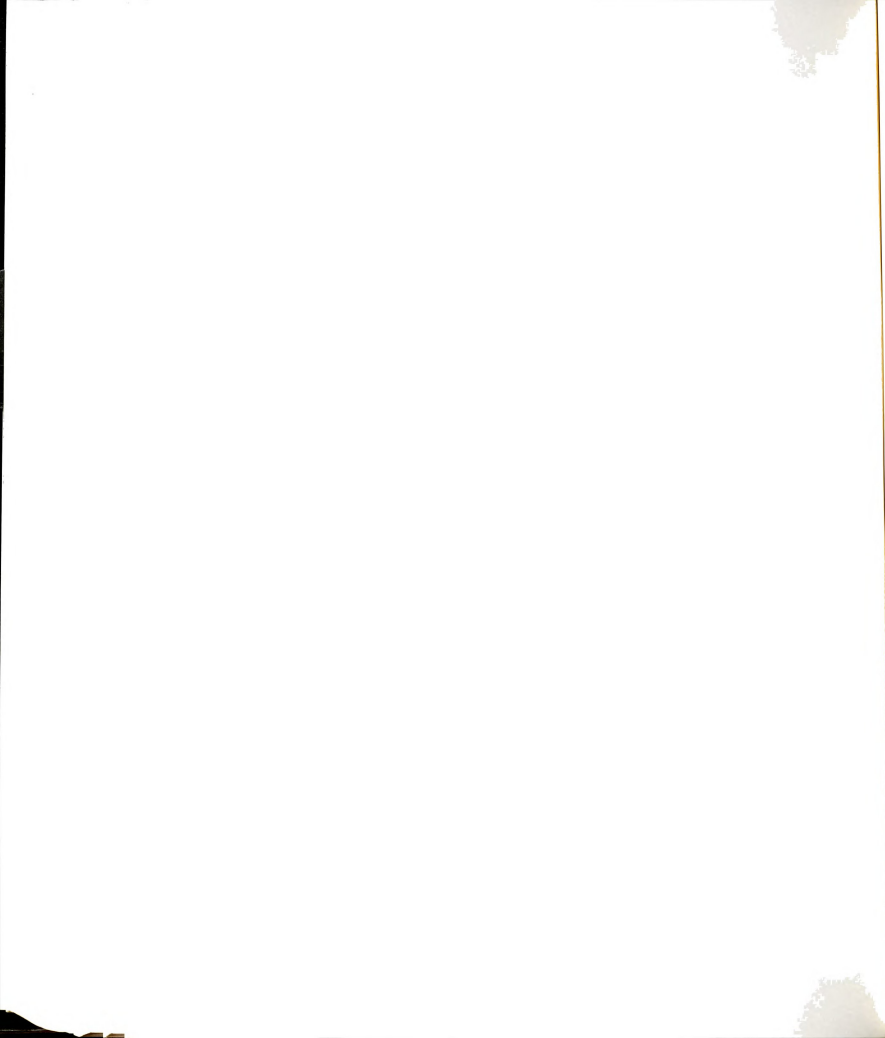
In forming a group, important decisions related to the structure of the group and representation in the group are made. In the U.S./Michigan tart cherry industry, a national industry council or leadership round-table format was selected. All key U.S./Michigan tart cherry industry organizations were represented as shown in Figure 5-2. This involves top leadership from all major tart cherry organizations in the ISPC process. Organizers of the initial ISPC conference noted that involving the staff from the key industry organizations in planning the meeting seemed to be effective in helping to get key industry leaders within those organizations involved. This involvement of industry leadership should provide an important benefit to the Council as a panel of experts focused on the needs of the industry.

5.2.1.3 Selection of a Common Set of Objectives

As the framework in Chapter 3 discusses, selecting a common set of objectives is an important decision in ISPC process initiation. The common set of objectives outlines what the ISPC group and process is seeking to achieve. Developing such a set of objectives can be useful in communicating the goals of an ISPC process to the broader industry.

In the U.S./Michigan tart cherry industry, one of the decisions of the cherry industry group, who decided on the formation of the Council, was to develop a set of goals for the Council. These goals for the Council are to:

- Identify, define, and prioritize major industry problems, issues and opportunities.



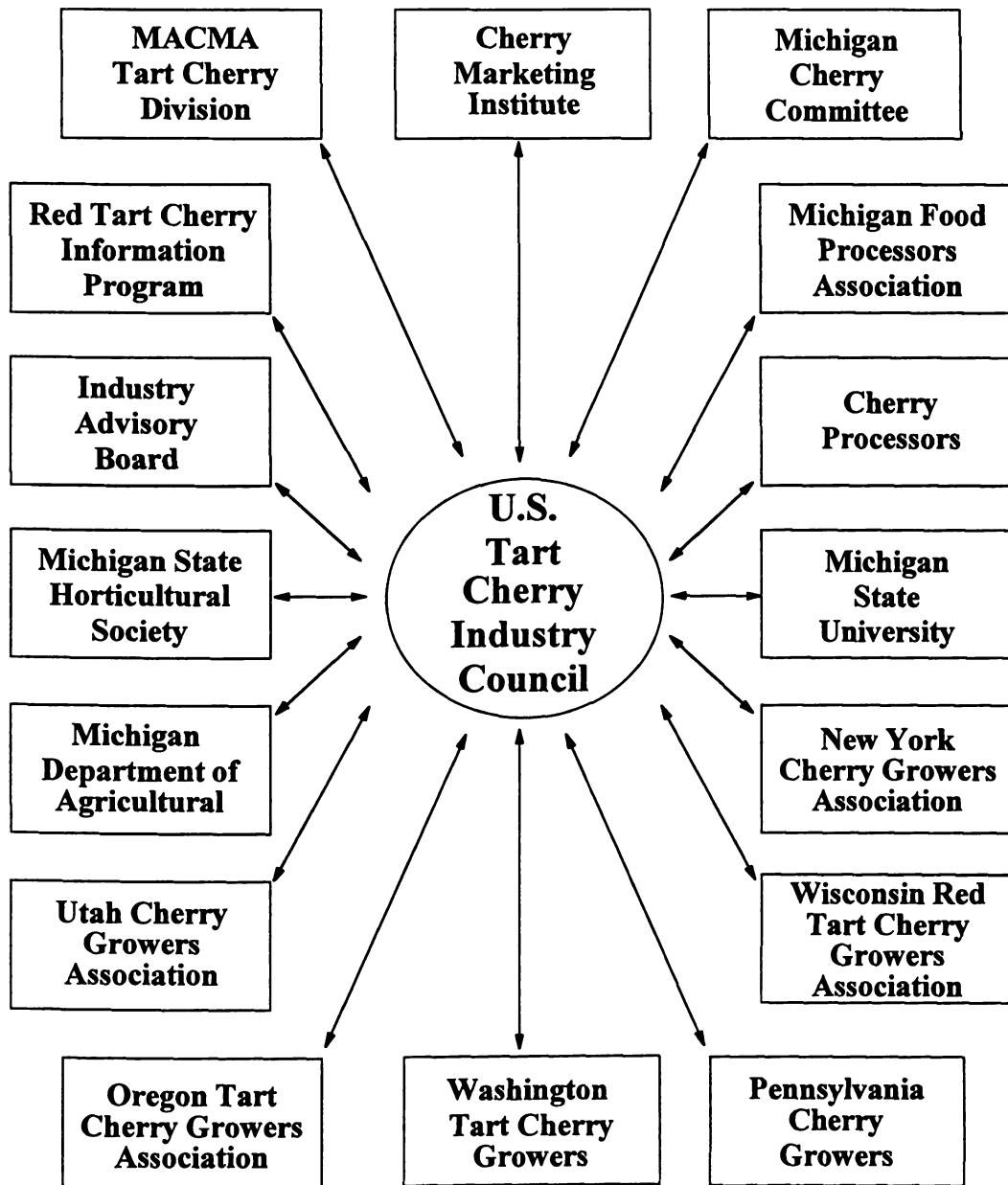


Figure 5-2. The U.S. Tart Cherry Industry Council

- Discuss and recommend solution approaches for priority issues.
- Identify and recommend who would logically implement the needed steps.
- Provide a visioning round table as an industry group for discussing major problem areas, commonalities, and industry needs.
- Provide a broad industry group to communicate industry needs.

These could be viewed as a preliminary statement of common objectives for the Council.

5.2.1.4 Development of a Method to Pay the Costs of the ISPC Group

The ISPC framework from Chapter 3 discusses that it is important to develop a method to pay the costs of the ISPC group because necessarily an ISPC group entails some expenses. These include the costs of going to meetings, communications, staff resources, etc. It is important to consider who will pay these out-of-pocket expenses. There may be a free rider problem of financing ISPC costs in that having an ISPC group can provide substantial public good benefits.

In the U.S./Michigan tart cherry industry, the costs of the ISPC group have initially been covered by a combination of the CMI, MSU, the Michigan Cherry Committee, and MACMA. However, there has been some expectations that other industry organizations would also pay some of the costs of the Council. Leadership amongst these organizations have not yet come to an agreement on how to pay for the group on an ongoing basis. Furthermore, as the Council has membership from throughout the U.S., there are substantial costs to members of the Council in attending a meeting associated with travel. Both these aspects pose some challenges to the ISPC process in this industry.

5.2.1.5 Provision of Staff Support for the Process

The framework suggests that it is desirable in an ISPC process for the ISPC group to designate some individuals as staff support. The staff support can prepare analyses and information requested by the ISPC group. Furthermore, the staff can facilitate effective

communication within the ISPC group and to the overall industry based upon the many roles necessary for consensus decisionmaking and moving a large, complex industry in some common strategic directions. Hence, it is beneficial if the ISPC group is able to designate some individual(s) to fill the staffing roles.

In the U.S./Michigan tart cherry case, staffing has largely been provided by the main supporting industry organizations. These have included staff from the CMI, MSU, MACMA, and the Farm Bureau. Currently, three key staff from the CMI, MSU, and MACMA provide staffing for the Council.

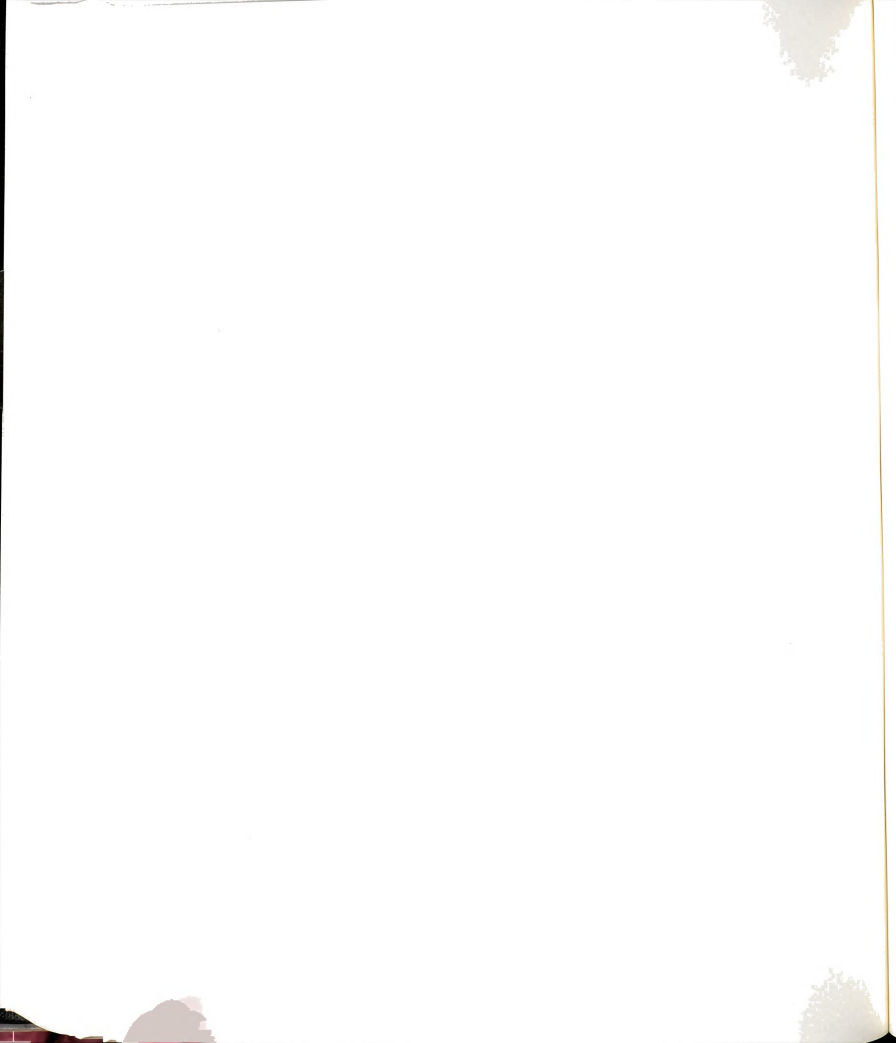
5.3 Progress in ISPC Through the Council

Based on the ISPC framework developed in Chapter 3, it would be expected that once the process initiation phase is well underway that the next phase for emphasis would be the strategic planning phase itself including the steps: (1) situational analysis, (2) determination of the industry's vision and guiding strategies, etc. Instead, the Council quickly decided to focus on specific program development which relate to the implementation and coordination phase in the ISPC framework. These two program strategies were:

- Developing and implementing a "super-coop",
- Effectively developing policies and implementing the new FMO.

The need to implement of these two strategies, which had received considerable prior industry attention for strategy development, was judged to be very pressing and top priority by the industry's leadership.

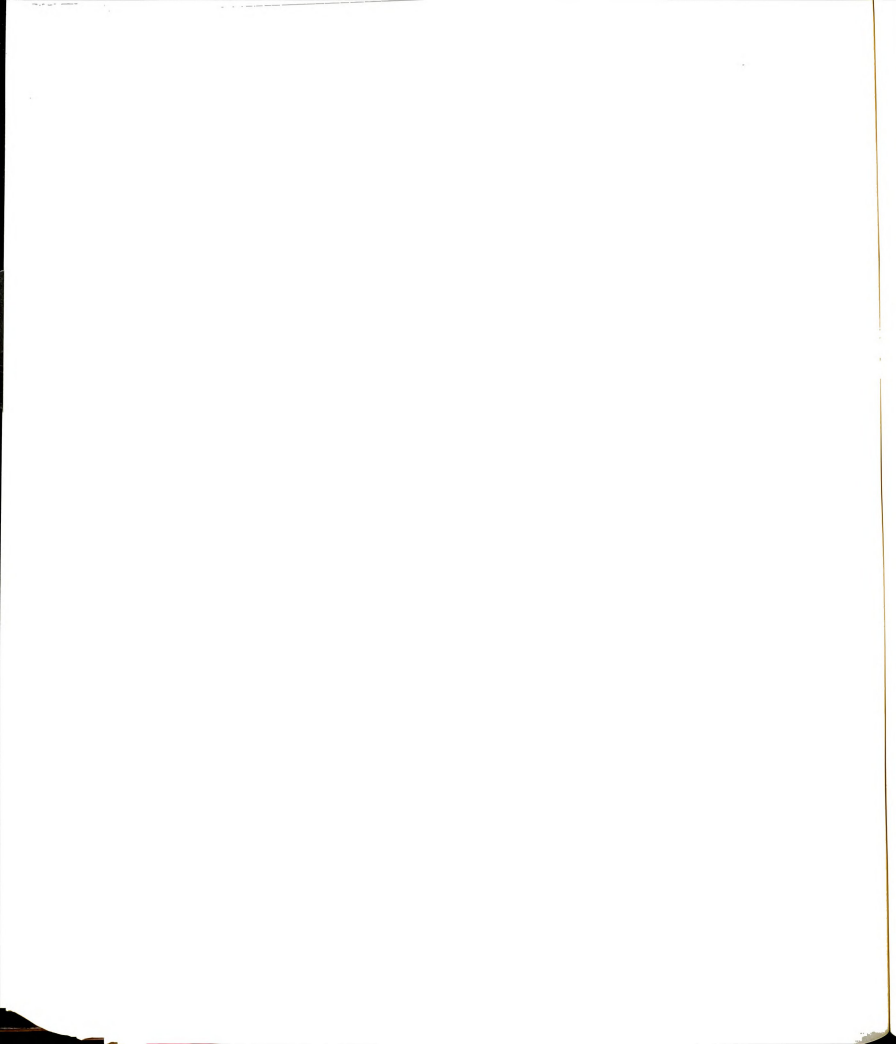
The decision to focus almost exclusively so far on implementing the two strategies listed above has meant that the Council has to date proceeded in only a limited fashion on broader, more comprehensive ISPC aspects. One of the initial Council meeting was devoted to issues related to the "super-coop". Further, meetings of the Council were requested to be scheduled



just preceding the meetings of the new FMO Board in order to reduce travel costs incurred by industry leaders from various states in travelling to both a Council meeting and the FMO Board meeting. Since the FMO issues were deemed of more immediate urgency, this scheduling resulted in limited progress on broader strategic planning issues. Industry leaders point out that much of their limited available time, attention, and resources for this type of broad industry improvement planning by industry leaders were being taken up by the FMO and the super-coop strategies. However, these two strategies are two of the very top priority new strategic directions needed by the industry. Thus, the decisions by the industry to concentrate their scarce leadership resources on these two strategies at this time is a logical approach and is consistent with the industry's top priority.

The progress to date indicates that there are obstacles to immediate further concentration on a comprehensive ISPC process for the tart cherry industry at this time. Instead the industry has decided to focus on the two main strategies and to limit the industry's broader ISPC efforts for now. The main obstacles to a broader and more comprehensive ISPC process at this time are mainly the lack of leadership time and, as a much less important factor, the high cost of group meetings that limit the frequency of broad-based meetings. The framework suggests two possible approaches towards a comprehensive ISPC process.

One possibility to stimulate further comprehensive ISPC through the Council would be to extend the articulation of the need for ISPC. This could encourage industry leaders to focus more attention on an ISPC process as well as expanding understanding of the need for the Council. An assessment of a broader array industry interests and problems might further confirm that this is not be the best moment in time for doing an extensive and comprehensive ISPC process this industry. Perhaps when the FMO and/or the "super-coop" are well underway with their implementation, then that would be a better time for concentrating on a comprehensive ISPC plan. Expanded articulation of the need for ISPC might further encourage firms and



industry organizations to support and pay the cost of the ISPC group -- but this seems unlikely at this time.

Another possible method to stimulate a more comprehensive approach and broader-based ISPC progress make use of a smaller ISPC group. This would reduce the obstacle of costly travel expenses. In the current organizational structure, key leaders from all major tart cherry organizations are expected to be quite active, and this makes it inherently expensive to the industry leaders to get together in the U.S./Michigan tart cherry case. A smaller organizational structure might be politically expedient if most segments are represented. This suggests one possibility to reduce the costs of the organization through reconstituting it with fewer, more committed members who are mainly from Michigan. This would reduce the costs of the Council in general, and industry leaders in the leading state could relatively inexpensively attend a meeting. The Council, as it developed key strategies, could then bring the ideas to the larger industry's leadership at periodic intervals, such as, at FMO Board meetings.

In summary, there are some current heavy concentration on the FMO and a super-coop as new program strategies with less industry focus on a comprehensive ISPC process in the U.S./Michigan tart cherry industry. This section has discussed some of the key issues, problems, and related settings that are involved. Two different alternatives were identified, based on the ISPC framework, that the U.S./Michigan tart cherry industry might use to address the current problems with the Council.

5.4 Impact Analysis of the Federal Tart Cherry Marketing Order

The new FMO program was developed through some extensive industry-wide strategic planning which emphasized several major problem areas of the industry. It represents a broad-based industry strategy to improve the tart cherry industry's competitiveness and economic viability. Although each of the steps developed in Chapter 3 were not followed explicitly, the

efforts with the FMO can be related to at least some aspects of the ISPC framework and are instructive as to how to effectively approach developing and implementing such an industry strategy in a comprehensive ISPC framework. The following discusses developing and implementing the FMO.

The FMO was developed with some major leadership from the CMI, a key industry marketing and promotion organization, as well as many other industry leaders. The CMI further worked closely with the U.S. Department of Agriculture in developing a FMO that would meet USDA policy requirements to be enforced, if necessary, by the rule of law related to marketing orders. The CMI spent substantial time and other resources holding the many industry strategic planning sessions, industry consensus development, the necessary public hearings, developing legal documents, etc. necessary for the FMO.

A key step in getting the FMO implemented was a referendum of both growers and processors. Prior to the referendum, the CMI leadership worked to explain the need for the FMO through grower and processor meetings and explaining the need and likely effect of the then proposed FMO. In this effort, the industry leadership also requested MSU extension to be involved in explaining the likely economic effects of the FMO. An impact analysis of the FMO, described later in this chapter, was used in analyzing some of the potential impacts of the FMO under different circumstances. This FMO impact analysis provides an example of an impact analysis that was described as a possible tool in the ISPC framework developed in Chapter 3.

The FMO impact analysis focuses upon FMO supply management in the U.S. tart cherry industry. Supply management with the FMO is based, in part, upon the need in the industry to reduce dramatic market supply and price fluctuations and the associated risks caused by wide swings in tart cherry production. For example, in some years grower prices have been as high as 45¢/lb while in other years prices have been as low as 5¢/lb. This high level of supply and price fluctuations leads to a highly variable grower income as aggregate industry grower income

has recently been as low as \$ 30 million or as high as \$ 88 million per year. Furthermore, as mentioned earlier, the large supply and price uncertainties can lead to considerable marketing systems problems in other parts of the production-marketing system, such as, food manufacturer customers.

The follow subsections focus upon the impact analysis for the FMO that was developed to assess the potential effect of the FMO on industry prices and income. This impact analysis has several important parts that together help to assess the likely impact of the FMO. The first part relates to the mechanics of the FMO as they affect supply management for the industry. The second part discusses the Tart Cherry Federal Marketing Order Board (Board) and different choices the Board has in implementing the FMO. The third part uses and develops equations estimating the effect of supply on price. These equations are subsequently used to analyze the effect on grower prices and income of the various choices the Board has in implementing the FMO under several industry scenarios.

5.4.1 Mechanics of the FMO

One essential part of developing a relevant impact analysis for the FMO is to consider the specific mechanics of the FMO that relate to when and how supply would be regulated under the program. The FMO has specific provisions for use of formulas that to some extent determine when and to what extent supply provided by growers can be balanced with demand and how optimum market supplies can be calculated for a particular marketing year.

One key calculation described in the FMO is to determine the Optimum Supply (OS). The optimum supply according to the FMO is the average aggregate U.S. tart cherry industry movement (M) in the last three marketing years combined with "desired carryout" (DCO). Desired carryout is also defined in the FMO to not exceed 20 million pounds and within the

range of 0 to 20 million pounds is determined by the FMO Board ⁴⁰. This results in the following equation for the optimum supply:

$$OS = M + DCO$$

A second key calculation builds on this optimum supply calculation to determine the maximum amount of marketable production from the new crop or "free tonnage" (FT) that is allowed on the market in that year according to the FMO. The FMO includes a provision that the optimum supply must be adjusted upward for potential market growth and carryover from the previous year. Thus, "free tonnage" is equal to the optimum supply less the actual carryover from the previous marketing year (CO) and adjusted for a potential market growth of 10% of the 3 previous years. The provision for market growth supply seems to indicate in a simplified form to add 10% of the three year average movement (M) for an available supply adjustment for potential market growth. Putting this in an equation form results in the following equation for free tonnage:

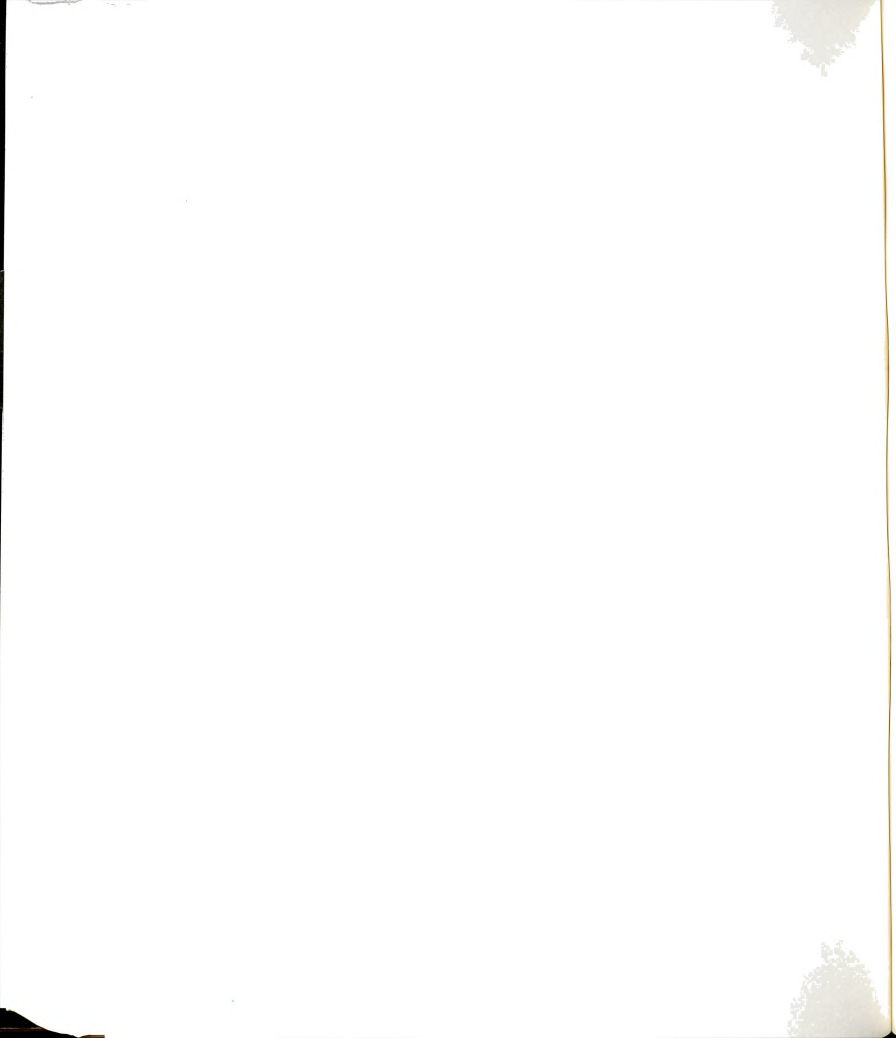
$$FT = OS - CO + 0.1M$$

As an example, Table 5-1 shows the optimum supply and free tonnage calculations for the 1995 marketing year. The targeted optimum supply and free tonnage shown in the Table are based upon the formulas for these two items in the FMO described above. With the 1995 example in Table 5-1, this yields an optimum supply of 291 mil. lbs. and a free tonnage of 238 mill. lbs if the FMO had been in place in 1995.

⁴⁰ In a particular market year, the usual level of carryover is 20 million pounds and it would be an unusually short, i.e., low supply year, for carryover to be much less than 20 million pounds. Further, it seems likely that the Board would often designate DCO as 20 million pounds. Hence, it is assumed for the purposes of this analysis that DCO equals 20 million pounds.

Table 5-1. An Example of Optimum Supply and Free Tonnage Based on the Situations in the 1995 Marketing Year

	(mil. lbs.)
Average Movement 3 Previous Years (M)	271
+ Target Carryout (DCO)	<u>20</u>
= Optimum Supply (OS)	291
+ 10% for Market Growth (0.1*M)	27
- Carryover from Previous Year (CO)	<u>80</u>
= Free Tonnage from Current Crop (FT)	238
Total U.S. Processed Tonnage	309
+ Non-harvest Diversion Credit	<u>50</u>
= "Harvestable" U.S. Crop	359
- Free Tonnage from Current Crop (FT)	<u>238</u>
= Regulated Tonnage (RT)	121



One provision in the FMO is that if "harvestable" new crop production is less than the calculated free tonnage, then the FMO will not be used that year to temporarily balance supply with demand. However, if "harvestable" new crop production (S) does exceed free tonnage, then the market supply can be regulated by the Board to balance more closely with demand by regulating the excess over free tonnage that will be available for the market in that year.

Regulated or surplus tonnage (RT) is only relevant when the new crop production exceeds the calculated free tonnage. Regulated tonnage is the surplus amount of production in the regulated states ⁴¹. The amount of regulated tonnage is determined by subtracting the free tonnage from that year's "harvestable" production as described in the following equation:

$$RT = S - FT$$

Regulated tonnage can also be expressed as a percentage of new crop production in the regulated states. For example, if total production in regulated states was 400 million pounds and 100 million pounds were restricted tonnage, then 25% of production would be regulated under the FMO that year.

According to the FMO, processors and growers could choose among at least three main options for their regulated production. These options are:

- 1) *Non-harvest diversion*: In this case a grower chooses to leave unharvested a portion of the farm's surplus production and to receive certified non-harvest diversion credit in some fashion determined by the Board.
- 2) *Primary inventory reserve*: A second possible alternative is for some portion of the regulated production to be processed and stored in what is

⁴¹ According to the FMO, production in the states of Michigan, New York, and Utah can be regulated or restricted under the marketing order. Production in Washington state or other states would be regulated if and when their state's production exceeds a three year average of 15 million pounds. Washington state is currently very near to that 3 year average threshold.

called by the FMO as the "primary inventory reserve". The intent of this inventory reserve is to remove from the supplies in a surplus year and to market this inventory reserve at a later time when market supplies are short.

- 3) *Secondary Markets:* A third possible option may be for the regulated cherries to be marketed to designated secondary markets, such as dried, school lunch, export markets or new products -- but only if the Board decides to approve diversion credits for certain of those developing markets.

These provide various alternatives for dealing with regulated tonnage and to some extent may be influenced by Board policy -- especially regarding the secondary market options.

Table 5-1 shows the calculation for regulated tonnage if the marketing order had been in place in the 1995 marketing year. Of the total 1995 new crop production of 393 million pounds, it was estimated by the USDA that 84 million pounds was abandoned and 309 million pounds were utilized for processing. 81 million pounds of the abandoned production was in regulated states. It would be expected that perhaps about 50 million pounds in the regulated states would qualify for non-harvest diversion credit. This leads to a 359 million pound "harvestable" production based upon FMO calculations. Regulated tonnage would then be 121 million pounds based upon subtracting free tonnage from the "harvestable" U.S. crop.

What could be done with regulated tonnage will, to some extent, be determined by the policies of the FMO Board. This means that there is some possible variation in the effect of the FMO based upon Board policy and that, at this point in time, actual Board policy is evolving. It is important to consider the possible effect of various Board policies in analyzing the effect of the FMO. The next section discusses various possible Board policies.

5.4.2 Effects of Board Policy on Secondary Market Diversion Credits

In the event that, in a given year, there is restricted tonnage under the FMO, then the FMO Board has considerable flexibility in some options for secondary market diversion credit for the restricted tonnage. Non-harvest diversion credit is expected to be a common option for growers if documentation procedures for the tonnage are followed. In addition, the Board has the authority to grant diversion credits for tart cherries utilized in several different "secondary market" uses⁴². These uses may be generally for dried, export, school lunch, new uses, new markets, experimental uses, etc.

The effect of allowing these secondary diversion credits is to increase supply available to the market by the amount of the approved secondary market diversion credits. In general, the use of Board discretionary diversion credits would be expected to reduce the magnitude of supply management and hence to a degree the effect on market prices.

In analyzing potential effects of the FMO, three different scenarios were developed. In one scenario, the average of the last three year's industry total cherry movement in the optimum supply formula is adjusted for average of the 3 year's movement for secondary markets that receive diversion credit. Another scenario is based upon the Board approving diversion credits for those secondary markets -- but without adjusting the average of the previous 3 year's movement for these secondary market uses. A third scenario is based upon a Board adopting a policy of no secondary diversion credits (outside of non-harvest diversion).

Which of these scenarios might actually be approved by of the Board in granting diversion credit and adjusting the formula is not clear at this time. The use of scenarios provides some range of expectations for the possible impact of the FMO as well as providing information that may be of use to the Board in making choices.

⁴² Tart cherries processed into juice are, however, not eligible for diversion credits.

5.4.3 The Grower Price Equations

Another part of this example impact analysis of the FMO is to analyze the effect of supply management on tart cherry grower prices. This is important because the main goal of the impact analysis is to evaluate the potential impacts of the FMO on growers. While supply on the market can, to some extent, be determined by the FMO provisions and Board policies, the effect of the supply on prices is determined by market demand and the supply-price relationships. This section explains, based upon historical price-supply relationships, estimates the effect of supply on price. Since under the marketing order the supply of tart cherries could be restricted in certain surplus marketing years, then the equation can be used to simulate the FMO's likely effect.

Graphically looking at the effect of supply on prices provides some useful information in estimating price-supply relationships because annual supply is usually the dominant factor in impacting cherry prices. Figure 5-3 shows U.S. season average tart cherry grower prices⁴³ and total supply⁴⁴ for the most recent 15 years, 1980-1994.

In Figure 5-3 an interesting feature is apparent regarding the relationship of cherry supplies and prices. When the industry has more than 250 million pounds of total supply⁴⁵, it seems that prices gradually decline as supply increases and prices are less than 20 ¢/lb. However, when supply is less than 250 million pounds (as shown by three observations), then the grower price is dramatically higher, in the 45-50 ¢/lb, range and additional amounts of

⁴³ In later discussions in this section, U.S. season average grower prices are referred to as prices unless otherwise indicated.

⁴⁴ Total supply is the total supply of raw product equivalent tart cherries at the beginning of the marketing year. Sources of supply include the July 1st USDA production estimate, carryover stocks, and production from Washington state, all converted to their raw product equivalent.

⁴⁵ Supply henceforth will refer to total supply.

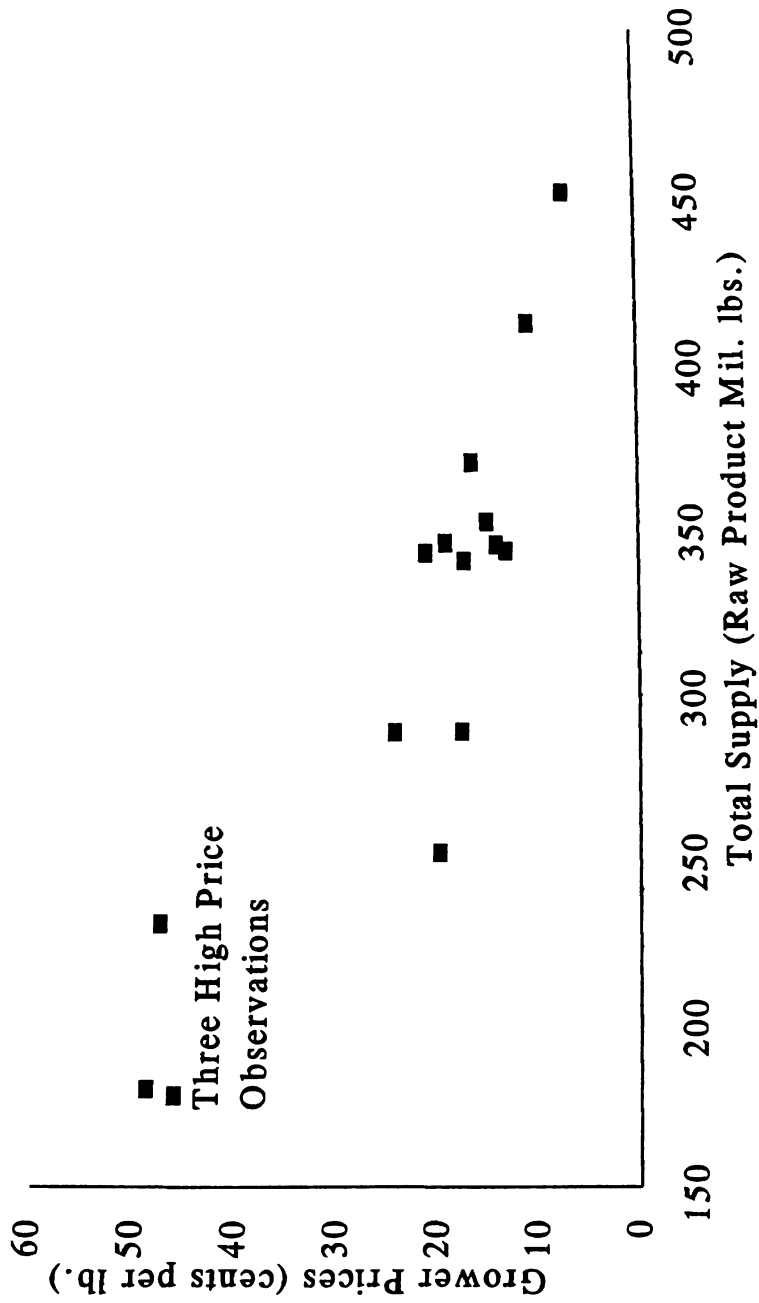
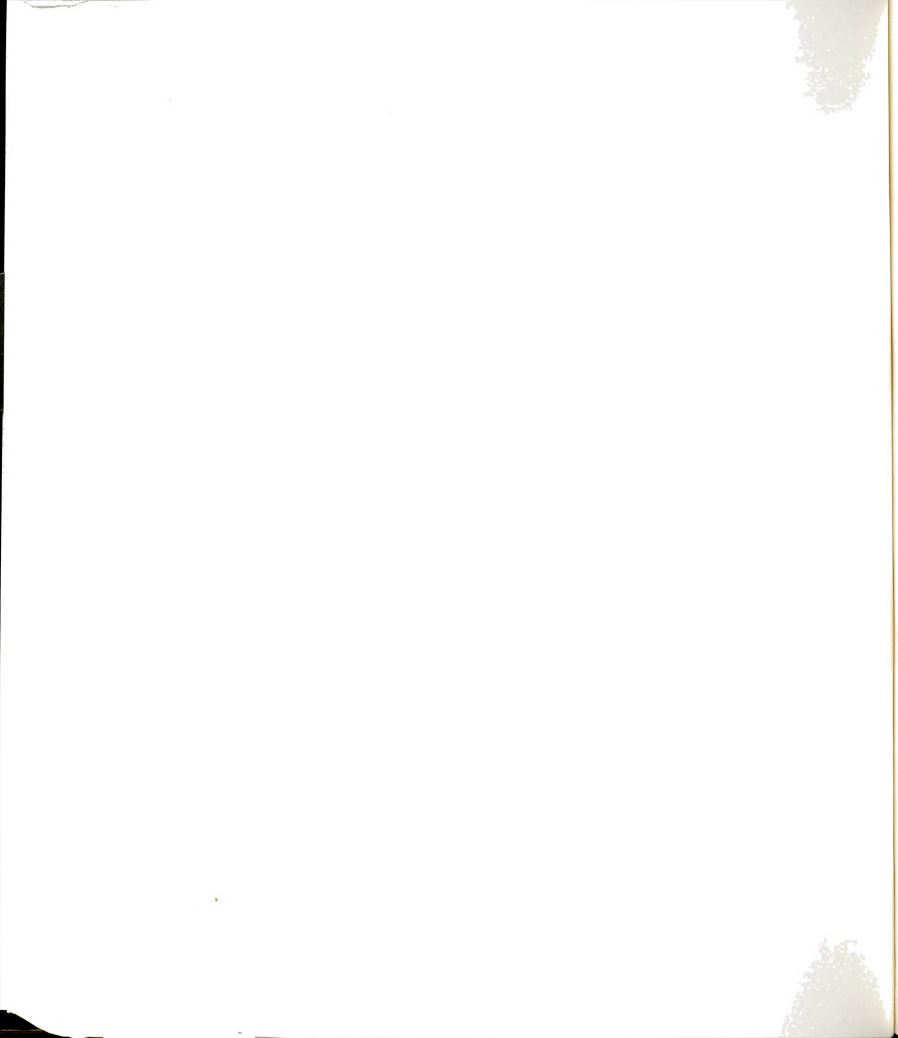


Figure 5-3. Grower Prices and Total Supply, 1980-1994



supply in this range have had relatively little effect on prices until supplies reach about 250 mil. lbs. The cause of this may be the result of a "short market" mentality where, because of inelastic demand markets, food manufacturer customers and hence processors pay exceptionally high prices to receive all supplies possible to obtain as much a share of the short market supplies as possible to achieve an acceptable level of product flow for their product lines. It is also possible that other variables such as the prices of substitute products might explain this, but analysis using the consumer price index, the price of frozen blueberries (an important substitute product for processed tart cherries), and disposable income did not explain the difference. This raises the real possibility that two different price-supply segments might best explain the relationship between cherry prices and supply. These two segments seem to be:

- 1) when supplies are "short" or below 250 mil. lbs (based upon the three observations);
- 2) when supplies are relatively "normal", i.e., when supply is more than 250 mil. lbs.

In modeling the price relationship between prices and supply, these different segments can taken into consideration in selecting functional form for the relationship. Given this, two separate functional forms were estimated in analyzing the effect of supply on price at the grower level.

The first equation estimated used a linear functional form and explicitly recognized the two different segments of the price-supply relationship discussed above. Two individual price segments were separately estimated with the observations from each segment. These two equations define one continuous piece-wise linear price-supply model over the total range of possible supply.

Another equation was estimated using a semi-log functional form and included all observations in the estimation from the 15 year period. This flexible functional form had sufficient curvature to provide a reasonable estimate of the relationship without using two equations.

In choosing the most appropriate functional form it is important to consider the purpose of the estimation. This purpose is to evaluate the effect of FMO supply management upon prices. Considering that, based in provisions of the FMO, it is extremely unlikely that supply will be restricted when supply is less than 250 mil. lbs., then there is some question as to what extent the high price observations (i.e., with supply less than 250 mil. lbs.) should have upon coefficients explaining supply-price relationships that are greater than 450 mil. lbs. Hence, the linear piece-wise grower price model was used in evaluating the possible effect of the FMO. However, it is recognized that other researchers focusing on other goals may want to use the price equations estimated here. Hence, a description of estimates using the semi-log functional form is provided as well.

A visual depiction of the linear piece-wise and semi-log equations along with the actual price-supply observations is provided in Figure 5-4. As can be seen, the overall effect of both equations is quite similar. However, for possible situations where supply is out of range of the data, i.e., when supply is greater than 250 mil. lbs., the linear equation is probably more appropriate because it does not contain curvature caused by the three high price observations as the semi-log equation does. This reinforces the use of the linear equation, especially since the 1995 marketing year had record supplies that were much greater than previous marketing years, i.e., the situation to be simulated and assessed was out of range of previous observations upon which the equations were based.

5.4.3.1 A Piece-Wise Linear Grower Price Equation

The following is a summary of a piece-wise linear price model for marketing year average tart cherry grower prices. The equation was estimated in two pieces because the three high price observations with total supply less than 250 mil. lbs. are quite different from price observations with more than 250 mil. lbs. as discussed in the last section. The first piece of the equation is for situations when total supply is greater than 250 mil. lbs. and describes situations

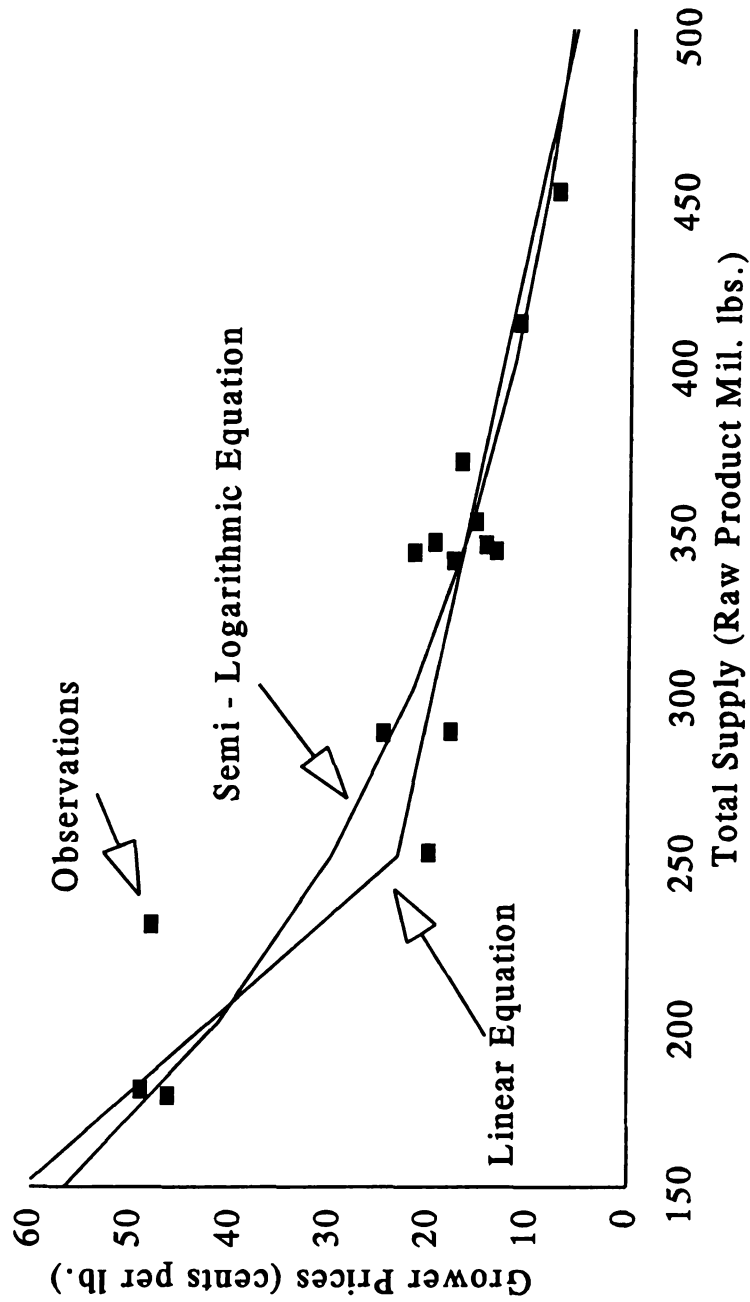
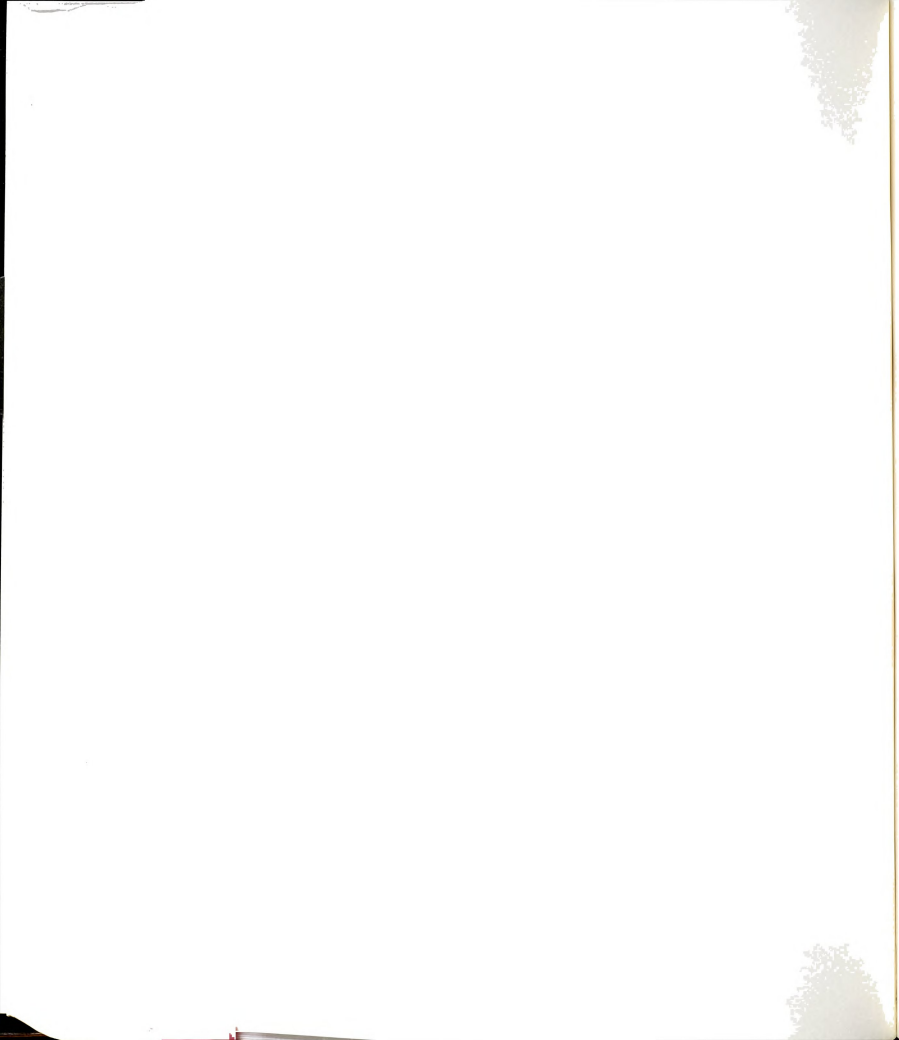


Figure 5-4. Comparing the Linear and Semi - Logarithmic Equations



where the FMO supply management provisions are likely to be operational. The first piece of the estimated equation to determine the effect of total supply on average grower prices is:

$$(1a) \quad PG = 40.93 - 0.0704 TS$$

$$(6.97) \quad (-4.16)$$

where:

PG = Marketing year average grower price for raw cherries (¢/lb.);

TS = Total supply of tart cherries⁴⁶ (mil. lbs. of raw product equivalent).

The equation uses data from 1980 to 1994 where total supply exceeded 250 mil. lbs. The values in parenthesis are t-statistics, and the R^2 value of the estimated equation is 0.63. This equation can be used to look at departures or changes from actual conditions in a time period when total supply exceeds 250 mil. lbs.

If the supply of new crop and carryover is less than 250 mil. lbs., then the above estimated equation would not be most appropriate. For the purposes of analyzing the effect of the FMO, this is of less interest, but for other purposes a linear line was developed for this range based upon on the three observations. The equation for the range where total supply is less than 250 mil. lbs. is:

$$(1b) \quad PG = 117.08 - 0.375 TS$$

Relevant statistical measures are not possible for equation (1b) because of degrees of freedom issues.

The two equations (1a) and (1b) together develop a continuous, piece-wise linear grower price equation. If supply is greater than or equal to 250 mil. lbs. then equation (1a) is relevant and if supply is less than 250 mil. lbs. then equation (1b) is relevant.

⁴⁶ Total supply is based upon the mid-June USDA supply estimate, Washington state processed production, and July 1 carryover stocks all converted to raw product equivalent.



5.4.3.2 A Logarithmic Grower Price Equation

Another alternative for the price model is to estimate the effect of total supply on price using a flexible functional form that does not have two pieces as the earlier equation does. The following equation estimates the natural logarithm of grower prices as a function of total supply:

$$(2) \quad \text{LNGR} = 4.99 - 0.00635 \text{ TS}$$

(21.79) (-8.96)

where:

LNGR = The natural logarithm of marketing year average grower
price for raw cherries (¢/lb.)

TS = Total supply of tart cherries⁴⁷ (mil. lbs. of raw product equivalent)

This equation uses data from 1980 to 1994. The values in parenthesis are t-statistics, and the R² value of the estimated equation is 0.86. This equation can be used to look at departures or changes from actual conditions in supply.

5.4.4 Estimated Economics of the Federal Marketing Order

The overall analysis of the potential economic returns of the FMO focused on how the FMO would effect growers. To the extent the FMO restricted quantities on the market in a given year, it would likely increase prices and grower incomes. The key overall comparison is how the effect of the FMO compares to a situation without the FMO. However, this overall comparison is complicated because the FMO's effect is variable due to the effect of Board policy.

The FMO Board has some flexibility in managing the effect of the FMO's supply restriction due to Board options regarding diversion credits, even though there is a formula for "optimum supply" specified in the FMO as discussed earlier. The means that the functioning of

⁴⁷ Total supply is based upon the mid-June USDA supply estimate, Washington state processed production, and July 1 carryover stocks all converted to raw product equivalent.



supply management in the FMO is not completely determined by the formula, but depends to some extent upon the Board policies. Given this fact, three FMO scenarios were developed in the analysis to consider the possible effect of the FMO under various scenarios describing several possible Board policies. Two main choices of the Board in supply management are to what extent the Board will grant diversion credits for secondary markets and whether the average of the last 3 year's movement will be adjusted for secondary or developing markets. These choices underlie the three FMO scenarios that are developed in the analysis.

One fundamental alternative to the FMO scenarios is to not have the FMO. This would mean that other market forces would determine the quantities available to the market as well as market prices. The grower price equation (1a) provides a schedule of projected prices for various quantities available to the market. Table 5-2 summarizes these for a number of relevant quantities.

Table 5-2. Estimated Grower Prices for Selected Quantities of New U.S. Crop

<u>U.S. Crop</u>	<u>Grower Price</u>	<u>Industry Grower Income</u>
(mil. lbs.)	(¢/lb.)	(million \$)
265	16.8	44.5
290	15.0	43.6
315	13.3	41.8
340	11.5	39.2
365	9.8	35.6

The following three subsections evaluate the possible effects of the scenarios based upon the analysis with different Board policies for possible 1996 scenarios and a 1995 example. This provides an overall range of possible variation given the currently uncertainty about policies from the Board. A final subsection provides an overall comparison of the analysis results with

1975

1975

the various scenarios and the no FMO situation in an example based upon the 1995 marketing year.

5.4.4.1 Scenario #1 - Movement Adjusted for Developing Markets

This scenario reflects a possible Board policy that would reduce the average of the last three year's tart cherry movement by the volume marketed to dried and export markets. This is also based on the assumption for these scenario that these two markets would be approved for diversion credit for surplus cherries. In effect, the average industry movement is adjusted to reflect only movement in the main, well-developed tart cherry markets (not including dried and exports). Movement in dried and export markets are not used in determining the optimum supply. However, dried and export markets are assumed to be granted diversion credits.

An example of the effect on the grower segment of the industry for scenario #1 in the 1996 marketing year is shown in Table 5-3. The recent average 3 year total movement of 291 mil. lbs. is adjusted by the 31 mil. lbs. recent movement from dried and export markets so that the adjusted 3 year movement for the FMO calculations is 260 mil. lbs. According to the marketing order's optimum supply formula calculations, this adjusted 3 year movement of 260 mil. lbs. is added to the 20 mil. lbs. desired carryout and 26 mil. lbs. from 10% market growth for an optimum supply of 306 mil. lbs. Then a needed subtraction of the 70 mil. lbs. carryover from the 1995 marketing year, indicates 236 mil. lbs. of free tonnage for main markets for the 1996 crop.

About 36 mil. lbs. are estimated for the analysis to be marketed to dried and export markets, and these are assumed to be granted diversion credits with this analysis scenario. This results in an overall maximum market supply for 1996 of 272 mil. lbs. -- that according to the price formula would result in an average grower price of 16.3 ¢/lb. with a calculated aggregate gross grower return of \$ 44.4 million.

**Table 5-3. Scenario # 1: Marketing Order Formula Adjusted for Export and Dried --
and These Approved for Diversion Credit for the 1996 Marketing Year**

	(mil. lbs.)
Adjusted 3 Previous Years Movement (M)	260
+ Target Carryout (DCO)	<u>20</u>
= Optimum Supply (OS)	280
+ 10% for Market Growth (0.1*M)	26
- Carryover from Previous Year (CO)	<u>70</u>
= Free Tonnage from Current Crop (FT)	236
+ Export and Dried Granted Diversion Credit	<u>36</u>
Maximum Available Tonnage from 1996 Crop	272

<u>Total U.S. Crop</u> (mil. lbs.)	Tonnage off the Market from FMO (mil. lbs.)	% Restriction		Average Grower Price (¢/lb.)	Industry Grower Income (mil. \$)
		Initial	With Secondary Diversion Credit		
265	0	12%	0%	16.8	44.5
290	18	20%	7%	16.3	44.4
315	43	27%	15%	16.3	44.4
340	68	33%	22%	16.3	44.4
365	93	38%	28%	16.3	44.4



5.4.4.2 Scenario #2 - Unadjusted Movement and Diversion Credits

for Developing Markets

Scenario #2 reflects a Board policy if total industry movement is not adjusted for selected developing markets such as export and dried. However, the Board is assumed to grant diversion credits for dried and export markets. Overall, this would result in more supply being in the market than in either scenarios #1 and #3 as the following example for the 1996 marketing year shows.

The analysis of scenario # 2 for the 1996 marketing year starts with a determination of the optimum supply as shown in Table 5-4. The average of the last 3 year's movement is 291 mil. lbs. to which is added with 20 mil. lbs. desired carryout and 29 mil. lbs. for the 10% market growth. This results in a 340 mil. lbs. "optimum supply". With 70 mil. lbs. carryover from the 1995 marketing year, this results in 270 mil. lbs. for main markets with this scenario. In addition, 36 mil. lbs., as in scenario #1, are provided to dried and export markets through diversion credits, causing an overall market supply for the new crop of 306 mil. lbs. This results in a predicted average grower price of 13.9 ¢/lb. and an overall gross grower income of \$ 42.6 million which is \$1.8 million or 4 percent lower than Scenario # 1.

5.4.4.3 Scenario # 3 - Unadjusted Movement with No Diversion Credits

Another possible policy choice that is advocated by some could be for the Board to not adjust the 3 year movement calculations as well as not providing any secondary market diversion credits. An example of the possible application of this board policy scenario is provided in Table 5-5 for the 1996 marketing year. As the table indicates, the average movement for all markets is 291 mil. lbs. with 20 mil. lbs. desired carryout and 29 mil. lbs. for 10% market growth, this results in 340 mil. lbs. "optimum supply" as it was in scenario #2. Adjusting for the 70 mil. lbs. carryover from the 1995 marketing year, this results in 270 mil. lbs in free tonnage to use for all markets for the 1996 marketing year. This means that the FMO in this

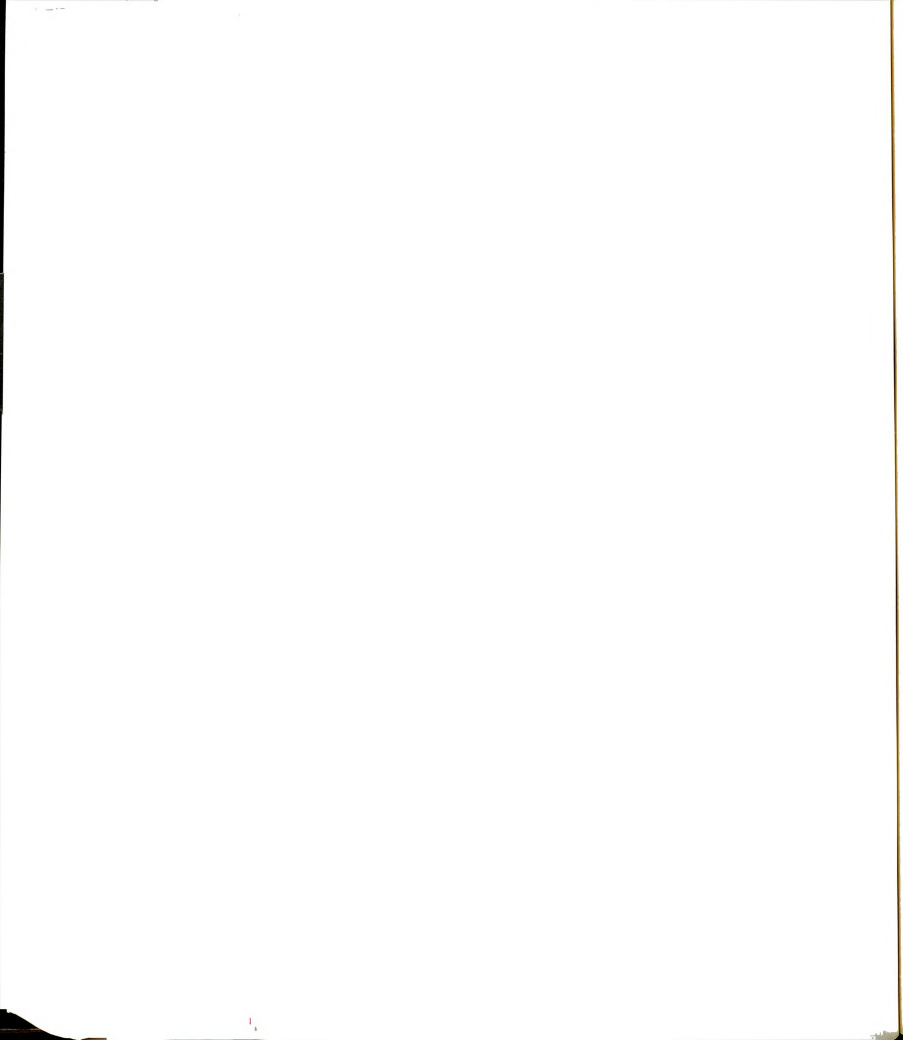


Table 5-4. Scenario # 2: Unadjusted Supply Formula for the 1996 Marketing Year -- with Diversion Credit for Export and Dried

	(mil. lbs.)
Average 3 Year Movement (M)	291
+ Target Carryout (DCO)	<u>20</u>
= Optimum Supply (OS)	311
+ 10% for Market Growth (0.1*M)	29
- Carryover from Previous Year (CO)	<u>70</u>
= Free Tonnage from Current Crop (FT)	270
+ Export and Dried Granted Diversion Credit	<u>36</u>
Maximum Available Tonnage from 1996 Crop	306

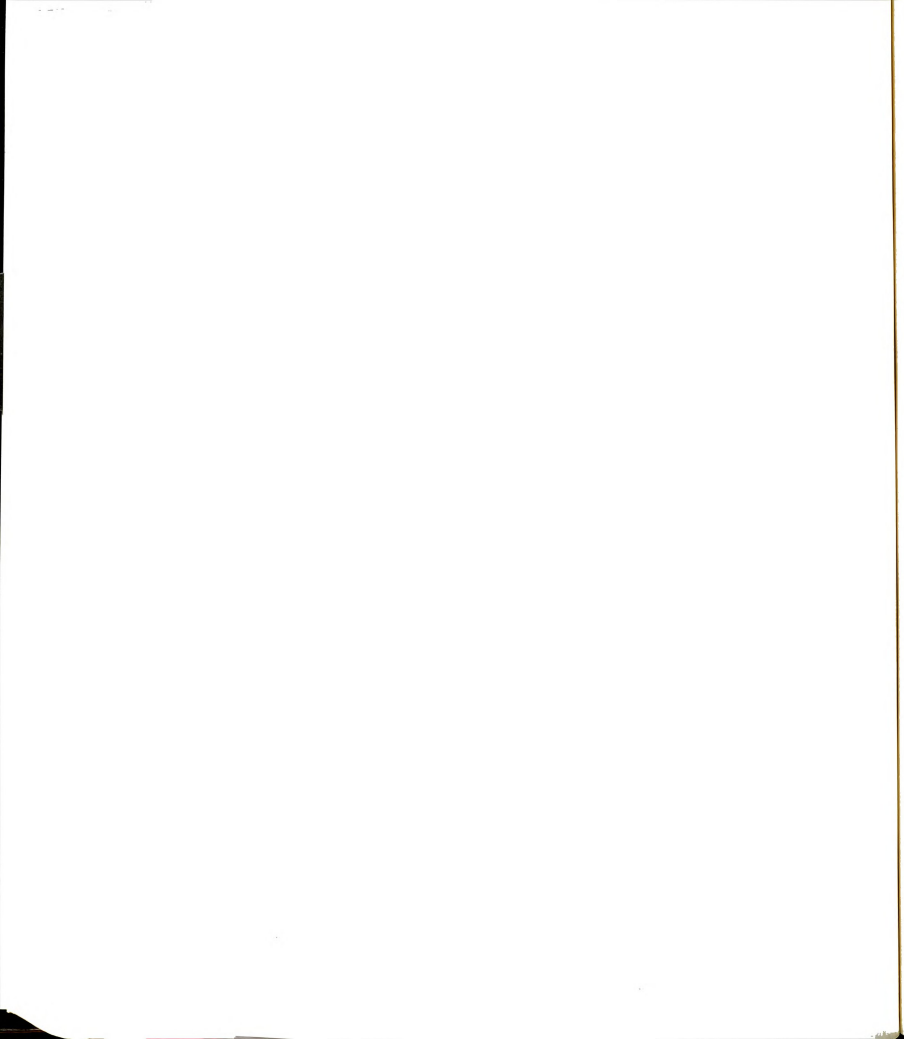
<u>Total U.S. Crop</u> (mil. lbs.)	Tonnage off the Market from FMO (mil. lbs.)	<u>% Restriction</u>		Average Grower Price (¢/lb.)	Industry Grower Income (mil. \$)
		<u>Initial</u>	<u>With Secondary Diversion Credit</u>		
265	0	0%	0%	16.8	44.5
290	0	7%	0%	15.0	43.6
315	9	15%	3%	13.9	42.6
340	34	22%	11%	13.9	42.6
365	59	28%	18%	13.9	42.6



**Table 5-5. Scenario # 3: No Diversion Credit for Secondary Markets
for the 1996 Marketing Year**

	(mil. lbs.)
Adjusted 3 Previous Years Movement (M)	291
+ Target Carryout (DCO)	<u>20</u>
= Optimum Supply (OS)	311
+ 10% for Market Growth (0.1*M)	29
- Carryover from Previous Year (CO)	<u>70</u>
= Free Tonnage from Current Crop (FT)	270
+ Export and Dried Granted Diversion Credit	0
Maximum Available Tonnage from 1996 Crop	270

<u>Total U.S. Crop</u> (mil. lbs.)	Tonnage off the Market from FMO (mil. lbs.)	% Restriction	Average Grower Price (¢/lb.)	Industry Grower Income (mil. \$)
265	0	0%	16.8	44.5
290	20	7%	16.5	44.4
315	45	15%	16.5	44.4
340	70	22%	16.5	44.4
365	95	28%	16.5	44.4



scenario would be estimated to result in an average grower price of 16.5 ¢/lb. and result in a calculated overall gross grower return of \$ 44.4 million. This is roughly equivalent to the overall estimated grower income and price effect of Scenario # 1. However, there are clearly substantial differences in overall supply calculation and diversion credits.

5.4.4.4 A Comparison of Potential from Marketing Order Options -- Using the 1995 Crop as an Example

The overall evaluation was done to consider the potential effect of the FMO compared to a situation without a FMO. For this evaluation, it is useful to compare the three FMO scenarios, discussed in the previous sections, with the no FMO situation for a relevant year. The 1995 crop was particularly relevant as an example because the FMO, if in place, would surely have reduced market supplies, since the 1995 crop was exceptionally large and carryover stocks were unusually high. Furthermore, the 1995 crop represented the most recent year during the period in which this analysis was used with the industry.

Table 5-6 is a comparison of the FMO scenarios of the analysis with the no FMO scenario using the 1995 crop as an example situation. The Table indicates that there would have been substantial price and income benefits from the FMO to growers if the FMO had been in place in 1995. Grower prices with an FMO ranged from 15.2 ¢/lb. to 17.9 ¢/lb. which were substantially greater than the 4.7 ¢/lb. that was projected as an estimate for the crop without an FMO. This would at minimum be expected to result in grower prices 11.5 ¢/lb. higher than with the worst FMO scenario. The higher prices with an FMO were projected to result in substantially greater aggregate grower income of at least \$ 42 million as compared to \$ 21.7 million without the FMO. Overall, this illustrates some of the potential short-run benefits from the FMO towards increasing grower prices and incomes, especially with crop sizes like 1995 in which supplies are exceptionally high.

Table 5-6. A Comparison of the FMO Options - Using the Example of the 1995 Crop

	Export & Dried Diversion Credit	With Formula Adjustments	Non-Harvest Diversion Only	No Federal Marketing Order
Avg. 3 Year Movement	271 ¹	245	271	
+ Target Carryout	20	20	20	
Optimal Supply	291	265	291	
+ 10% Market Growth	27	24	27	
Available Free Tonnage	318	289	318	
- Carryin	80	80	80	
Free Tonnage - 1995 Crop	238	209	238	
+ Export & Dried Diversion Credit	39	39	-	
Final 1995 Available Market Supply	277	248	238	393
Grower Price	15.2 ¢/lb.	17.2 ¢/lb.	17.9 ¢/lb.	4.7 ¢/lb.
Industry Gross Grower Incomes (millions)	\$ 42.0	\$ 42.7	\$ 42.7	\$ 21.7

¹ All units are mil. lbs. unless otherwise specified.



5.4.5 Summary of the Impact Analysis

The impact analysis described and analyzed the possible effect of a supply management program through the FMO in the U.S. tart cherry industry. In doing this, the impact analysis was based upon key features of the FMO as it applies to supply management and upon measuring the effect of different resulting supply scenarios on price. This provided a method to calculate the possible FMO effects on growers. An example was also provided if the FMO had been in place to improve industry performance for the 1995 marketing year. Different scenarios were developed in this analysis to evaluate to some extent the possible effects of the FMO Board's policies in managing supply.

This analysis provided important information to aid industry decisionmaking. It helped to indicate to the industry the possible benefits and limitations of the then proposed FMO. Based upon industry reaction, this impact analysis was very useful and helped the industry properly evaluate and eventually achieve implementation of the FMO. This type of impact analysis could be useful as part of a comprehensive ISPC process as an aid in selecting specific strategies as well as in the implementation and coordination phases of the ISPC framework.

5.5 Synopsis

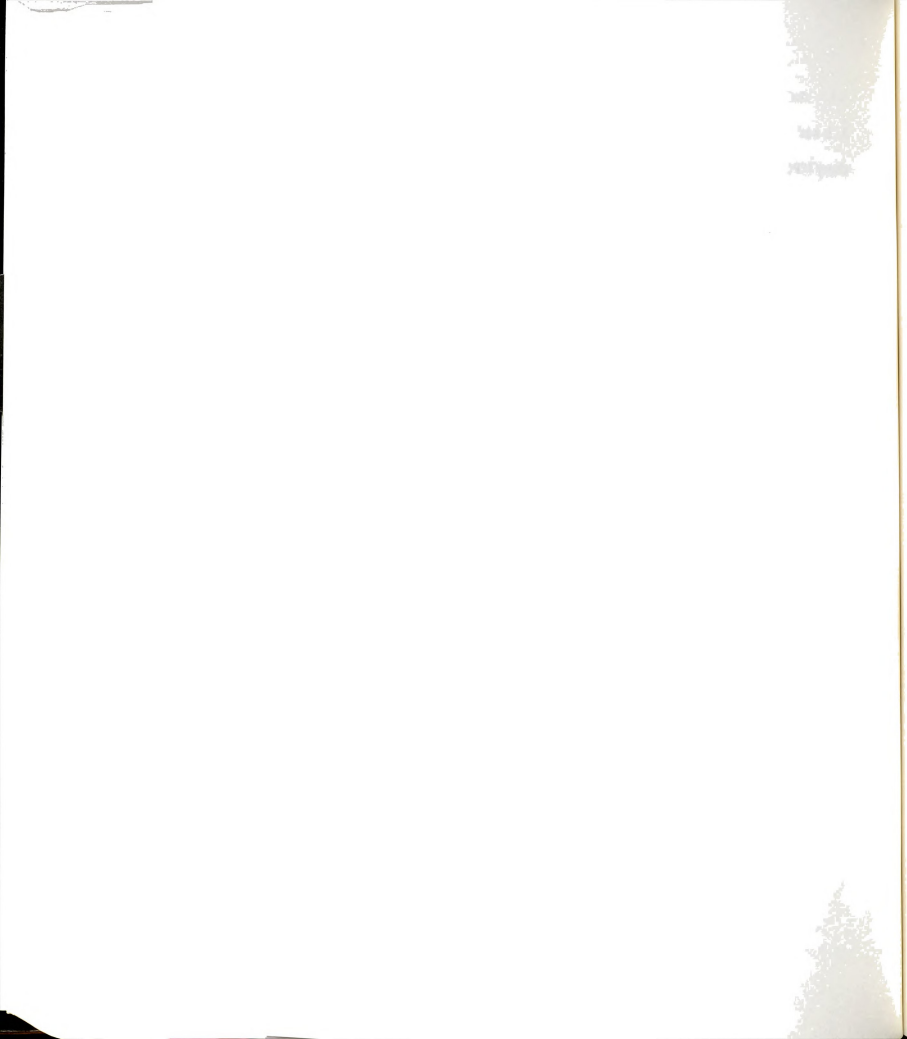
This chapter has discussed and described some aspects of the ISPC process in a case study of the U.S./Michigan tart cherry industry. Some emphasis was also given to a new industry program and strategic directions regarding an FMO for that industry. Some relevant parts of the ISPC framework developed in Chapter 3 were applied in the context of experiences of the U.S./Michigan tart cherry industry as a case study. This case study concentrated on aspects related to the *process initiation* and *implementation and coordination* phases of the framework because this industry recently has emphasized these phase for a comprehensive ISPC process.



An effort focused on assessing the validity of the ISPC framework developed in Chapter 3. It was found that the ISPC framework identified key tasks in starting the U.S./Michigan tart cherry ISPC process and some approaches to addressing these tasks in the tart cherry industry. Furthermore, when some key activities in process initiation were not completed, the comprehensive process in the U.S./Michigan tart cherry industry was narrowed in focus to concentrate on two main strategic directions of the FMO and an innovative new cooperative.

An impact analysis for the FMO in the tart cherry industry was developed by the author working with a tart cherry marketing expert. This provides an illustration of a "impact analysis" as discussed in the ISPC framework developed in Chapter 3. This is a useful example because impact analysis is an important aspect in the framework, and the FMO impact analysis example seemed to be an effective application.

In summary, the U.S./Michigan tart cherry industry provides another, although limited case, study of an ISPC process. The ISPC framework seemed to provide a useful to model for the ISPC process in the U.S./Michigan tart cherry industry through the "process initiation" phase of the framework developed in Chapter 3. As time progresses, this industry's comprehensive ISPC process should offer additional insights into how an industry can go about planning and developing coordinated actions to improve industry performance.



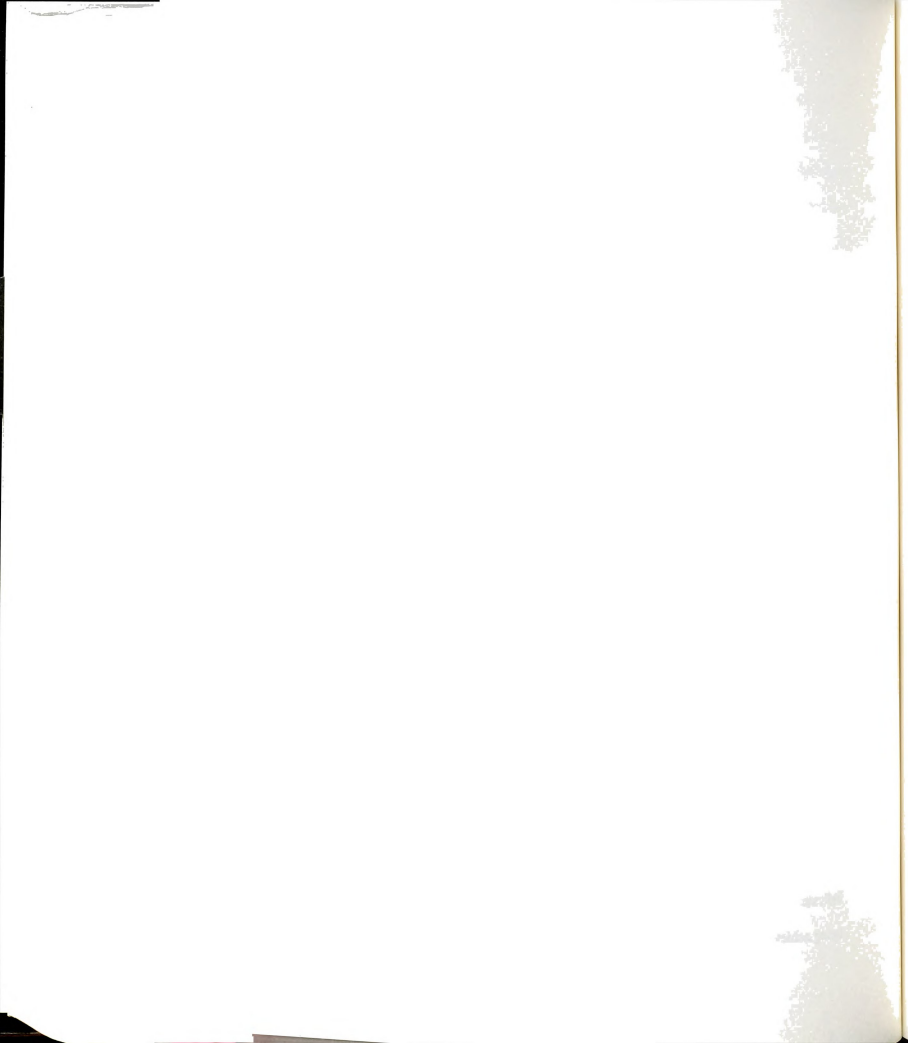
CHAPTER 6

ISPC: FINDINGS AND FUTURE NEEDS

Industry strategic planning and coordination (ISPC) is a relatively new, innovative approach that has substantial potential to improve the performance of commodity industries. In this approach, firms and industry organizations within an industry strategically plan together to take selected coordinated actions to improve the industry's competitiveness and economic viability. The overall purpose of this dissertation has been to further develop effective approaches for accomplishing ISPC as well as to develop and analyze the overall ISPC concept.

One objective of this chapter is to revisit the ISPC framework developed in this dissertation based on the case observations. A key goal in this dissertation has been to contribute to the development of a pragmatic, broad-based analysis framework for accomplishing ISPC. To meet this goal, a review of theoretical concepts and ideas from relevant disciplines was developed. These concepts and ideas were subsequently used to develop an ISPC framework as an effective guide for practitioners of ISPC. This ISPC framework was then related to the empirical setting of two industry case studies. These provide observations of the ISPC framework's use in practice and are used to revisit and assess the overall usefulness of the framework later in this chapter.

A second objective of this chapter is to consider current knowledge about the potential and actual benefits of ISPC. The benefits of ISPC are considered from the industry and public's perspective based upon the experiences in mainly the Michigan apple industry case. These indicate in an overall way that the potentials of ISPC in improving industry performance are being achieved in a number of ways.



This chapter has two other objectives which are to consider the overall external validity of the ISPC framework and provide suggestions for future research. The validity aspect indicates how generalizable the framework may be. The discussion on future research indicates where future research into ISPC may be most beneficial. The following sections address the objectives for this chapter as it summarizes the knowledge from the dissertation and draws the dissertation to a close.

6.1 The Framework Revisited

A key contribution of this dissertation has been to build a pragmatic, broad-based framework that integrates and synthesizes knowledge about approaches for effectively accomplishing ISPC. Such a framework was developed in Chapter 3 based upon established theory from the business school (e.g. firm-level strategic management), agricultural economics (e.g. existing ISPC theory, subsector analysis), and economics (e.g. group theory, public good theory). This framework was then tested in the practical ISPC experiences of the Michigan apple and U.S./Michigan tart cherry industries (Chapters 4 and 5). The case evidence supports that the framework provides a useful model and would appear to be useful for application in other industry circumstances. This section provides an overview of the ISPC framework developed in Chapter 3 and then goes on to revisit the framework for potential improvements based on the industry case studies.

6.1.1 An Overview of the ISPC Framework ⁴⁸

The framework, as portrayed by Figure 6-1, is a series of phases that involve key analyses and related activities for an industry to accomplish as part of an effective ISPC process. The "boxes" in the framework, shown in Figure 6-1, represent overall flow activities (i.e., (1)

⁴⁸ More detailed coverage of the framework can be found in Chapter 3.



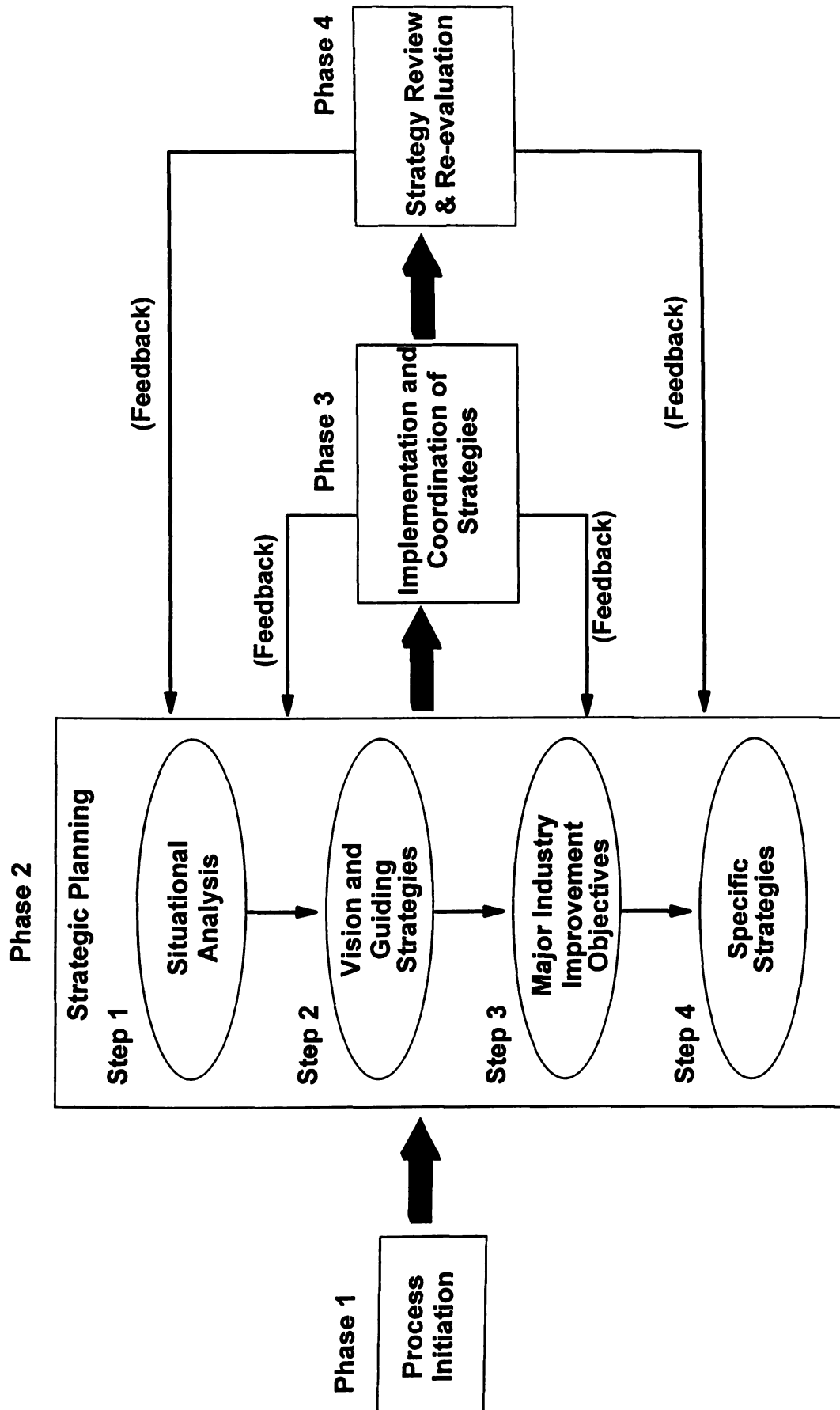


Figure 6-1. A Framework for Industry Strategic Planning and Coordination



process initiation, (2) strategic planning, (3) implementation and coordination of strategy, and (4) strategy review and re-evaluation) or phases that need to be accomplished and are usually done in order. The logic behind this flow is that an ISPC process has some unique start-up characteristics that are described in *process initiation* as a meaningful first phase. Then, the *strategic planning* phase involves selection of industry strategies which are the ones that are most likely to result in improved industry performance. To be effective the strategies selected must be implemented and proper coordination among industry participants assured through the *implementation and coordination* phase. *Strategy review and re-evaluation*, the fourth phase, represents the reconsideration of earlier phases in light of changing circumstances.

The four "ovals" of Phase 2, illustrated in Figure 6-1, represent major steps in the *strategic planning* phase of the ISPC framework. The strategic planning phase is broken down into these major steps in order to focus on several different aspects which are important in selecting strategies that are most likely to improve industry performance. Each of these steps commonly involves a number of activities that indicate important actions, considerations, or approaches that the industry can use to contribute to effective strategic planning.

Another important element in the framework includes the feedback loops from implementation and coordination of strategies as well as strategy review and re-evaluation. These represent the iterative nature of ISPC planning efforts. Strategies will be implemented and coordinated in the industry with varying degrees of success and need to be periodically reexamined based on experiences and results. This reexamination provides feedback into possible changes in later strategic planning efforts. Strategy review and re-evaluation represents an overall reconsideration of earlier phases in the strategic planning activity framework and serve as overall feedback on their effectiveness and for possible modifications to ISPC strategy as circumstances change overtime.



6.1.2 Effectiveness of the Framework and Improvements Based on the Cases

At this point in the dissertation, a meaningful contribution to framework development and assessment is to review the ISPC framework in light of the industry case study experiences. The case study review serves as a basis to assess, revise, improve, and further develop the ISPC framework based upon the case study experiences. The case study experiences especially provide empirical information on how to practically address a number of issues that were identified in a general way in the framework through empirical knowledge based upon the case study experiences. Future ISPC efforts should incorporate the relevant improvements indicated by the case experiences.

As a review of key concepts in the framework, two tables were developed. The phases of the framework are shown in Table 6-1. This indicates the detailed, comprehensive nature of the ISPC framework. One key feature of the framework is the strategic planning phase, which is comprised of a number of steps. As portrayed by Table 6-2, each of these steps commonly involves a number of activities that indicate important actions, considerations, or approaches that the industry can use to contribute to effective strategic planning. The following subsections review each phase and step of the ISPC framework with the goal of exploring improvements in the framework based upon the industry case studies.⁴⁹

6.1.2.1 Process Initiation

The first phase in the ISPC framework indicates that effective ISPC process initiation requires careful consideration of a number of important factors. This initiation aspect is especially important in the ISPC context because effective initiation in an industry context, in contrast to firm strategic management, involves the industry's many and varied firms and

⁴⁹ The strategy review and re-evaluation phase is not reviewed in the following subsections because that phase has not been done extensively up to this point in the cases. Hence, "revisiting" that phase would have little empirical information which could be used.

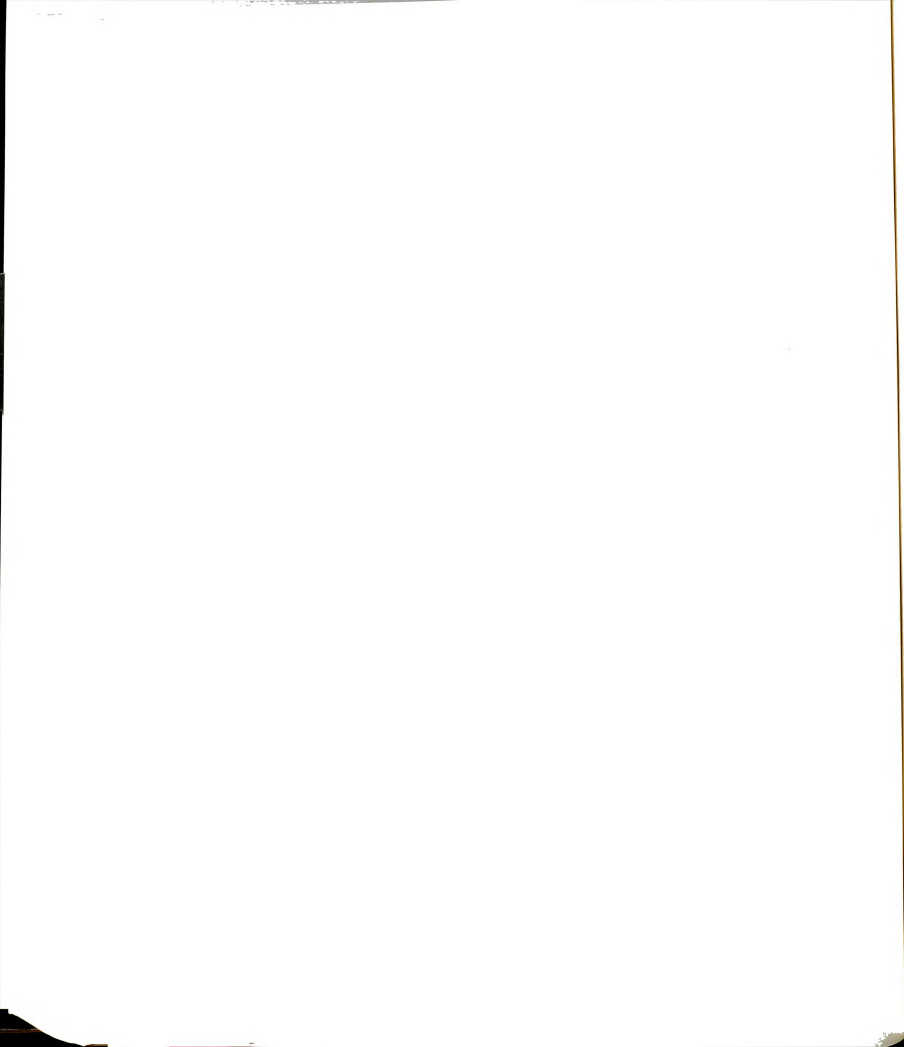


Table 6-1. A List of the Various Phases of the Framework and Their General Purpose

<u>PHASE</u>	<u>PURPOSE</u>
Phase 1: Process Initiation * Articulation of an Industry Need for ISPC * Formation of an ISPC Leadership Group * Selection of a Set of Common Objectives * Method to Pay the Costs of the ISPC Group * Provision of Staff Support for the Process	<i>Begin an ISPC Process in an Industry</i>
Phase 2: Strategic Planning - Step 1: Situational Analysis - Step 2: Vision Statement and Guiding Strategies - Step 3: Major Improvement Objectives - Step 4: Development of Specific Strategies	<i>Go Through a Process Where the Strategies Which Will Most Likely Improve Industry Performance are Selected</i>
Phase 3: Implementation and Coordination of Strategies * Develop Implementation Plans * Communicate the Strategy to Industry Participants * Provide Needed Resources for the Strategy - Voluntary Contributions - Mandatory Assessments * Measure Progress Within the Industry * Where Appropriate, Enforce the Strategy	<i>Develop the Necessary Method to Implement Industry Strategies Including Coordinating Actions Within the Industry</i>
Phase 4: Strategy Review and Re-Evaluation	<i>Change Strategy in Light of Changing Circumstances</i>

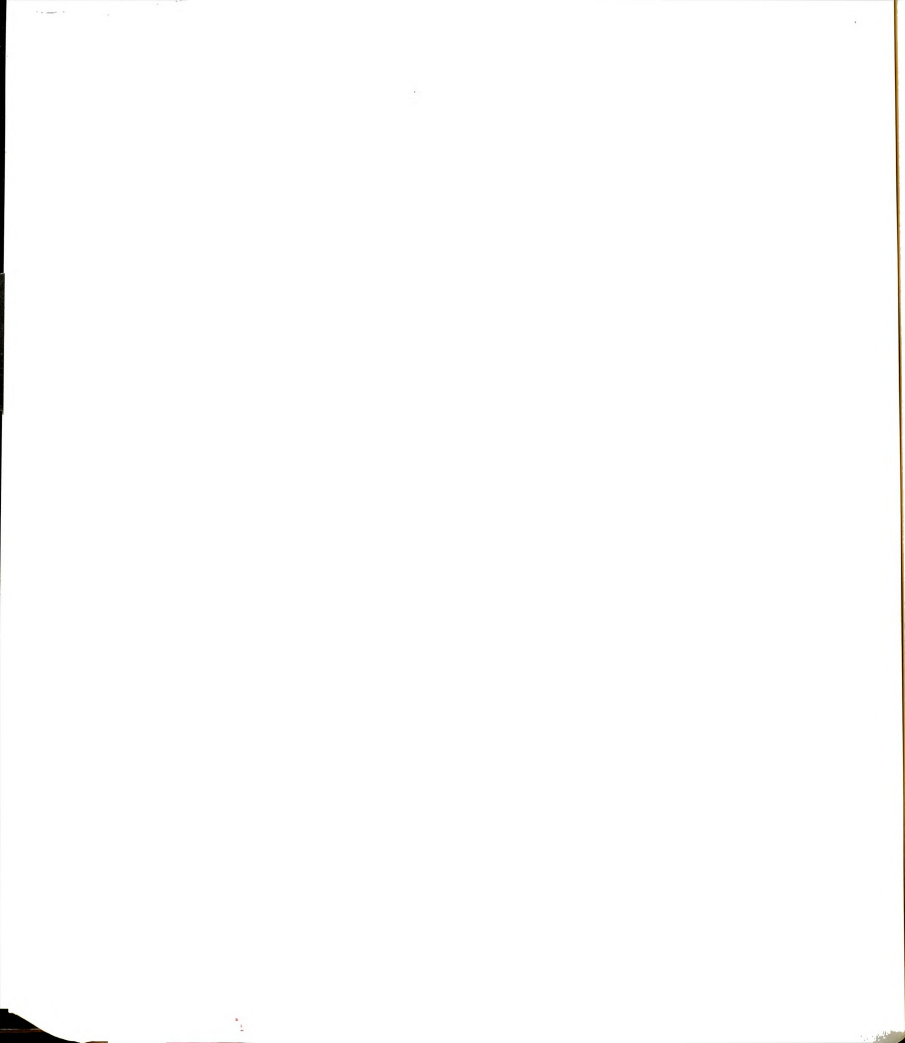
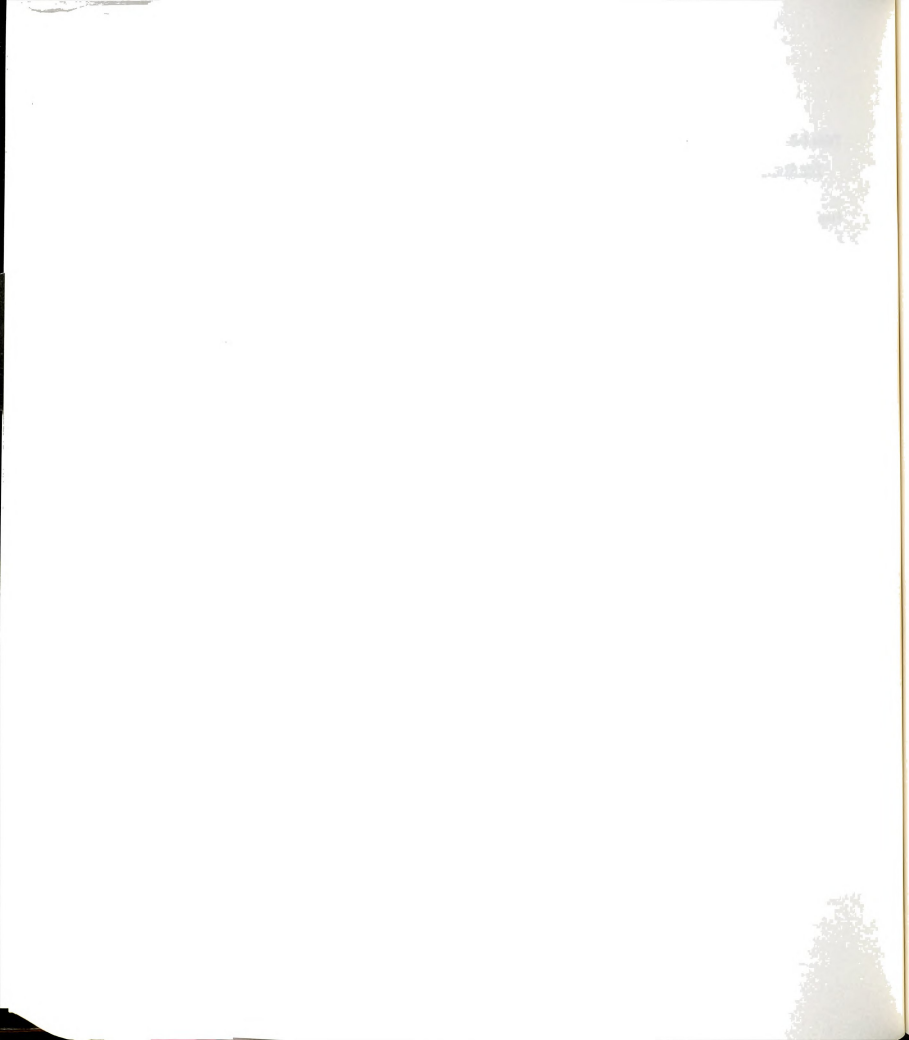


Table 6-2. The Steps of the Strategic Planning Phase and Their General Purpose

<u>THE STRATEGIC PLANNING PHASE</u>	<u>PURPOSE</u>
Step 1: Situational Analysis * Shift-Share Analysis * SWOT Analysis * Analysis of Major Driving Forces * Identification of Key Success Factors * Value Chain Analysis * Competitor Analysis * Transactions Cost Analysis	<i>Develop Relevant Analytical Insights, Shared Understandings of the Industry, Its Environment, and Relevant Factors for ISPC</i>
Step 2: Vision Statement and Guiding Strategies * Generation of a Vision Statement * Guiding Strategies - Growth Positioning - Focus on Developing Core Competencies - Value Based Actions - Mix of Differentiation versus Low Price	<i>Define the Overall Industry's Strategic Intent in a Vision Statement and Overall Core Strategies</i>
Step 3: Major Improvement Objectives * Is Industry Action Necessary? * Does the Objective Address a Critical Gap?	<i>Determine and Prioritize Key Areas Where Industry Attention Should Best be Focused</i>
Step 4: Specific Strategies * Strategies for Each Major Improvement Objective * Impact Analysis	<i>Select Specific Strategies that are Viewed as the Most Likely to Facilitate Needed Industry Improvement</i>



industry organizations which need to develop a sufficient consensus to decide to effectively pursue such a ISPC process. In forming a group to guide an ISPC process, group theory indicates that the group needs to agree on a (a) common set of objectives and (b) some way to pay the costs of the process. These theoretical concepts were incorporated in the framework and are substantiated by the case studies as important and appropriate considerations in the actual ISPC context.

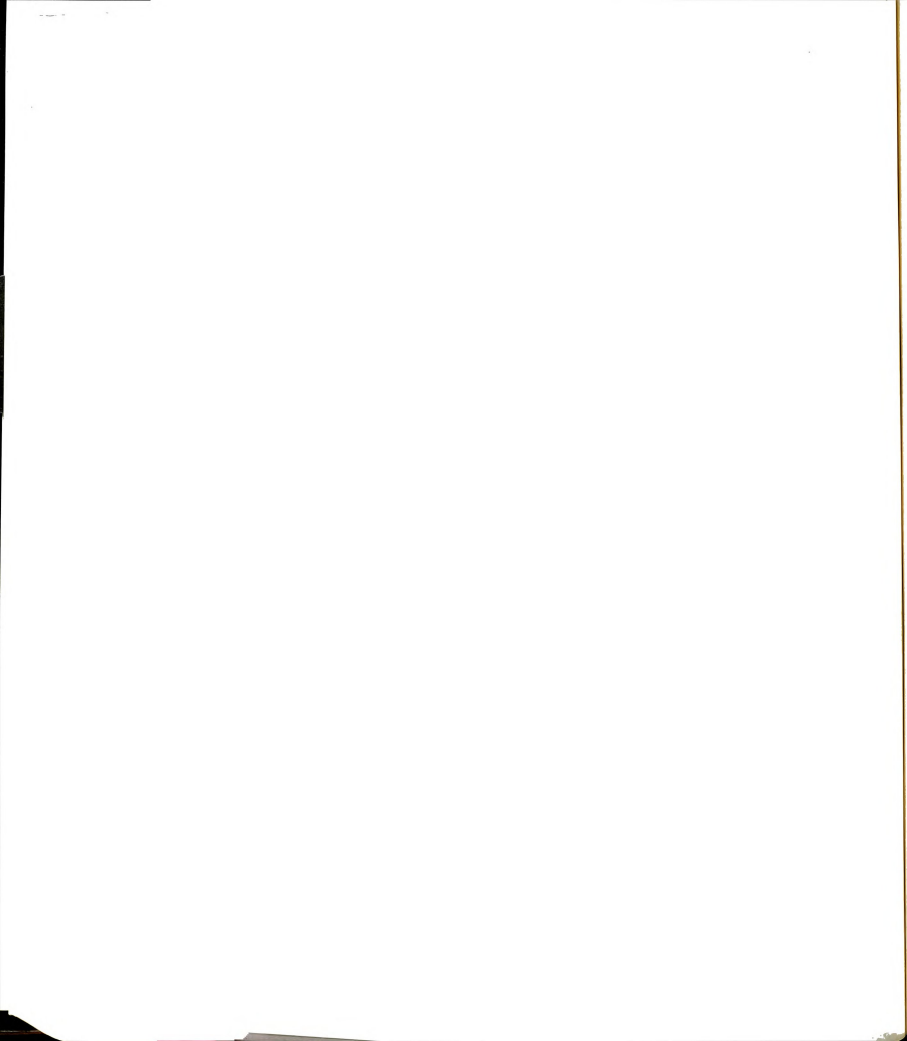
The ISPC framework developed in Chapter 3 indicates several tasks as important components of the *process initiation* phase:

- Articulation and agreement of the need for an ISPC process
- Formation of an ISPC leadership group
- Selection of a common set of objectives
- Development of a method to pay the costs of the ISPC group
- Provision of staff support for the process

Both the apple and tart cherry case studies substantiated that these tasks are important and relevant in accomplishing ISPC. Furthermore, the decisionmakers in the two industry cases seemed to consider most of the main issues that were identified in the ISPC framework as needing to be addressed in initiating an ISPC process. In addition, there were two important observations based upon the apple and tart cherry cases that have important implications for improving the framework. These will be discussed in the next two subsections.

The Importance of Existing Industry Organizations to the Process Initiation Phase

One consistent observation throughout both industry cases was the apparent importance of existing industry organizations for the ISPC process initiation phase. In the Michigan apple industry the Michigan Apple Committee, the Michigan Apple Research Committee, and Michigan State University together provided the main original impetus for the ISPC process. In the U.S./Michigan tart cherry industry, the Cherry Marketing Institute, the Michigan



Agricultural Cooperative Marketing Association, and Michigan State University jointly initiated the ISPC process. Through both industry cases, this illustrates that industry organizations were key initiators.

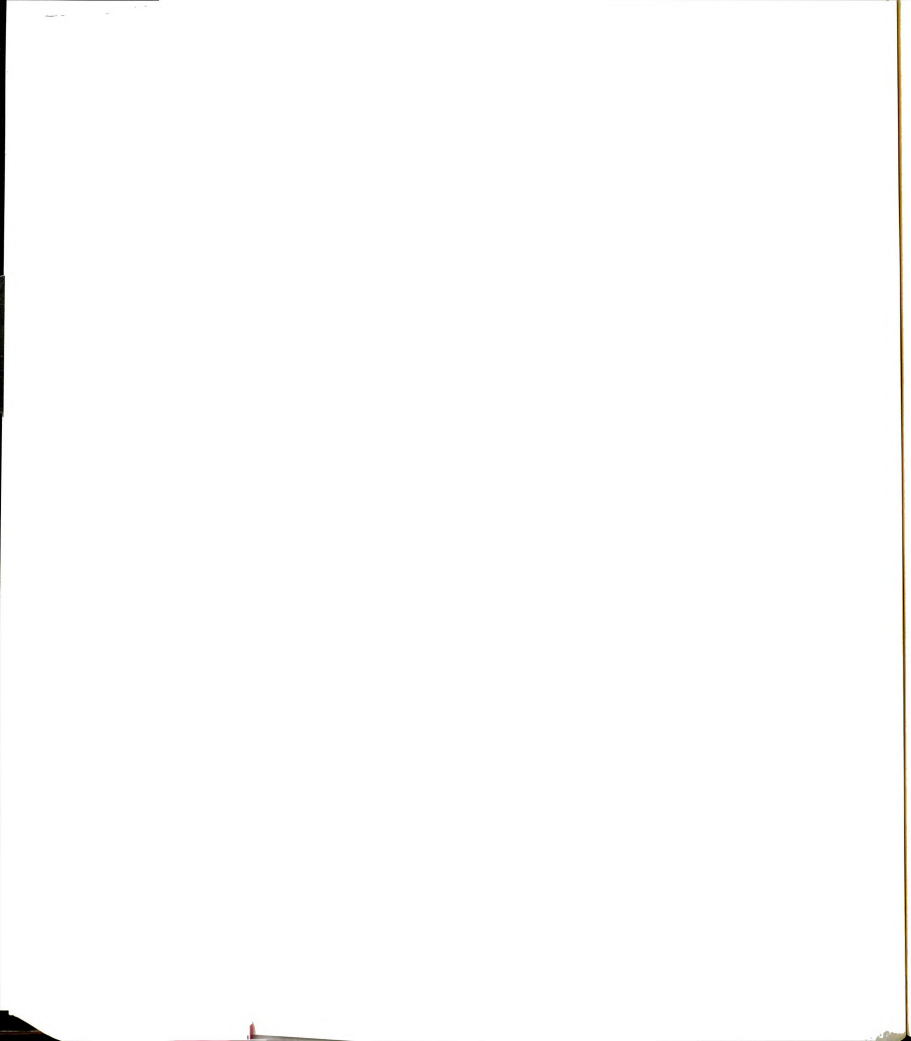
The initiating actions by the existing industry organizations helped to overcome the public good issue of starting an ISPC process. The established goals of these industry organizations included as a major part of their established programs the provision of certain kinds of industry public goods, such as, research and generic demand expansion. Thus, they were able to see the direct extension of their own activities into and the potential benefits from ISPC.

These industry organizations were able to allocate a small amount of start-up resources for helping to get the ISPC group going. These also included some supplemental staff resources and well-established networking relationships within the industry. Furthermore, the industry organizations through their active support of ISPC provided substantial communication and articulation of the potentials from ISPC to the broader industry as a whole in both cases.

In an overall way, the importance of existing industry organizations actively initiating and supporting an ISPC process seems to indicate that without strong support from such key industry organizations it would be considerably more difficult to initiate an effective ISPC process. Therefore, one main improvement in the ISPC framework developed in Chapter 3 is that the importance of existing industry organizations should be explicitly recognized throughout the *process initiation* phase. This would emphasize the very important, perhaps essential, nature of key industry organizations in initiating an ISPC process.

This explicit awareness of the importance of industry organizations to an effective ISPC effort further generates a testable hypothesis for ISPC. This testable hypothesis is that:

An industry without already existing broad-based industry organizations will have considerably greater difficulty in effectively initiating an ISPC process.



Future research should be able to verify if this hypothesis is true.

Considering the Cost of an ISPC Group Related to Its Size and Structure

Another observation from the tart cherry case focuses on issues related to the costs of the ISPC group along with the structure and representation in this ISPC group. In the tart cherry case study, the industry initially decided to have a rather large group with representatives from industry segments that were quite geographically dispersed. With this large group, almost all major tart cherry industry organizations were represented from throughout the U.S. This contributed to participant costs in terms of time (i.e. sending representatives) and travel expenses due to the necessity of traveling long distances to the meetings. This has posed some obstacles and to date one obstacle or limitation to the ISPC process in this industry.

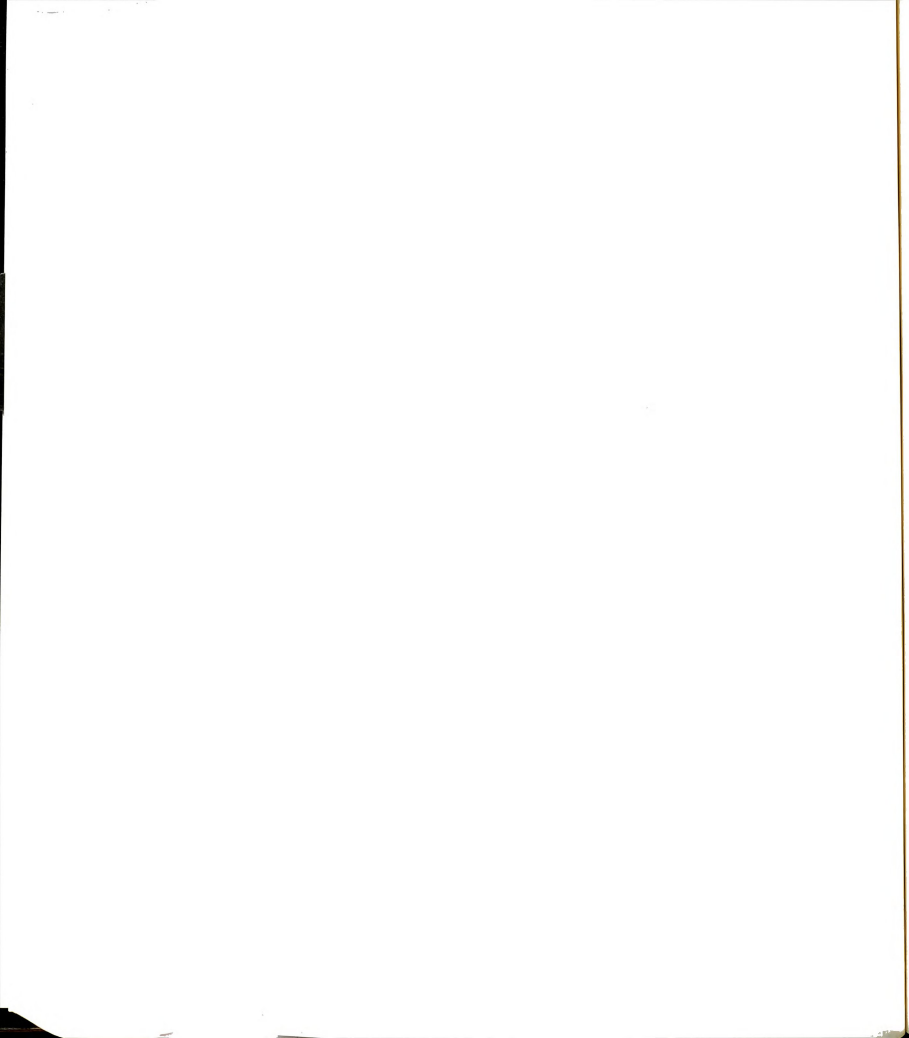
The case information from the tart cherry case indicates that, in determining the size and structure for the ISPC group, these costs are a key consideration. This process clarification of the ISPC framework addresses more fully a practicality of having an ISPC group.

6.1.2.2 Strategic Planning

The second phase of the ISPC framework focuses on *strategic planning*. In this phase, four steps are identified and emphasized. These four steps result in a comprehensive analysis of the industry's situation and its driving forces, a shared understanding of the industry and its competitive environment, a vision statement and guiding strategies, prioritized major improvement objectives, and specific strategies. These steps were effectively involved in the apple industry case as the following subsections relate.

Situational Analysis

Situational analysis is a major early step in the strategic planning phase of the ISPC framework. In this step, the ISPC group develops a comprehensive and up to date analysis of the major relevant factors which are impacting the industry including its competitive environment. The ISPC framework incorporates a number of analysis tools that can be used in



accomplishing a situational analysis, depending on the needs of the industry. These situational analysis tools were selected from a number of relevant disciplines and adapted to the industry context.

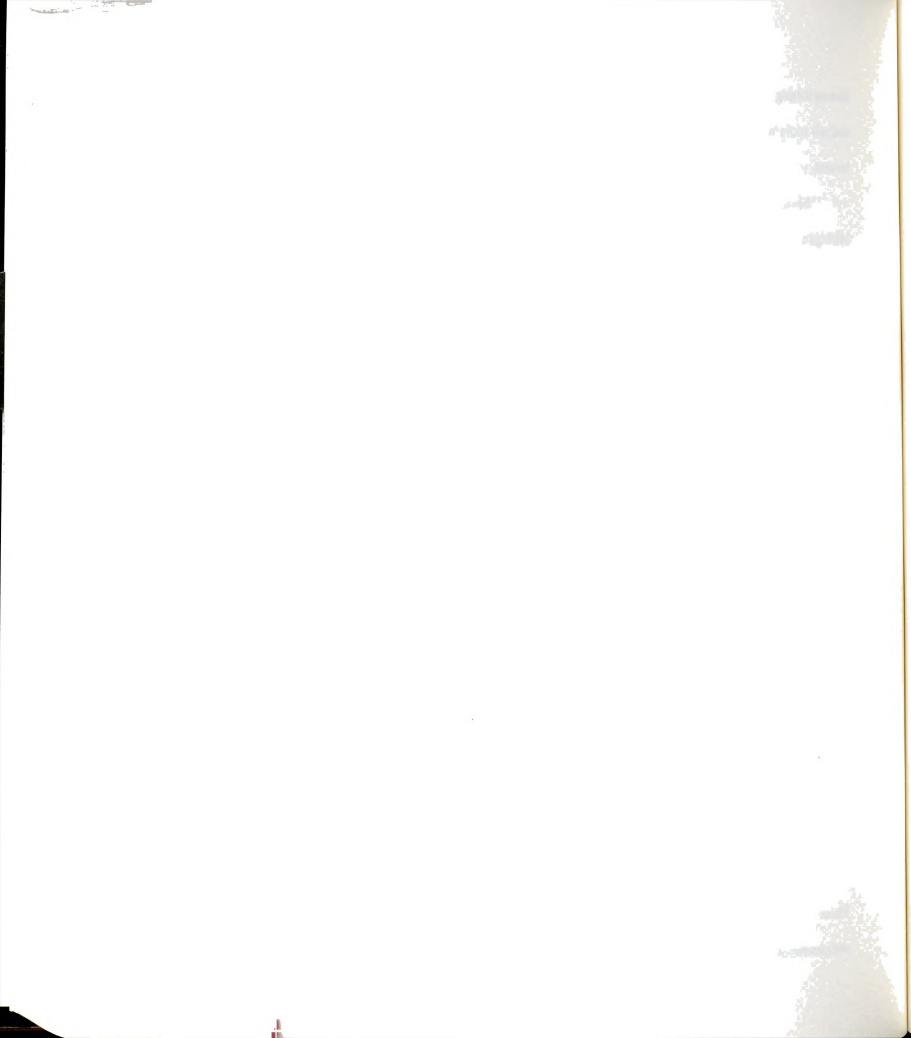
Most of the analysis tools suggested for the framework were used to some extent in the Michigan apple industry case. These tools seemed to be effective in developing an industry situational analysis. Hence, no change in the framework would appear necessary based on the industry case study.

Determination of the Industry's Vision Statement and Guiding Strategies

An industry's vision statement and guiding strategies encompass the main overarching planned strategy for the industry related to its improved performance. This is identified as a second step in the *strategic planning* phase of the ISPC framework. It contains tools and concepts from firm strategic management that have been adapted to the ISPC context. This step suggests that an industry can develop an industry vision statement and consider guiding strategies as discussed below.

In the Michigan apple industry case study, issues related to a vision statement have been discussed, but to this point have not received finalization in a specific vision statement. Part of this is because the industry has tended to focus on specific issues or strategies which they consider higher priority. As discussed in the ISPC framework, there is some question as to the usefulness of developing an industry vision statement depending on the needs of the industry. Nonetheless, at this point the idea of using a vision statement is still an important possible consideration for an ISPC group and overall industry. Not fully developing a vision statement has not apparently hindered the ISPC process in the Michigan apple industry.

As outlined in Chapter 3, four guiding strategies may be useful as discussed in this step. These guiding strategies are (1) growth positioning, (2) a focus on developing core competencies, (3) determination of value-based actions to meet customer needs, and (4) selection



of the overall mix of differentiation and low price for the industry. These guiding strategies were all considered to some extent in the Michigan apple industry case. No alterations in the framework would thus seem to be indicated by this case study experience.

Determination and Prioritization of Major Improvement Objectives

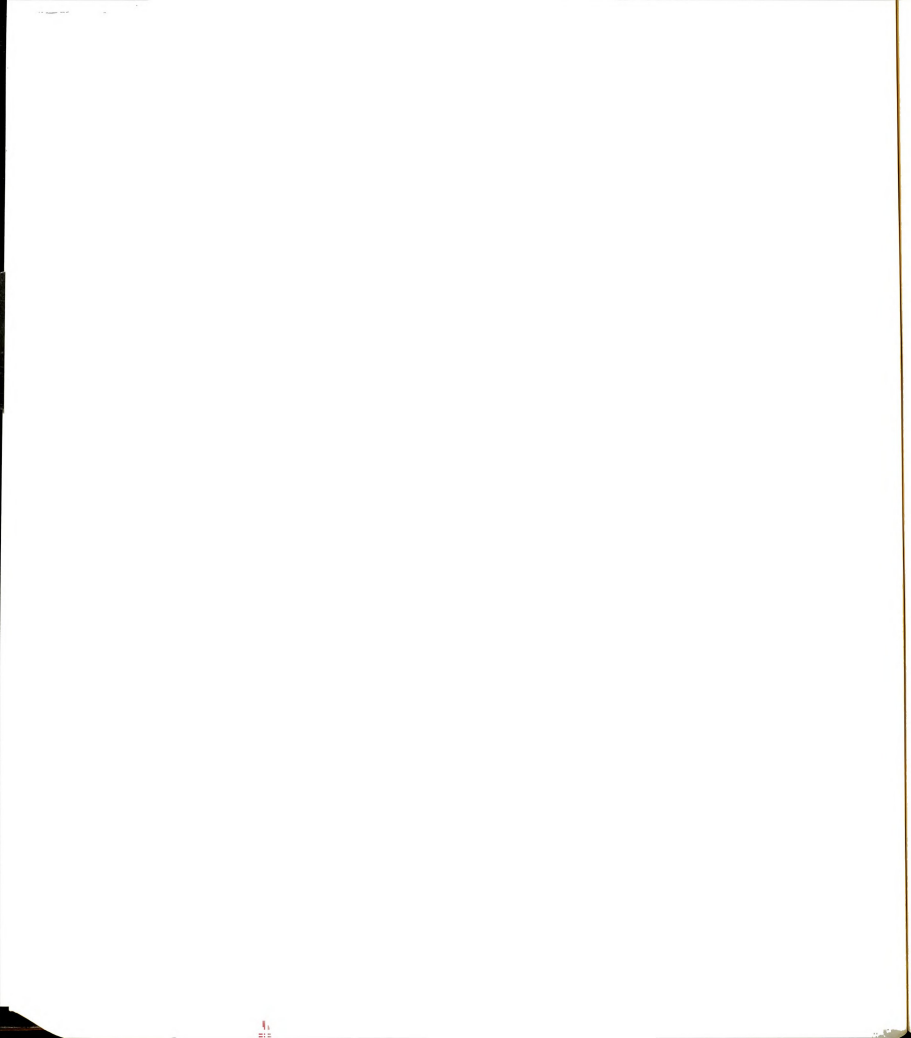
A third step in the framework's *strategic planning* phase, as discussed in Chapter 3, is the determination and prioritization of major industry improvement objectives. In this step, the ISPC group and overall industry develop a list of major improvement objectives for the industry to focus upon over the next few years. Using this tool in ISPC is similar to the use of long-range performance objectives in firm strategic management.

The ISPC framework suggests that the ISPC group working with the overall industry should develop a list of possible major improvement objectives. From this list, some major improvement objectives are then selected for priority industry attention. In the Michigan apple industry case, this seemed to be a very useful and effective approach in strategic planning at this point in their ISPC process. This case study experience supports the use of this step in the ISPC framework.

Development of Specific Strategies for Facilitating Needed Improvement

Specific strategies are the particular actions by particular firm(s) and/or industry organization(s) that the ISPC group decides would be effective and priority to facilitate industry improvement or to deal with major problems or threats for the industry. As outlined in Chapter 3, this was identified as a fourth step in the *strategic planning* phase. The ISPC framework discusses an approach in which strategies for each major improvement objective are developed. Developing an impact analysis for a strategy is also an option.

In the Michigan apple industry ISPC case, specific strategies were selected for each major improvement objective and impact analyses of varying degrees were an important part of



the selection process. Overall, the current coverage of this step by the framework was thus supported.

In the apple industry case, an important framework clarification aspect was developed for selecting specific strategies. This clarification identified some general questions as criteria to use in considering specific ISPC strategies. Specific strategies for which these questions are not answered affirmatively probably deserve lower priority, and hence these questions can be used to screen various possible strategies. These questions about each strategy are:

- Can it be readily accomplished?
- Will it have positive benefits?
- Will it make a significant difference?
- Is it adequately supported by the appropriate industry segment?

Further consideration of the use of these screening questions for ISPC strategies as part of the framework is supported by the case study experience because these questions were helpful in the practice of selecting ISPC strategies with the case studies.

6.1.2.3 Implementation and Coordination of Specific Strategies

The third phase of the ISPC framework developed in Chapter 3 is the *implementation and coordination of specific strategies*. In this phase, the strategies developed are transformed into practice. A key role of an ISPC group, as recognized in the framework, is to provide coordination for implementing strategies with the industry's various firms and industry organizations. This coordination takes on special importance if the industry is seeking to achieve broad-based industry strategies (e.g. marketing orders, new industry organizations, etc.).

The ISPC framework described several tasks that needed to be completed in some fashion for each strategy. These tasks are to:

- develop an implementation plan
- communicate the strategy to the industry

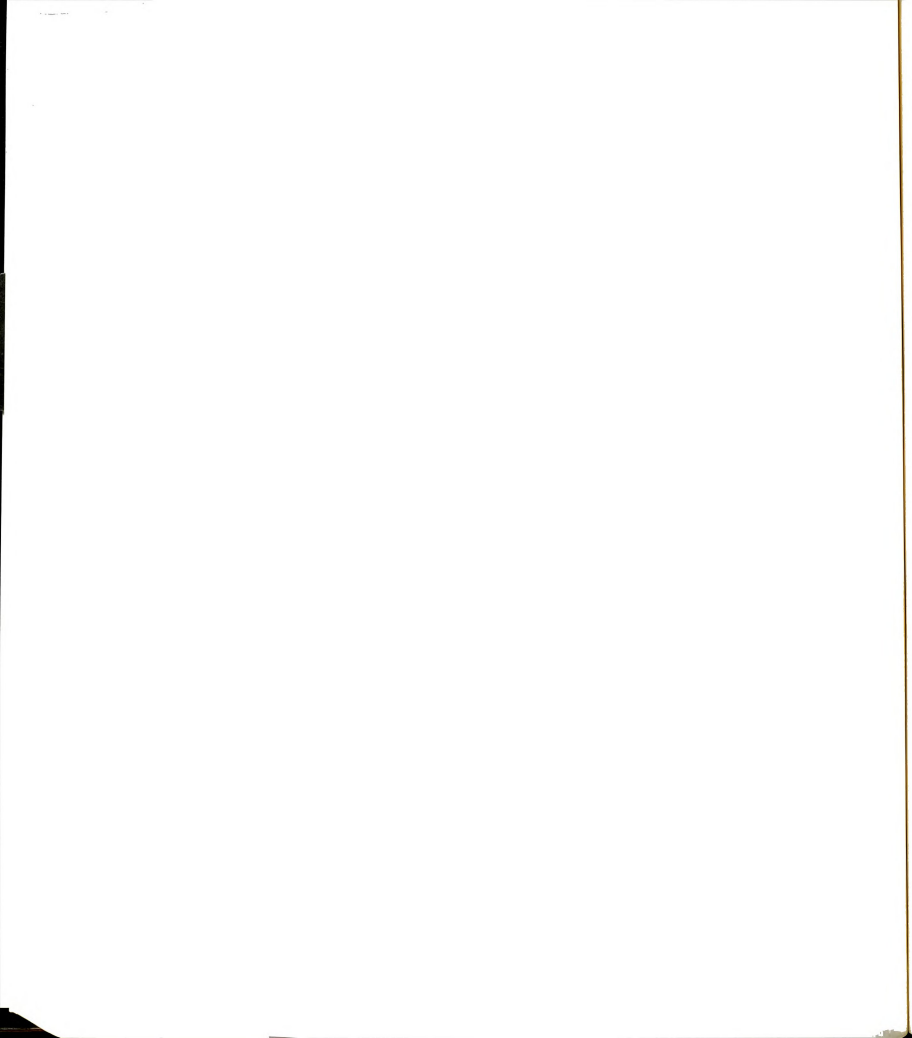
- provide needed resources for the strategy
- measure progress
- where appropriate, enforce the strategy

Within the Michigan apple industry case study, each of these tasks were accomplished to some extent for each strategy. Thus, the apple industry case tends to confirm that these tasks are relevant.

Two important clarifications of the ISPC framework were suggested in the case study example of implementation and coordination of broad-based strategies. These include expanded methods for achieving broad-based industry strategies and the importance of time in broad-based strategies. The following two subsections discuss these issues.

Expanded Methods for Achieving Broad-Based Industry Strategies

The ISPC framework, developed in Chapter 3, suggests that it is important to develop a detailed implementation plan for each broad-based industry strategy that require substantial industry consensus. This is because (a) broad-based strategies require joint industry decisions and (b) for some strategies, all in the industry or industry segment must respond accordingly in order for the strategy (e.g. a marketing order) to be implemented. This is especially important due to the need to consider for some ISPC strategies to focus on how to overcome public good and free rider issues in implementation. The implementation plans need to include key steps necessary to get the strategy implemented that would (1) identify who would accomplish the strategy, (2) discuss key obstacles and how they will be overcome, (3) outline how resources will be provided for the strategy, etc. as already discussed in the framework. However, the framework developed in Chapter 3 lacked explicit detail as to methods and approaches to achieve the implementation of such broad-based industry strategy. Incorporating empirical information based upon experience and methods from the Michigan apple industry case is now possible.

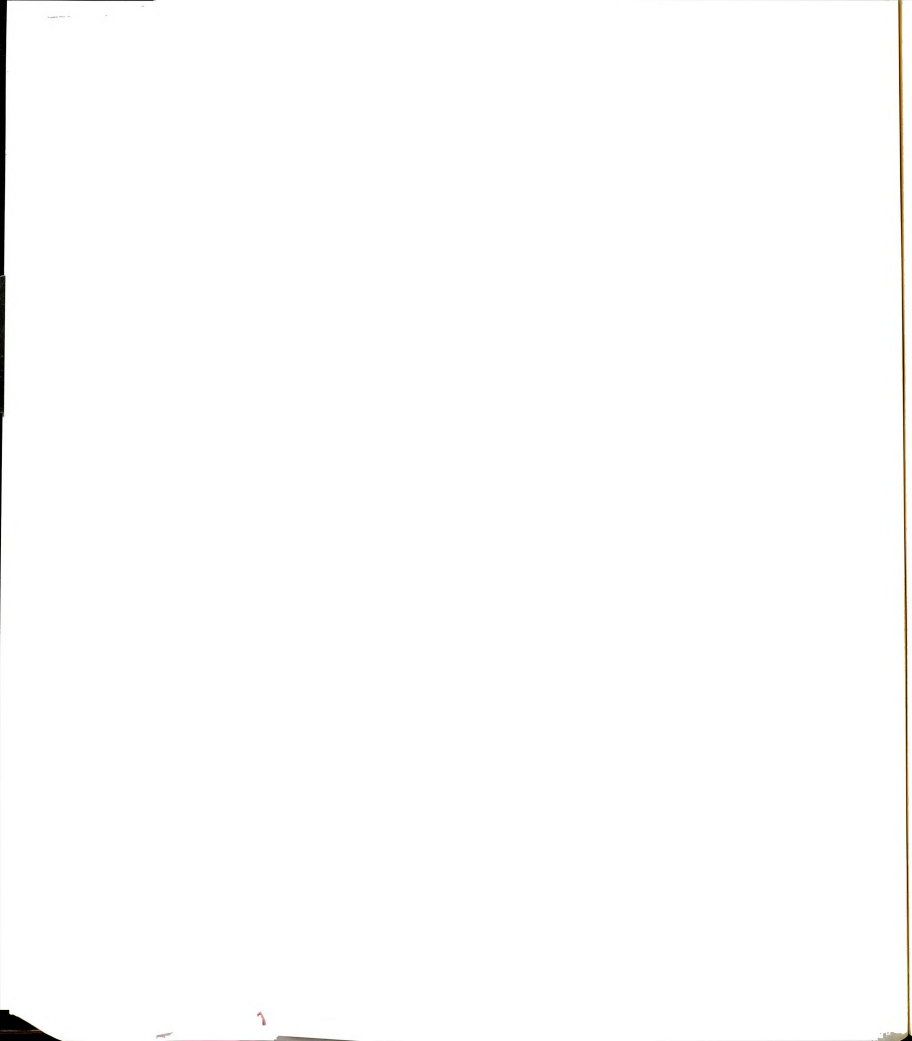


In the Michigan apple industry case study, a comparison of the factors affecting implementation success was developed based on three broad-based industry strategies that required substantial majority industry consensus to be implemented. These three examples were mandatory minimum quality standards, premium grade, and the Michigan Apple Committee assessment increase.⁵⁰ Of these three example strategies, only one strategy has actually been implemented to date. A comparison of the implemented and non-implemented broad-based industry strategies in Chapter 4 was developed that yielded some interesting observations. The implementation plan for the broad-based industry strategy that was implemented had a number of characteristics that are different from the non-implemented broad-based strategies. These characteristics are:

- An identified leader, group of leaders, or organizational sponsor within the industry
- Organizational staff to develop the strategy, rationale, and explain the potential benefits of the strategy
- Materials developed (reports, videos, etc.) that explained the benefits of the proposed action
- Leadership that spent a large amount time and resources explaining the rationale for the proposed action

These various characteristics seemed to be very effective at achieving industry consensus in support of needed broad-based industry strategy. They should be listed and discussed in the framework as possible effective methods for a well-developed implementation plan for broad-based industry strategy that require participation by all or most in the industry.

⁵⁰ These strategies were discussed thoroughly in Chapter 4.



The Importance of Time for Broad-Based Industry Strategies

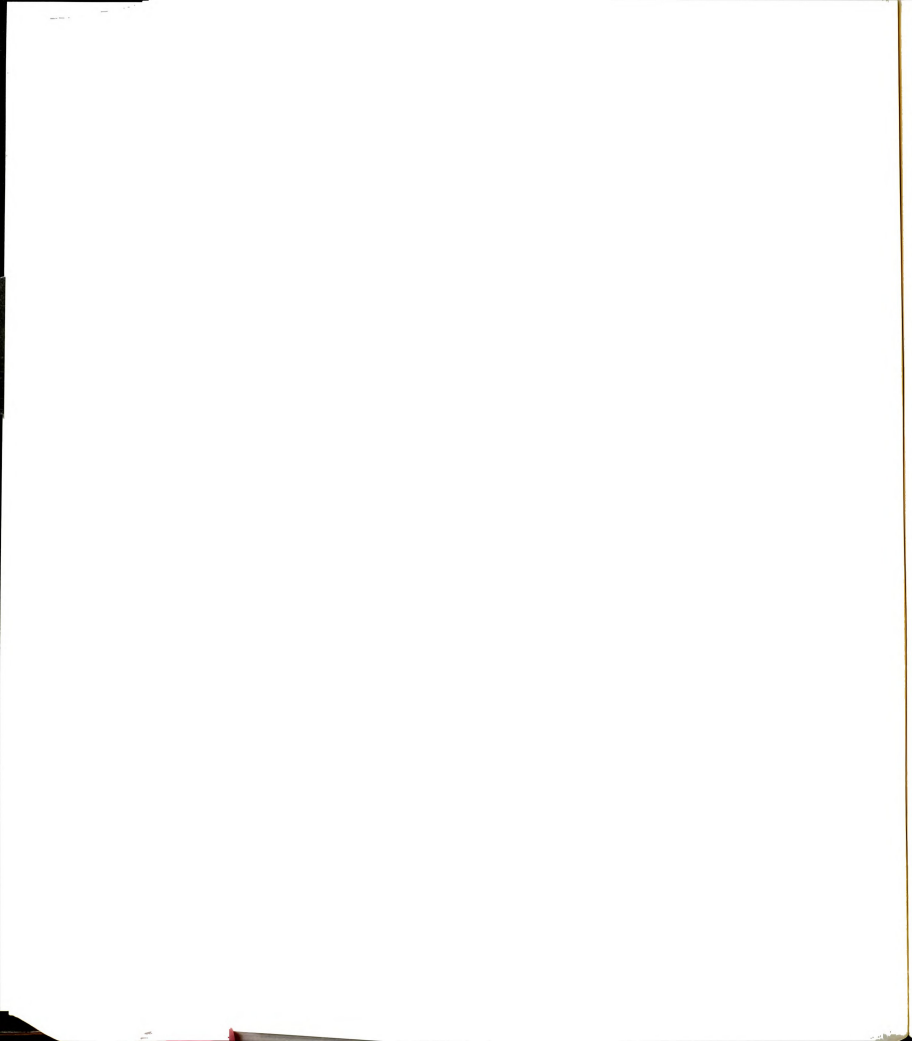
Another important process clarification for implementation of certain types of broad-based strategies is that it may and often does take a substantial amount of time to build adequate industry consensus and support for a particular broad-based industry action, such as, developing a new marketing order or a new industry organization supplying a public good. This time is usually necessary because there may be difficulty in achieving sufficient consensus on broad-based strategies and/or on the desirable method(s) to achieve the broad-based strategy.

Knowledge of this time factor might help the group to be realistic in their expectations about change as well as planning for methods to speed up that change, such as, developing a detailed action plan.

6.1.2.4 Overall Conclusions on the Effectiveness of the Framework

This section concentrated on the ISPC framework that was developed in Chapter 3 and was subsequently related to ISPC experiences in two industry cases. The framework includes a structured organization of interrelated aspects and activities that are relevant for ISPC and were posited as an effective framework to aid in accomplishing ISPC -- with emphasis on the industry context.

One purpose of this review is to assess the framework and its usefulness for ISPC. Each phase and step of the ISPC framework was reviewed and evaluated to what extent the ISPC framework provides a useful guide. Overall, the experiences in the case studies supports the concepts and aspects incorporated into the ISPC framework. Therefore, the case study empirical information tends to substantiate this ISPC framework as a useful model and guide for ISPC processes.



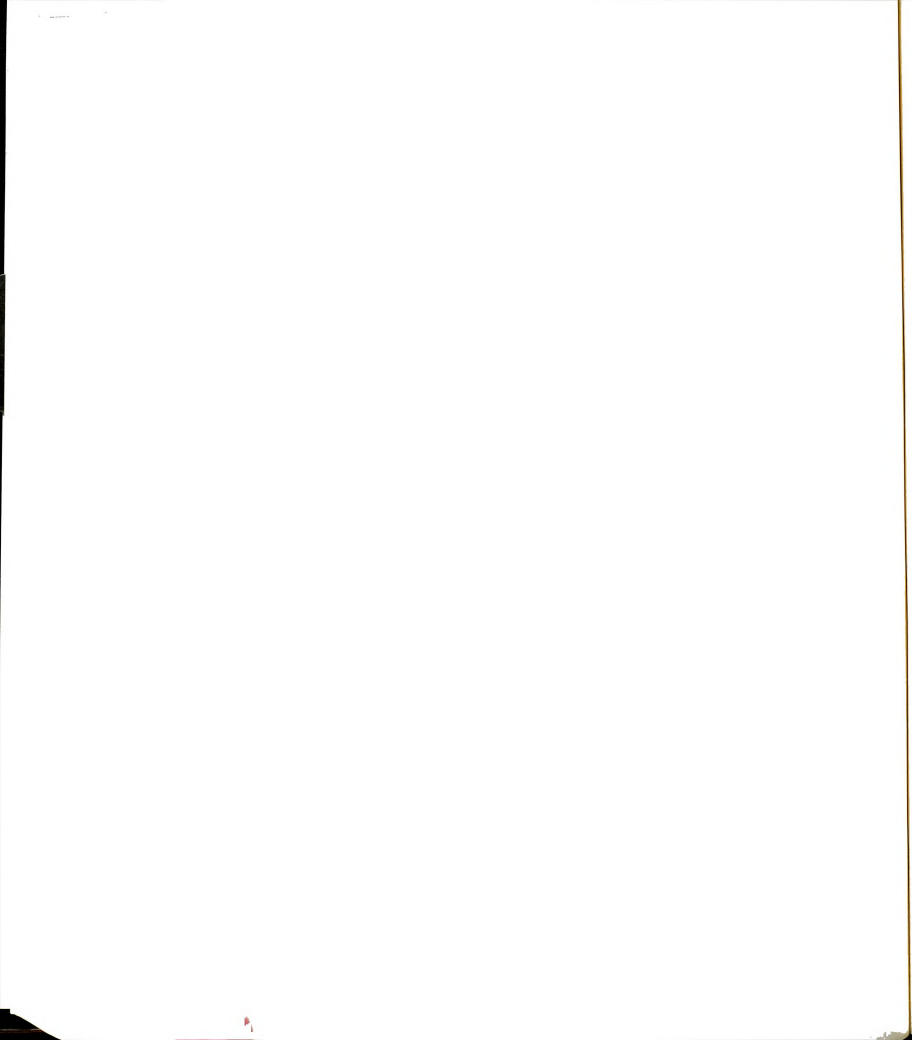
6.2 The External Validity of the ISPC Framework

External validity, as discussed here, is the overall issue of how widely applicable or generalizable are the results of a study, i.e., over what range of situations are the results applicable (Yin, 1994). In this dissertation, the focus has been on developing a framework of interrelated concepts and aspects to accomplish ISPC with the overall goal of improved industry performance. The ISPC framework thus developed was applied in two industry cases. One of these cases is extensive enough to provide some initial indication that an ISPC process can result in improved industry performance. The question to be addressed in this section is how generalizable are these results, i.e., *how generalizable is the proposed framework as a model for ISPC?*

On one level, the ISPC framework was substantively developed from well established theory as discussed earlier, such as, firm strategic management theory. This well established theory is generally viewed as having wide applicability to many situations and economic activities. As such, the ISPC framework developed in this dissertation has some level of face validity, i.e., it would be expected to have external validity because it is based on theory with external validity. However, the external validity of the framework would be more well established if it is shown to be valid in a wide variety of situations.

At this point, the ISPC framework has been applied in two industry case studies in which all indications are that the framework is useful. In the one case where extensive evaluation is possible, industry performance has improved. The two cases are, however, based on industries with somewhat unique characteristics.

The Michigan apple and U.S./Michigan tart cherry industry are fruit industries that are predominately focused in Michigan with strong industry organizations. Furthermore, both these industries are comprised of numerous small firms with several distinct vertical stages of production that are not fully vertically integrated by ownership, and the products of both



industries are marketed primarily as commodities. It can be hypothesized that the ISPC framework developed herein is more likely to be useful in industries with these similar characteristics, e.g., limited geographic scope, fragmented vertical sectors, and commodity based. Further research would be useful to establish more definitively the true extent of the external validity for the framework.

6.3 Potential Benefits of ISPC from the Industry and Public Policy Perspectives

Another key objective of this chapter is to consider the possible benefits of ISPC from the perspectives of (a) the industry and (b) public policy. It would be desirable for there to be benefits at both levels. If there are benefits at the industry level, then the benefits will provide motivations for an industry to work together in an ISPC process. Benefits from the public policy perspective are similarly important because without benefits from the public policy perspective then ISPC may be viewed with skepticism or as promoting certain kinds of undesirable results, such as, collusion that could be harmful rather than helpful to the public. At this point, the industry case studies provide some indications of the benefits, or likely future benefits of ISPC, from each perspective. The following two sections discuss potential ISPC benefits from the industry and public policy perspectives.

6.3.1 Benefits from the Industry Perspective

If industries are to continue to pursue ISPC, it is essential that an ISPC process provide benefits to the industry. These benefits provide the overall motivation for the industry's firms and industry organizations to engage in an ISPC process. This section considers the potential and some observed benefits of ISPC, given current knowledge of the benefits to the industry.

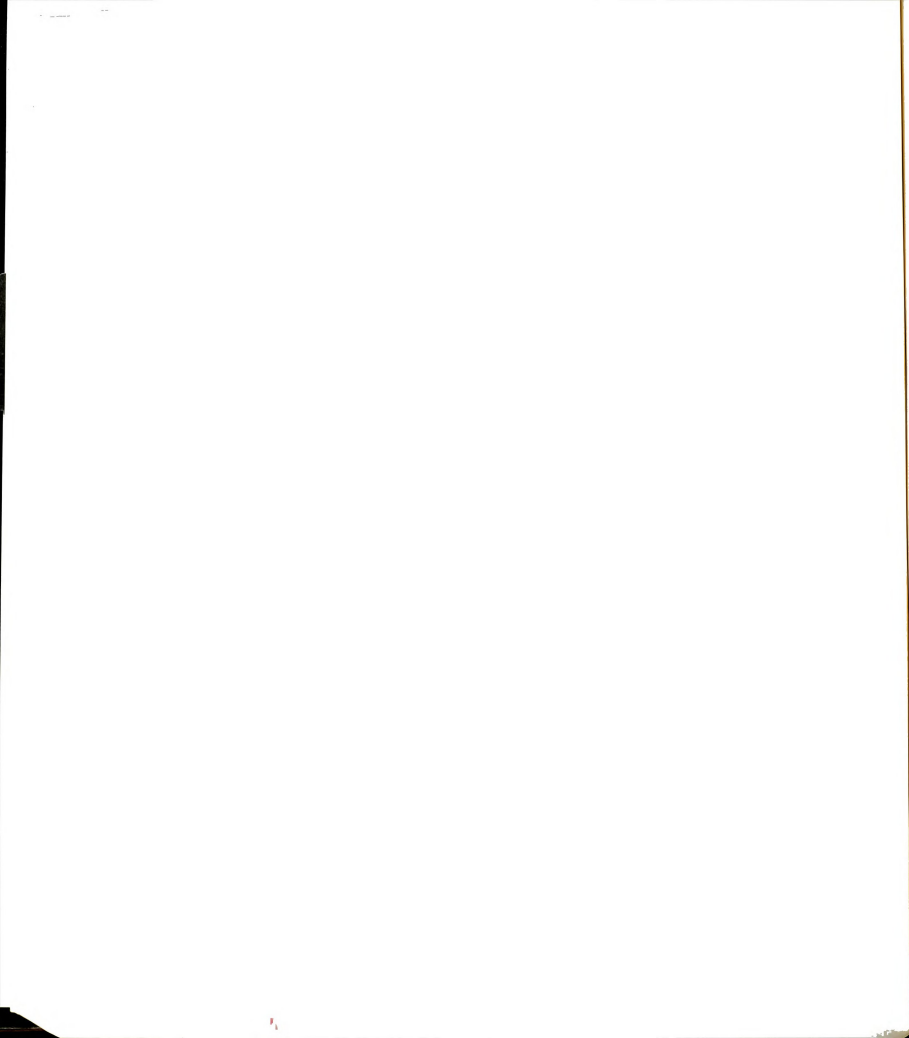
An ISPC process involves a complex set of firms and industry organizations planning and coordinating together on selected strategies for improved industry performance. The potential benefits from ISPC would likely focus on areas where planning efforts by individual

firms or industry organizations would not be most effective by themselves and for which an ISPC approach would enhance the industry results. The improved industry planning efforts would be expected to provide benefits to firms within the industry.

Benefits of ISPC can be achieved in a number of areas. ISPC is potentially effective in developing industry public goods and overcoming associated free rider problems. An ISPC process can also be a catalyst for positive change in the industry with implementation by individual firms. ISPC can potentially improve the industry's ability to act as a group because the focus, which can be provided by an ISPC process, may unify efforts in the industry towards common goals. Furthermore, cooperative research projects in key areas supported by ISPC can mobilize industry efforts in critical areas for needed performance and improvements.

One measure of success for an ISPC process would be whether the ISPC process actually contributes to improved industry performance. In the Michigan apple industry case, as extensively discussed in Chapter 4, the ISPC process was able to influence the industry's course in ways that can be expected to improve performance. This was accomplished through the ISPC group going through an ISPC process in which several major improvement objectives were identified based on a situational analysis, visioning, and selecting guiding strategies. In each of these major improvement objectives, several strategies were developed and implemented that were viewed by industry leaders as the most likely to improve industry performance. Furthermore, preliminary indications from this case experience indicate that the Michigan apple industry's performance in a number of key areas such as market volumes and value of production are improving. These measure indicate that the ISPC has provided some benefits to an industry.

Another facet in considering the benefits of an ISPC process relates to key types of public goods that an ISPC process can help develop. Some of these were identified and discussed in Chapter 2 including:



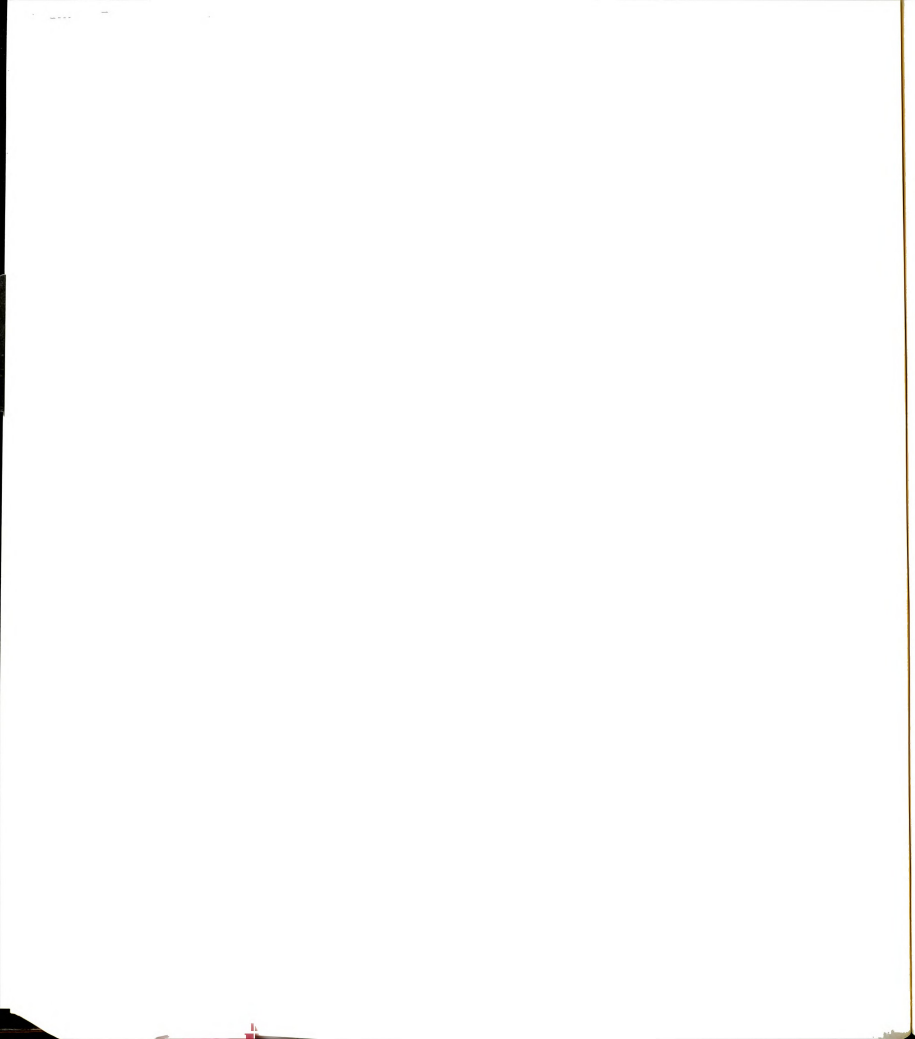
- improving generic demand expansion activities,
- addressing externalities for industry firms,
- developing a critical mass or volume,
- achieving first mover advantages,
- facilitating improvements in cost, technological, and managerial capabilities,
- developing information in critical areas.

The following subsections consider if the ISPC process has actually provided some of these public good benefits based on the Michigan apple industry case study. This further shows that the some of the promised industry benefits from ISPC are being achieved.

Improving Generic Demand Expansion Activities

Generic demand expansion is a set of activities undertaken within an industry to increase the demand for the industry's products. This can have important benefits for an industry's firms because the firms may be able to increase their volume of business, prices, and/or net returns to meet the expanding demand. Many industries have generic demand expansion organizations, paid for by producers, with the goal of generic demand expansion through advertising, marketing, developing new products, etc. Hence, if an ISPC process is able to improve generic demand expansion activities, it would be relevant and an important aspect of an ISPC process towards improved industry performance. In the Michigan apple industry case, two of the major improvement objectives from the ISPC process have focused directly upon generic demand expansion: domestic demand expansion and export expansion.

In domestic demand expansion, the ISPC group provided strong support and direction for an increased assessment for the industry's generic marketing organization. The ISPC group's direction and strategic choices were used by industry's generic demand expansion organization to facilitate reorientation to some extent in its marketing and research efforts, more towards areas that the ISPC group identified as crucial to industry success. The increased



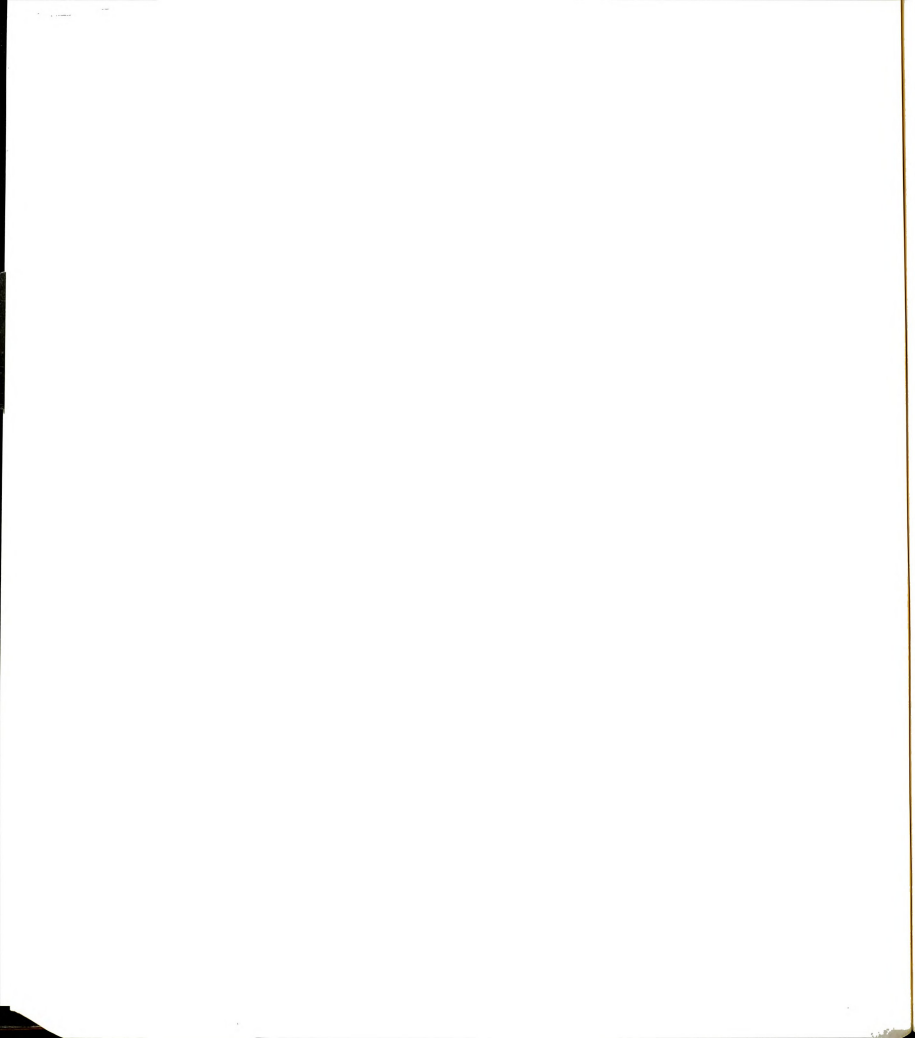
assessment helped enable the generic marketing organization to expand consumer market research and reorient more extensively towards other areas that were identified as priority by the ISPC group.

For export expansion, the ISPC group identified that developing export markets for Michigan apples was a major and priority improvement objective. A number of industry organizations participated in various strategies to develop Brazil as a large export market. These included a sponsored trade visit to Brazil and research to enable access to the Brazilian market, such as, through establishing appropriate protocols to meet Brazilian phytosanitary regulations. Subsequently, the Brazilian market has grown from zero to become a major Michigan export market destination.

In both domestic and export demand expansion, the ISPC process seems to have provided important benefits for improved performance. The ISPC process seems to have helped enable important changes for domestic and export demand expansion. These changes seem to have played an important role in the 1995 marketing year when the Michigan apple industry was able to market a record crop size with relatively high prices. These aspects indicate strong performance from the industry perspective.

Addressing Externalities for Industry Firms

In the industry context, externalities occur when a firm takes an action that not only impacts itself but has an external or spillover effect on other firms in the industry. An ISPC process could in general seek to increase positive externalities or decrease negative externalities. An important externality issue in the Michigan apple industry, that has been discussed earlier, is the industry's quality reputation in the fresh market. To some extent, the Michigan apple industry has a shared reputation as an industry in the minds of buyers that affects their



willingness to purchase Michigan apples.⁵¹ If a Michigan firm markets poor quality apples, an external effect is generated negatively impacting the entire industry's reputation.

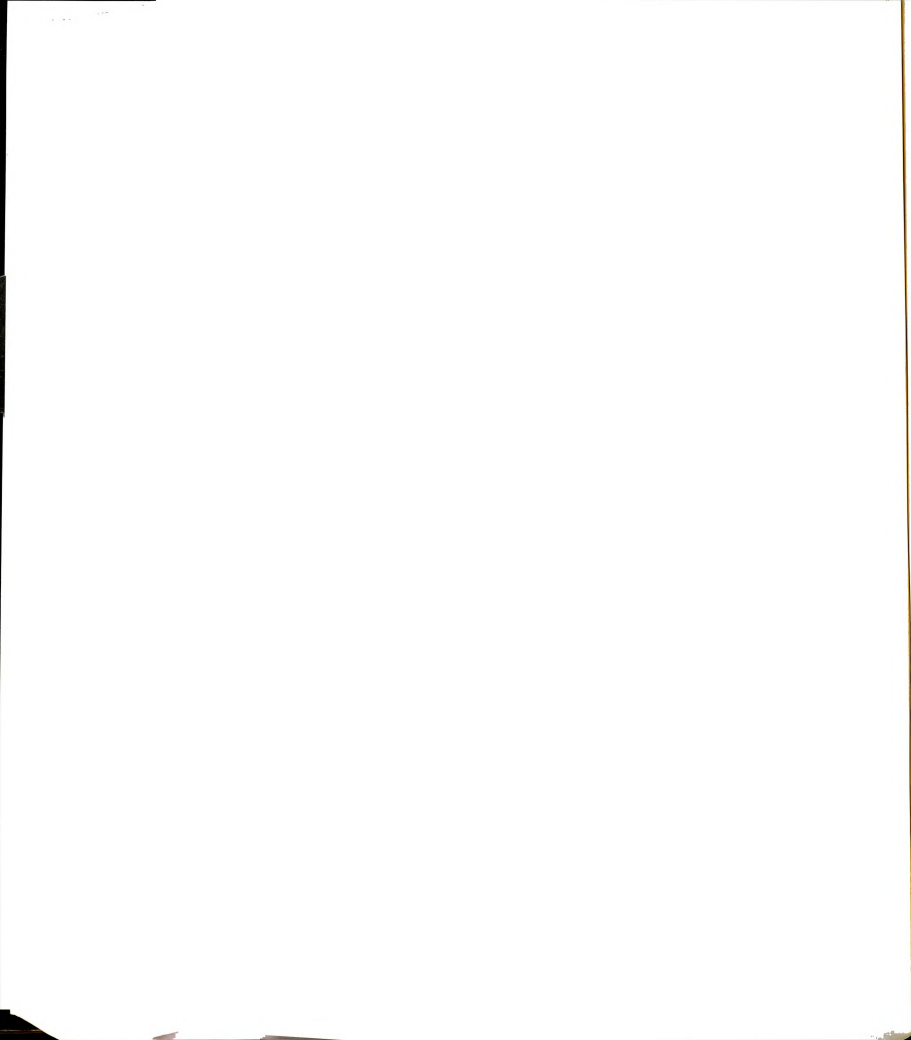
The Michigan apple industry ISPC process developed a number of strategies to address this quality reputation externality and to facilitate improved industry quality performance. Two of these strategies, which were supported by the ISPC group, were: (1) establishment of a premium grade and (2) minimum mandatory quality standards, especially for condition, for fresh apples. The premium grade strategy was intended to provide enhanced incentives for marketing high quality apples. The minimum mandatory quality standards strategy would have prohibited the marketing of apples below a certain condition level. Neither of these strategies have yet been implemented. On the other hand, their active consideration and potential future application in the Michigan apple industry illustrates with these examples the possibilities of ISPC in addressing externalities to improve industry performance. To date though, the case experience illustrates that effectively addressing externalities through ISPC is difficult.

Developing a Critical Mass

As discussed in Chapter 2, it may be useful for an industry to develop as a group a critical mass of volume to achieve certain benefits. For example, for an industry to gain access to a particular market, it might require a critical mass of a particular product, such as, a variety. An ISPC process might facilitate achieving a critical mass within an industry by identifying the opportunity and communicating this throughout the industry.

In the Michigan apple industry case, there has been some focus on seeking to identify varieties for the fresh and processing markets that offer the best opportunities for growers and the industry. In this, developing a critical mass has been an explicit consideration for new varieties because it is often beyond the capabilities of individual apple industry firms.

⁵¹ Quality reputation is especially important for the condition aspect of apples and to a less extent other quality factors such as bruising, internal breakdown, etc.



Developing this critical mass is important because the industry needs to have a sufficient volume of supply of a particular variety for important customers, such as, chain store customers, to view the industry as an effective supplier. The concern is that if the industry is not able achieve a critical mass of new varieties which are coming into strong demand and hence are offering good market opportunities, then it will not be able to take advantage of certain opportunities to generate improved industry performance and profitability in effectively serving customer needs. The overall effort by the ISPC process has had the goal of facilitating the development of a critical mass of supply for customers to recognize the Michigan industry as an effective supplier of new varieties.

Achieving First Mover Advantages

One possible benefit of ISPC would be for an ISPC process to enable the industry to achieve certain kinds of first mover advantages. In this, an ISPC group may be able to identify key strategic opportunities before competitor industries can do so and work, as an industry, to quickly achieve the strategic opportunities. This could result in improved industry performance if the industry is able to capture privileged positions in key market segments.

The Michigan apple industry ISPC process did identify certain strategies that have enabled it in some situations to be a first mover in some new or established markets. The Michigan apple industry's pro-active efforts in export demand expansion towards the Brazilian market are an example of this. The ISPC group helped to motivate and supported visits by leading shippers to the Brazilian market and helped to work towards ensuring access to the Brazilian market. This enabled the Michigan apple industry to dramatically expand exports to Brazil. This may in the longer term provide the Michigan apple industry with a strong, somewhat privileged position in this market.

Improving Cost, Technological, and Managerial Capabilities

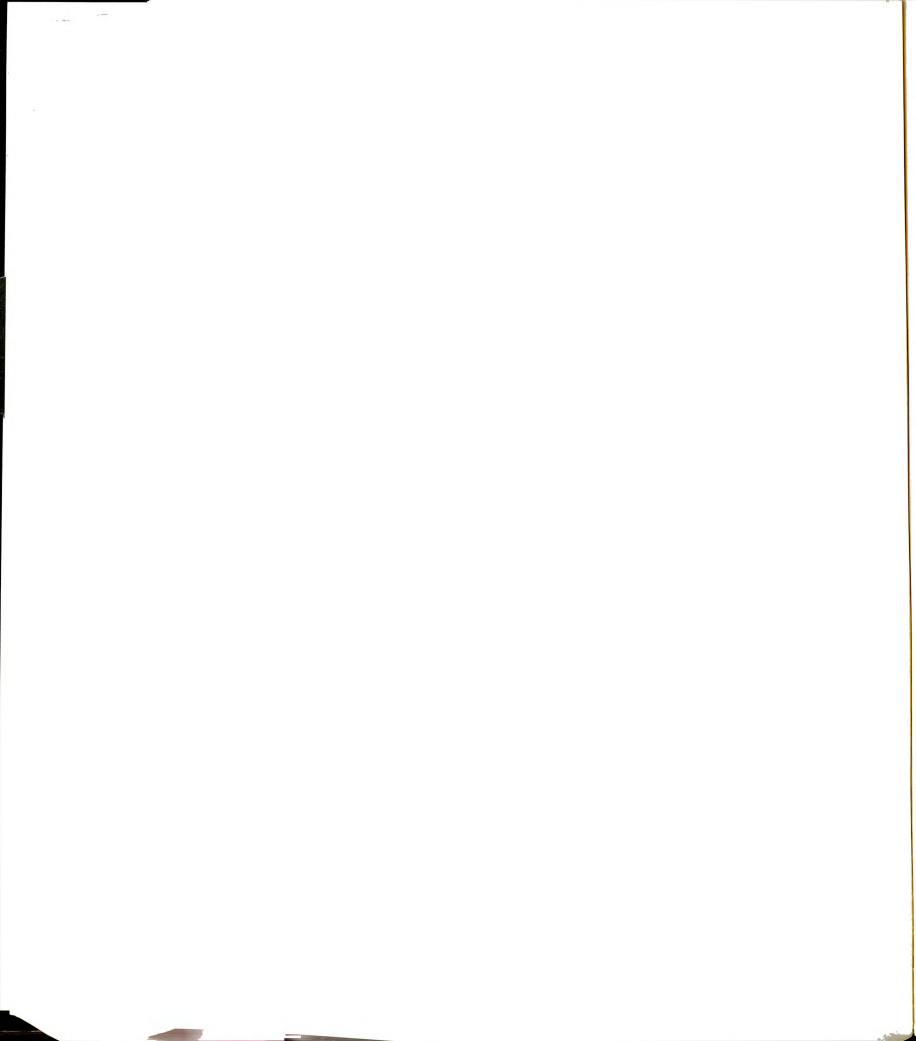
One common feature of commodity industries is that such industries are commonly based in a particular region or area in which within the industry are influenced by a number of common production and marketing related issues. These issues can include production aspects (e.g. weather conditions, pests, varieties) as well as regional external conditions (e.g. taxes, labor availability). An ISPC process can work to improve region-specific infrastructure, cost, technological, and managerial capabilities.

In the Michigan apple industry case, several strategies have emphasized improving cost, technology, and managerial capabilities tailored or well suited to the needs of the Michigan apple industry. Efforts to improve Michigan's capabilities have included strategies to improve quality management capabilities (e.g. pre-harvest workshops, maturity information program), pest management capabilities (e.g. landmark study on pest management and environmental stewardship, efforts of obtain funding for pest research), and variety evaluation and strategies (e.g. information on variety demand by the trade, shippers, and processors). These efforts indicate the ability of an ISPC process to develop region-specific strategies to improve an industry's capabilities in key competitive areas.

Improving Information

An ISPC group may identify and facilitate the provision of information in a number of areas which would improve industry performance. The information may improve market signals and vertical coordination between various stages in the production-marketing system and enable more effective firm responses. Government agencies at a number of levels recognize the importance of this kind of information through developing market information.

The Michigan apple industry ISPC process identified and facilitated the provision of a number of informational analyses. These included information on varieties by shippers, processors, and consumers, modernization of growers and packing houses, consumer



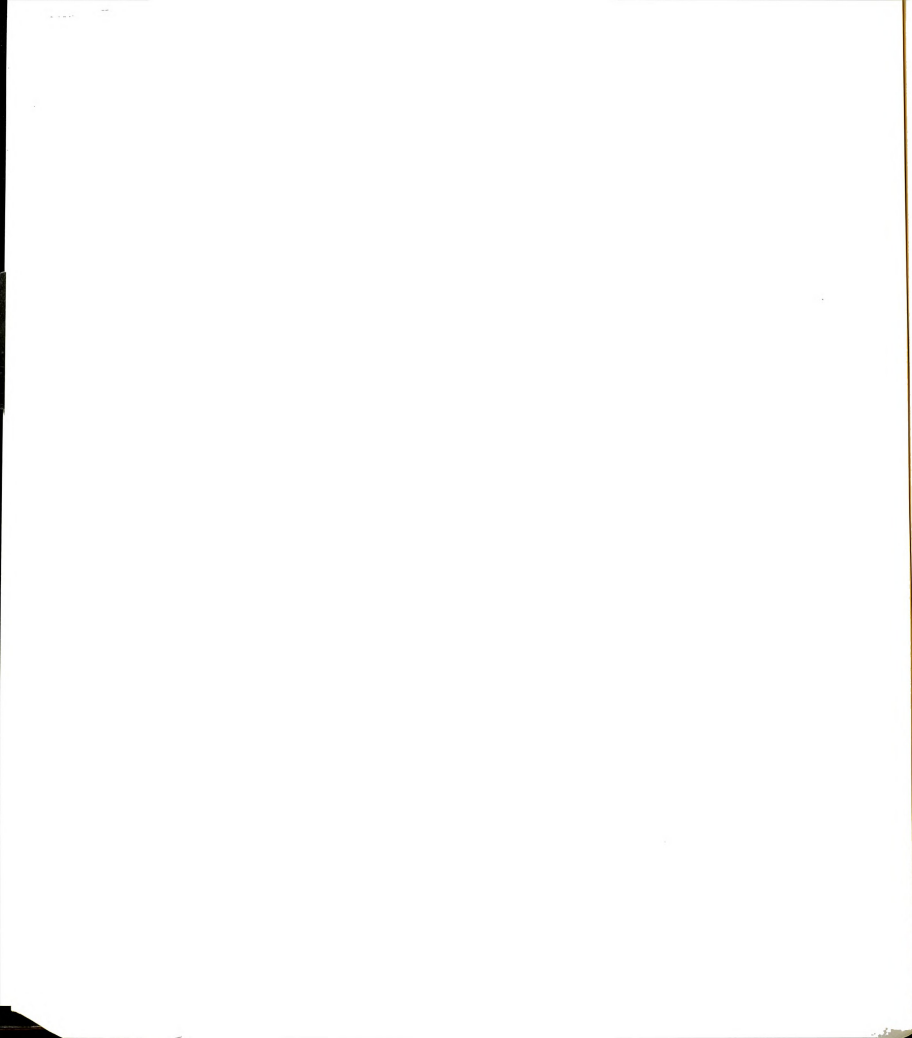
preferences for quality, trade requirements, and export needs. This provided important sets of information for Michigan apple producers, storage operators, packing houses, and shippers that the ISPC group considered would improve the Michigan industry's performance. Furthermore, the ISPC group developed priorities for university research and extension as information on critical industry needs. This highlights the types of potential benefits that an ISPC process can provide to an industry through improving information.

Summary of Benefits from the Industry Perspective

This section has considered many of the potential benefits of ISPC from an industry perspective and some actual benefits achieved in the Michigan apple industry case. The apple industry through ISPC has exhibited some increased ability to develop and implement strategies that are most likely to lead to improved industry performance. Industry performance has seemed to improve in some respects. Furthermore, the ability of the Michigan apple industry ISPC process to achieve a number of public good related benefits was also assessed, and examples were provided about how the industry is achieving some public good related benefits. Overall, the apple industry experience with ISPC indicates that the industry is now more effective in serving their customers, and the focus provided by ISPC serves as a catalyst for improved industry performance. This indicates that the potential of ISPC of improving industry performance is being achieved to some degree in the Michigan apple industry case. This is indicative of the kinds of benefits that can be expected to potentially be achieved in other industries from an ISPC process.

6.3.2 From the Public Policy Perspective

Another important perspective in evaluating ISPC is from the public policy perspective. The public policy perspective arises from the general public and public policymakers, such as, government officials and administrators. It would be useful if ISPC provides benefits at the public policy level because this would indicate that ISPC improves the overall welfare of society.



Public policymakers could also be more willing to provide resources and support for ISPC strategies if these strategies are seen as improving overall welfare. Without knowledge of the benefits of ISPC, public policymakers may view an ISPC process with suspicion or perhaps even move to suppress it because they might fear that the goal of an ISPC process would be to achieve excessive market power.

Public welfare will likely be improved by an ISPC process if an industry becomes more effective and pro-active or responsive in meeting society's needs. There are numerous public policy needs at a given time and those needs generally change over time (Knutson *et al*, 1998). If an ISPC process enables an industry to achieve more effective responses to public policy needs, then it can be considered to have improved public welfare. Among the current public policy needs, there are several areas in which there is some public policy interest in which ISPC has had some impact:

- More Effectively Meeting Customer Needs,
- Improving Industry Economic Health,
- Reducing Harm to the Environment,
- Communicating Industry's Needs to Government Organizations.

If an ISPC process helps facilitate improved performance in these areas without using monopolistic practices, then it would provide benefits from the public policy perspective. The following subsections consider why these areas are viewed as important to society's needs at the current time and considers evidence that the ISPC process has actually improved performance in this public policy sense, based on the Michigan apple industry case. Results are necessarily tentative because the limited time period in this case study.

More Effectively Meeting Customer Needs

A key benefit that an industry provides to society is through its products. The purchase, price, satisfaction, and value that these products provide to various industry customers and consumers indicate this importance. Public welfare would be improved, for example, if an ISPC process enabled a faster, more accurate response by the industry to changing customer needs and/or led to increases in the overall value from the industry's products (Knutson *et al*, 1998; Spitze, 1992).

In the Michigan apple industry case, the ISPC process has focused substantial efforts in regards to improving performance for meeting customer needs. The ISPC process developed a number of informational surveys and pro-active industry responses that have and will likely continue to improve industry performance in meeting customer needs. These included surveys of processors, shippers, and consumers on such demand related issues as desired varieties, type of packs, and quality factors. Furthermore, informational efforts through pre-harvest workshops, industry publications, and other efforts have focused upon improving how firms can effectively respond to the identified changing customer needs in cost effective ways.

Improving Industry Economic Health

The overall economic health of an industry can contribute to society through such means as farm income, employment, and tax base provided by an industry. Often improved employment, income, and cash flow are viewed as desirable from a public policy perspective, especially in rural areas (Tweeten, 1989; NCFAP, 1983). An industry could be viewed as economically healthy if it has long term ability to effectively compete in domestic and world markets and is economically viable. This means if an ISPC process improves the industry's performance in these areas, then it provides social benefits.

In the Michigan apple industry case, there are several indications that the ISPC process has improved industry competitiveness and is therefor aiding in improved industry economic

health. As discussed earlier in this chapter, the ISPC process has provided a method by which an industry can identify and implement strategies that are most likely to improve performance. This has altered the industry's evolving path in ways as it adjusts to its dynamic market environment that would be expected to improve long term performance. Furthermore, there are some preliminary indications that industry competitiveness has improved as shown by such measures as improving industry market volume and value of production.

Reducing Harm to the Environment

An important public policy concern in recent years is improving environmental protection (Tweeten, 1989; Poe, 1997). One focus on industry performance in this regard has been public policy interest in reducing the use of chemical pesticides (Klassen, 1988). This is because chemical pesticides are viewed as contributing negative environmental effects and other less than desirable public policy effects. On the other hand, chemical pesticides are standard technology as important tools to reduce or eliminate the harmful effects of various pests on the quality and quantity of an industry's products for consumer satisfaction. However, some pesticides if not handled carefully can harm workers in the industry as well as other non-intended animals or insects in the environment. Further, there has been increasing concern about how some pesticide residues may negatively effect food safety. This has led some to advocate that reducing pesticide use would be a desirable public policy goal for a commodity industry.

Facilitated in some respects by the Michigan apple ISPC process, the Michigan industry has become more pro-active in this area. The Michigan apple industry decided to develop an industry response through developing a landmark comprehensive apple industry stewardship plan on pest management and pesticide issues. This plan is considered by some at the national level as an effective model or approach for environmental stewardship by a fruit industry. It is one key step toward a pro-active industry response towards public policy needs. The industry

through its ISPC process has also worked to achieve more research focused on effective pesticide use and alternative pest management systems, such as, Integrated Pest Management.

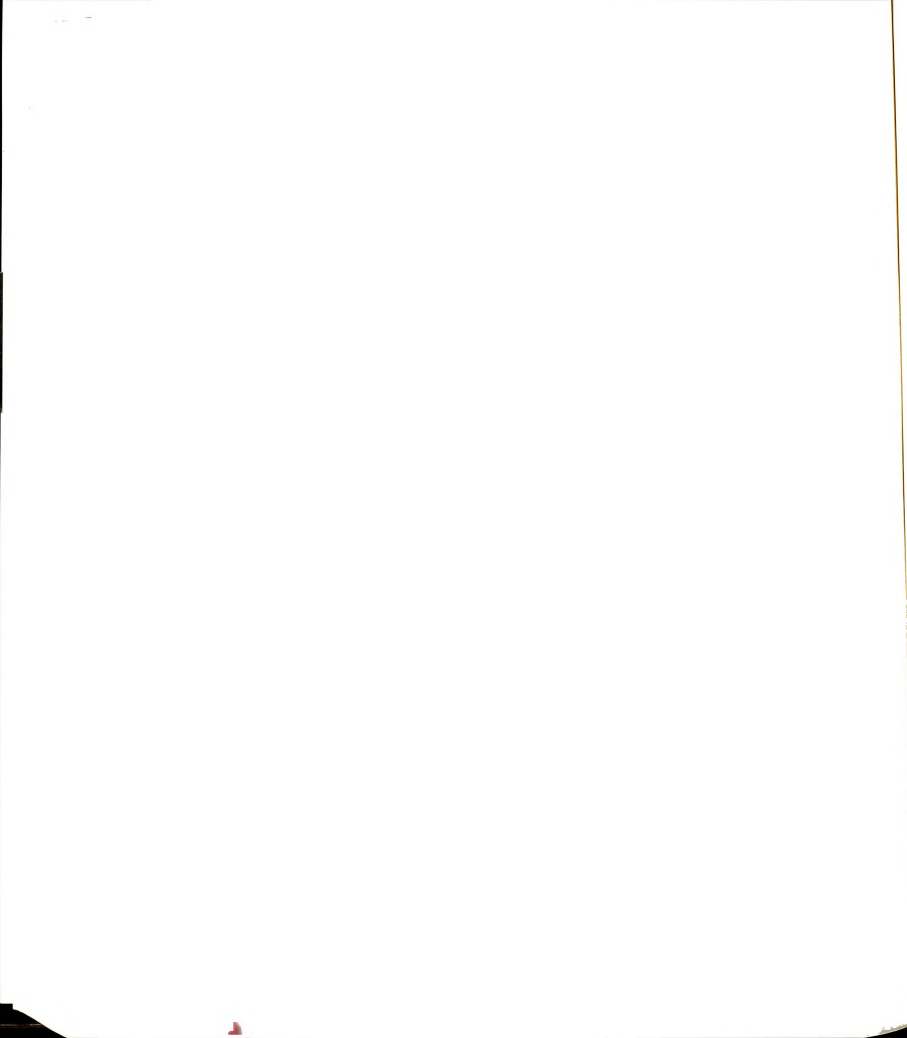
Communicating Industry's Needs to Governmental Organizations

Commonly there are many governmental organizations that have a strong interest and a goal of improving the performance of the industry in a number of ways. For an agricultural industry, these organizations include the USDA, state agricultural departments, and agricultural research centers. As the real needs of the industry change overtime, the methods and actions of these agencies need to evolve with the changing times to be most effective in improving industry performance and meeting the public's needs (Sims and Crandall, 1986; Lacy, 1996). An ISPC process may be effective at communicating the latest industry needs and circumstances to these organizations for their effective responses.

The ISPC process in the Michigan apple industry case has communicated with governmental organizations for effective response to changing needs. The industry developed priorities for university research and extension that can help facilitate effective university programs for improved industry performance. Research funds have also been requested from government agencies for several high priority industry research areas that the ISPC group identified as priority, and some success in improved funding for such research has been achieved.

Absence of Seeking Monopolistic Benefits

One important public policy consideration about an ISPC process is whether it is seeking to achieve some level of monopolistic benefits for the industry, as was discussed in Chapter 2. This is a logical aspect to consider because monopolistic actions may have negative public policy implications. In the earlier discussion in Chapter 2 based upon theory, reasons why a commodity industry would likely not seek to achieve monopolistic benefits through ISPC were summarized. This conclusion was reached from a theoretical perspective because the industry,



due to competition from other industries as well as other factors, would likely not benefit from monopolistic efforts.

Based on the Michigan apple case, monopolistic practices, i.e., the goal of reducing quantity to increase prices, has not been present. The strategies that have been accomplished in the industry case, as well as the overall discussion, have not indicated any effort to achieve monopolistic benefits. The ISPC process has concentrated on other aspects to better serve customer needs, etc. From this, it is clear that ISPC can be pursued with substantial benefits though improved industry performance in a number of areas without seeking monopolistic market power. This means that, for now, from experience as well as theory, risks of monopolistic practices from ISPC seem to be relatively negligible.

Overall Summary on Benefits to the Public

The focus of this section has been on the performance of the ISPC process in the Michigan apple industry in providing benefits from the public policy perspective. The ISPC process seems to have provided a number of public policy benefits. These benefits include not only improving the industry's economic health and responsiveness to changing market and consumer needs, but a more pro-active industry response to society's needs in protecting the environment. Furthermore, experiences indicate that ISPC does not seem to result in monopolistic practices. However, these results are necessarily tentative at this point due to the limited time period of the case studies. Overall, the industry through the ISPC process seems to be becoming more pro-active and effective in meeting society's needs, but future research is warranted.

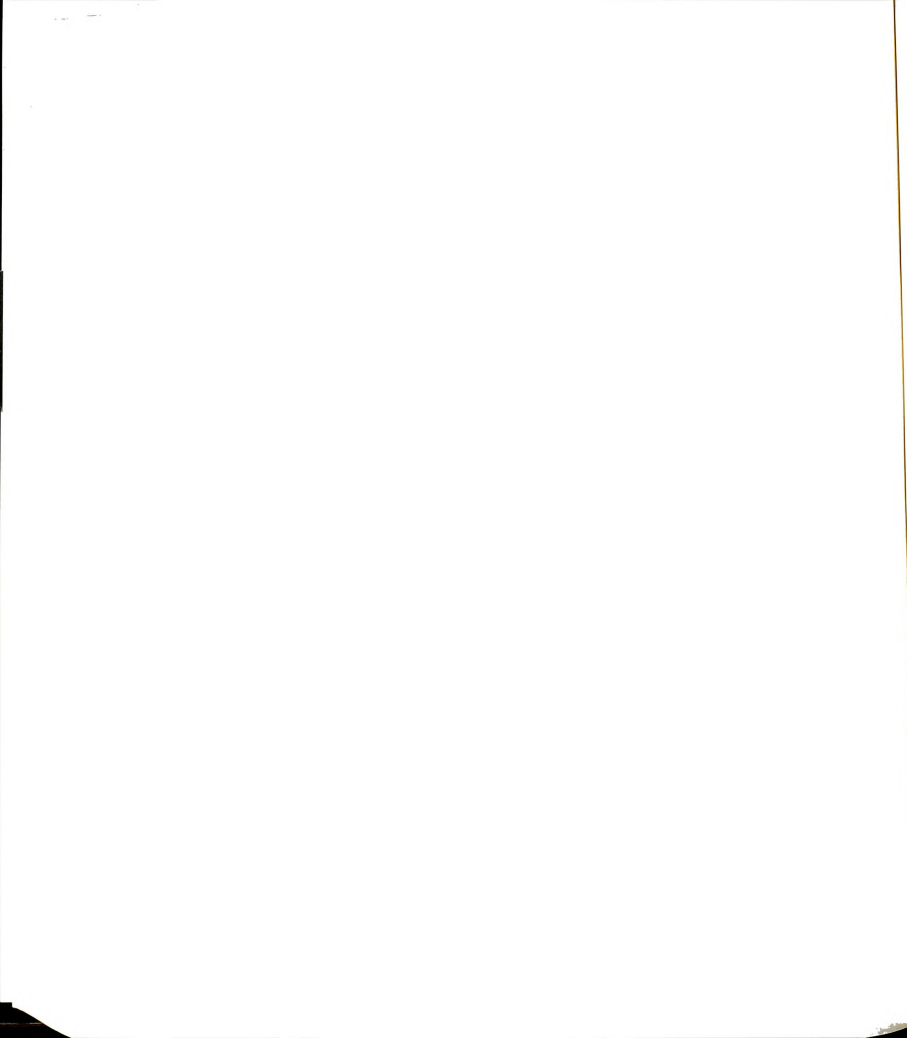
6.4 Summary and Suggestions for Future Research

In this dissertation, substantial progress has been made in understanding the ISPC approach as an approach to improve industry competitiveness and economic viability. A key effort has focused on integrating a number of important aspects, phases, approaches and methods into a comprehensive analytical framework for ISPC. This framework is designed to provide a useful guide to effectively accomplishing ISPC.

The ISPC framework developed in this dissertation was analyzed in the context of two industry cases: the Michigan apple industry and U.S./Michigan tart cherry industries. These case studies indicated that the ISPC framework can indeed provide a useful guide to accomplishing ISPC. Further, the case study of the Michigan apple industry ISPC process indicates some substantial benefits and promise of future benefits in improving industry performance. The case studies indicate that ISPC is a useful approach that can be potentially applied in a number of industry contexts to improve industry performance.

As this dissertation comes to a close, there are a number of possible research directions that could be pursued to further expand knowledge about ISPC. One main direction for such research could include expanding the experience with the ISPC processes with a number of different industries. Applying the ISPC framework in more industry contexts would further improve the external validity of the framework, i.e., show how generalizable the ISPC framework is. Such analysis would also likely lead to further refinements and improvements in the ISPC framework. As ISPC is used further in various industries, a more comprehensive understanding of the benefits to ISPC can be developed.

Another approach to additional research could include further study of ISPC processes through studying continuing experiences and evolution within the Michigan apple and U.S./Michigan tart cherry industries. This could include further empirical information on these industries' ISPC processes and impacts on performance. Econometric time series approaches



could be used over this longer time period for a quantitative assessment, perhaps with certain performance measures discussed in this dissertation. Such a quantitative assessment could measure the impact of an ISPC process on the competitiveness and economic viability of particular industries.

In conclusion, the research in this dissertation supports the idea of ISPC as a useful, effective method to improve industry performance. This means that ISPC could probably be used in other industries with the goal of improved industry performance. Future research may be fruitfully pursued to expand the knowledge base about ISPC and effective methods for accomplishing it -- with expectation that this research will provide important, practical knowledge about improving industry performance.

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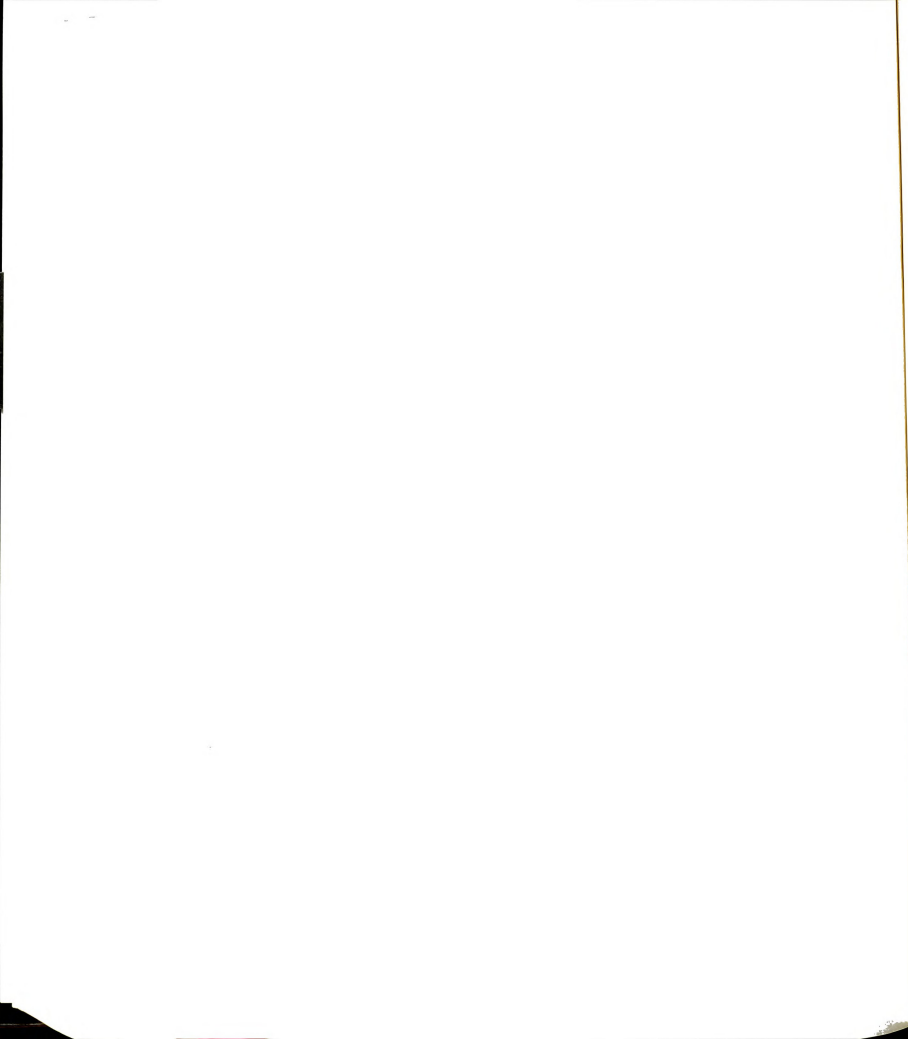
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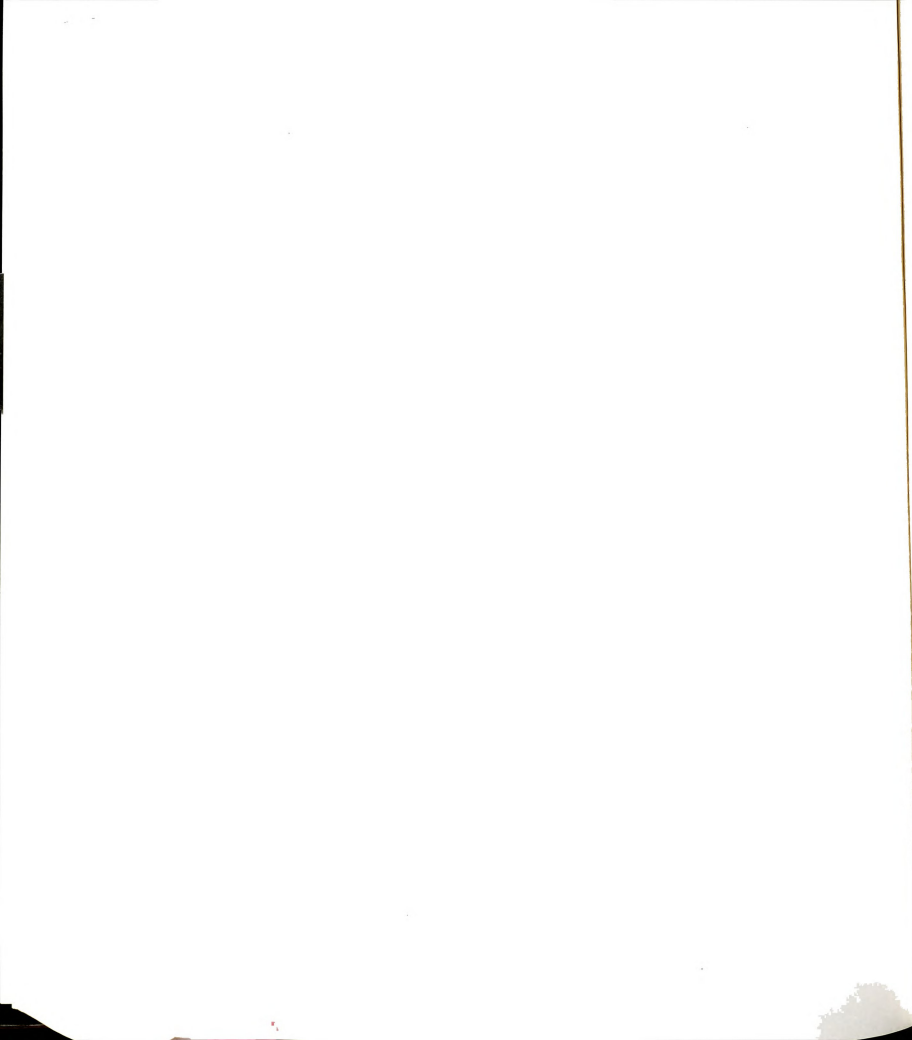
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