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**SUBSECTOR STRATEGIC COORDINATION
TOWARD IMPROVED PERFORMANCE:
A FRAMEWORK AND AN APPLE SUBSECTOR CASE STUDY**

By

Timothy Alan Woods

A DISSERTATION

Submitted to
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in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Agricultural Economics

1996

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ABSTRACT

SUBSECTOR STRATEGIC COORDINATION TOWARD IMPROVED PERFORMANCE: A FRAMEWORK AND AN APPLE SUBSECTOR CASE STUDY

By

Timothy Alan Woods

Constantly changing conditions in the way individual firms can compete in the market requires that firms commit themselves to the task of strategic management. The task of crafting and implementing strategies that can set the desired course for the firm can require significant analysis of the firm's competitive advantages. Such a task involves artfully matching the strengths and weaknesses of the firm to emerging opportunities and challenges. Well designed strategy should be able to elevate and/or sustain the performance of the firm at a high level that, in the absence of well designed strategy, would unlikely be achieved.

The regional commodity subsector, on another scale, also faces constantly changing conditions that relate to the overall competitiveness of the region as a supplier. The individual firms and organizations within the subsector share many overall strengths and weaknesses, as well as opportunities and challenges. There are a number of situations involving improving overall competitiveness that require coordinated effort to identify and implement improvement actions for the subsector. The planning and implementation of such improvement actions, however, requires encouraging an orientation toward coordinated strategy building among those in the industry in order to affect the desired changes within the industry. Strong, visionary leadership is critical.

This analysis seeks to build on earlier efforts to improve coordination within commodity subsectors by examining the case of the Michigan apple subsector as they have collectively

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endeavored to plan and implement strategies toward improving the overall performance of their subsector. Many useful principles of strategic management have emerged out of the business school with a view toward helping individual firms improve their strategic planning and implementation process.

This research seeks to extend and adapt some of the concepts and principles of strategic management to the complexities of the related process within a commodity subsector. The innovative, on-going approaches for identifying and developing effective coordinated improvement actions used by the Michigan apple subsector serve as the basis for much of the analysis. One of the further goals of this effort is to present concepts and considerations that should be considered toward a general strategic planning framework for a subsector.

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Many different individuals and organizations helped to make this work possible. The guidance of my dissertation advisor, Don Ricks, was invaluable. The time he invested to provide me with the insight into the workings of the U.S. and Michigan apple industry will hopefully return dividends for both of us. His patience and persistence throughout the dissertation process to better understand and practically apply the concepts of strategy, coordination, and planning in the context of the Michigan apple industry are reflective of his commitment to make a positive and lasting difference for this industry.

I would also like to express appreciation to my major professor, Jim Shaffer. His counsel throughout my program and his thoughtful feedback on various stages of my work are reflective of his commitment to helping me become a more careful and thoughtful agricultural economist.

Chris Peterson and Larry Stimpert provided meaningful and timely feedback serving on my dissertation committee. Both professors challenged me to explore beyond the bounds of traditional ag economics paradigms and to consider the implications developments of thought within the business school to my work. Tom Pierson and John Staatz provided much needed direction and inspiration, not only through the dissertation writing, but also as members of my program guidance committee.

My gratitude to many others could further be expressed here. Certainly many others were supportive of this work, directly or indirectly. I would be remiss, however, not to express my deepest thanks to God, who inspires and sustains, and my wife and daughter, Tracy and Emily, who so very patiently endured the demands placed on me to bring this project to completion, and encouraged me through the tougher stretches.

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

CHAPTER 1

INTRODUCTION

1.1

1.2

1.3

1.4

CHAPTER 2

STRATEGIES

INTERVIEW

2.0

2.1

2.2

2.3

2.4

2.5

CHAPTER 3

DEVELOPMENT

THE

3.0

TABLE OF CONTENTS

LIST OF TABLES	x
LIST OF FIGURES	xii
LIST OF APPENDICES	xiii
CHAPTER 1	
INTRODUCTION	1
1.1 SUBSECTOR STRATEGIC MANAGEMENT: AN ANALYTICAL GAP ..	1
1.2 RESEARCH OBJECTIVES	10
1.3 METHODOLOGICAL APPROACH	11
1.4 OVERVIEW OF THE DISSERTATION	12
CHAPTER 2	
STRATEGIC MANAGEMENT CONCEPTS AND INTERDEPENDENT ORGANIZATIONS	16
2.0 INTRODUCTION	16
2.1 EVOLUTION OF STRATEGIC MANAGEMENT	17
2.2 EXTENDING RELATED DEFINITIONS AND CONCEPTS OF STRATEGY TO THE SUBSECTOR	25
2.2.1 Strategy	25
2.2.2 Strategic Planning	33
2.2.3 Strategic Management	40
2.2.4 Mobility: Implications for First-Mover and Sustainable Advantages	45
2.3 THE FIRM, ORGANIZATIONAL INTERDEPENDENCE, AND SUBSECTOR STRATEGIZING	52
2.3.1 Organizational Interdependence to Minimize Transaction Costs	53
2.3.2 Derived Demand and Supply	55
2.3.3 Subsector Systems and Joint Impact Goods	57
2.3.4 Cognitive Conceptions of Interdependence	59
2.3.5 Synergy Between Firms	60
2.4 FURTHER RATIONALE FOR EXPLORING REGIONAL SUBSECTOR STRATEGY	62
2.4.1 Technical Interdependence of Nearby Firms	62
2.4.2 Agricultural Development and Schelling's Tipping Model	63
2.5 RELEVANCE OF CRAFTING AND IMPLEMENTING STRATEGY FOR A COMMODITY SUBSECTOR: AN OVERVIEW	64
CHAPTER 3	
DEVELOPING A SUBSECTOR STRATEGIC PLANNING APPROACH: THE MICHIGAN APPLE SUBSECTOR CASE	69
3.0 INTRODUCTION	69

3.1	AN OVERVIEW OF THE MICHIGAN APPLE INDUSTRY	71
3.2	EXTERNAL FORCES CONTRIBUTING TO A NEED FOR INDUSTRY ACTION	74
3.2.1	OBSERVED THREATS TO THE INDUSTRY	75
	Lower Returns to Michigan Apple Growers	76
	Strong Competition and Expanding Production in Washington	77
	Imported Apple Juice and Other Changes in International Trade	80
	Regulations Threatening Reduced Availability of Key Chemical Inputs	84
3.2.2	OBSERVED OPPORTUNITIES FOR THE INDUSTRY	86
	New and Expanding Markets	86
	Expanding Capabilities in Michigan	87
3.2.3	STRATEGIC PLANNING INITIATIVES IN KEY COMPETING REGIONS	88
	The Washington State Apple Commission	88
	The Washington Tree Fruit Industry Task Force	95
	The Western New York Apple Growers Association	97
3.2.4	A SUMMARY OF FORCES INFLUENCING INDUSTRY ACTION	98
3.3	THE MICHIGAN APPLE INDUSTRY STRATEGIC PLANNING TASK FORCE	99
3.3.1	THE FORMATION, ORGANIZATION, AND ADMINISTRATION OF THE TASK FORCE	100
3.3.2	ISSUES OF COORDINATION AMONG MICHIGAN SEGMENTS	105
3.4	INDUSTRY ISSUE INFORMATION GATHERING BY THE TASK FORCE	108
3.4.1	MODIFYING STRATEGIC ISSUE MANAGEMENT FOR THE MICHIGAN APPLE INDUSTRY	108
3.4.2	TOWARD A COMPETITIVE SITUATION ANALYSIS	110
	Fresh Apples	113
	Canning and Frozen Apples	116
	Apple Juice	118
	Changes in Per Capita Utilization for U.S. Apple Markets	119
3.4.3	THE ROLE OF SEGMENT SURVEYS	121
3.5	INDUSTRY STRATEGY: FROM SITUATION TO ACTION AND DIRECTION	123
3.5.1	APPROACHES FOR DEVELOPING ACTION ALTERNATIVES	124
3.5.2	A SUMMARY AND EVOLUTION OF EARLY TASK FORCE ACTIVITIES	127
3.6	SOME SUMMARY POINTS ON STRATEGIC PLANNING IN THE CONTEXT OF THE MICHIGAN APPLE INDUSTRY	129

CHAPTER 4

	RESULTS AND ANALYSIS OF THE APPLE SHIPPER SURVEY	133
4.0	INTRODUCTION	133
4.1	BACKGROUND AND APPROACH TO THE APPLE SHIPPER SURVEY	135
4.1.1	SURVEY CONTENT	136
4.1.2	THE SURVEY PROCESS	137

4.2	A SITUATIONAL ANALYSIS FOR THE MICHIGAN APPLE INDUSTRY: THE FRESH SHIPPER PERSPECTIVE	138
4.2.1	STRENGTHS OF THE FRESH SECTOR	139
	On Subsector Strengths	139
	Michigan Apple Shippers on Industry Strengths	140
	Historic Strengths	141
	Emerging Strengths	145
4.2.2	WEAKNESSES OF AND THREATS TO THE FRESH SECTOR	149
	On Subsector Weaknesses	149
	Perceptions of Industry Weaknesses and Threats	150
4.2.3	THREATS TO THE FRESH SECTOR	155
4.2.4	OPPORTUNITIES FOR THE FRESH SECTOR	160
	On Subsector Opportunities	160
	Shipper Perspectives in Industry Opportunities	160
	On Opportunity Areas Suggested by the Task Force	161
	Further Opportunities Identified by the Shippers	165
	Expansion Into Competitive Existing Markets Currently Minor for Michigan	169
	Improving Value Through Technology, Marketing, and Coordination to Key Markets	171
	Creating and developing new markets	173
	A Market Segmentation Matrix	175
4.3	SHIPPER EVALUATION AND SUPPORT OF INDUSTRY ACTION AREAS	179
	On Industry Actions Suggested by the Task Force	179
4.4	PRIORITIZING UNIVERSITY RESEARCH AND EXTENSION SUPPORT	191
4.5	INDUSTRY DIRECTIONS PROPOSED BY THE SHIPPERS	198
4.5.1	SUMMARIZING SEVERAL INDUSTRY DIRECTIONS	198
4.5.2	THE WAY AHEAD	204

CHAPTER 5

	RESULTS AND ANALYSIS OF THE APPLE GROWER AND PACKER SURVEY	205
5.1	OVERVIEW	205
5.2	THE APPLE GROWER AND PACKER SURVEY	206
	5.2.1 THE SURVEY APPROACH	207
	5.2.2 THE SURVEY CONTENT	209
5.3	THE COMPETITIVE SITUATION OF THE MICHIGAN APPLE INDUSTRY	210
5.3.1	GROWERS ON INDUSTRY STRENGTHS	211
	A Summary of the Grower Perspective	212
	A Summary of the Packer Perspective	218
	Linking Observations to the Shipper Survey	220
5.3.2	ISSUES AND CHALLENGES BOTH INTERNAL AND EXTERNAL TO THE SUBSECTOR	221
	A Summary of the Grower Perspective	222
	A Summary of the Packer Perspective	226
	Linking Observations to the Shipper Survey	228
5.3.3	INDUSTRY OPPORTUNITIES	229
	Opportunities Relating to Fresh Markets	232
	Opportunities Relating to Processing Markets	234

54

55

56

CHAPTER 6

THE

FOR

6.0

6.1

6.2

6.4

6.5

CHAPTER

TO

ST

7.0

	Opportunities Relating to Technological Advances	235
	Linking Observations to the Shipper Survey	237
5.4	INDUSTRY ACTION ALTERNATIVES	239
5.4.1	INDUSTRY ACTION ON DEMAND EXPANSION	250
5.4.2	INDUSTRY ACTION ON PEST MANAGEMENT	250
5.4.3	QUALITY ENHANCEMENT THROUGH IMPROVED PRODUCTION PRACTICES	253
5.4.4	TOWARD INDUSTRY QUALITY STANDARDS	255
5.4.5	INDUSTRY ACTION ON VARIETIES	257
5.4.6	IMPROVING INDUSTRY TRANSACTIONS AND RECORDS ..	258
5.4.7	OTHER INDUSTRY ACTIONS	259
5.4.8	AN OVERVIEW OF RESPONSES TO PROPOSED INDUSTRY ACTIONS	260
5.5	RESEARCH AND EXTENSION PRIORITIES	262
5.5.1	RESULTS FROM THE GROWER SURVEY ON UNIVERSITY RESEARCH AND EXTENSION	262
5.5.3	VARIOUS PERSPECTIVES ON THE UNIVERSITY AND INDUSTRY STRATEGIC PLANNING	270
5.6	A SUMMARY OF GROWER AND PACKER RESPONSES	274

CHAPTER 6

	THE STATUS AND DIRECTION OF SUBSECTOR STRATEGIC PLANNING FOR THE MICHIGAN APPLE SUBSECTOR	275
6.0	INTRODUCTION	275
6.1	THE STRATEGY BUILDING	276
6.1.1	ON FIRM AND SUBSECTOR GOALS	277
6.1.2	SUMMARIZING MICHIGAN'S COMPETITIVE SITUATION ..	279
	An Internal Capability Assessment	279
	An Assessment of Opportunities and Threats	281
6.1.3	DRIVING FORCES AFFECTING SUBSECTOR CHANGE	283
6.1.4	KEY SUCCESS FACTORS FOR THE FRESH APPLE SEGMENT	284
6.2	THE STATUS AND DIRECTION OF PRIORITY INDUSTRY ACTIONS	286
6.2.1	ACTIONS TO IMPROVE OVERALL FRESH APPLE QUALITY	287
6.2.2	ACTIONS ADDRESSING PESTICIDE USE, AVAILABILITY, AND WORKABLE PEST MANAGEMENT SYSTEMS	290
6.2.3	ACTIONS FACILITATING DEMAND EXPANSION	290
6.2.4	ACTIONS FACILITATING VARIETY EVALUATION	291
6.4	KEY CONSIDERATIONS FOR STRATEGIC PLANNING IN THE APPLE SUBSECTOR	293
6.4.1	INVOLVING KEY INDUSTRY LEADERS	293
6.4.2	CONSENSUS BUILDING	294
6.4.3	BUILDING ORGANIZATIONAL LINKAGES	295
6.5	CREATING A SUSTAINABLE STRATEGIC PLANNING SYSTEM FOR MICHIGAN APPLES	296

CHAPTER 7

	TOWARD A GENERAL FRAMEWORK FOR COMMODITY SUBSECTOR STRATEGIC PLANNING	298
7.0	INTRODUCTION	298

7.1

7.2

7.3

BIBLIOGRAPHY

7.1	COMPONENTS AND TOOLS FOR A SUBSECTOR STRATEGIC PLANNING SYSTEM	301
7.2	OPERATIONALIZING STRATEGIC PLANNING FOR A SUBSECTOR	313
7.3	THE WAY AHEAD FOR SUBSECTOR STRATEGIC PLANNING IN GENERAL	317
BIBLIOGRAPHY		346

Table 2.1

Table 3.1

Table 3.2

Table 3.3

Table 3.4

Table 3.5

Table 3.6

Table 3.7

Table 3.8

Table 3.9

Table 3.10

Table 3.11

Table 3.12

Table 4.1

Table 4.2

Table 4.2

Table 4.7

Table 4.3

Table 4.3

Table 4.4

Table 4.5

LIST OF TABLES

Table 2.1	QUINN'S ELEMENTS OF A FORMAL CORPORATE PLANNING PROGRAM	35
Table 3.1	MICHIGAN SEASON AVERAGE PRICES FOR FRESH AND PROCESSED APPLES: 1988-1993	77
Table 3.2	IMPORTED AND DOMESTIC SUPPLIES OF APPLE JUICE: 1989-1993	83
Table 3.3	GOALS, OBJECTIVES, AND SPECIFIC ACTIONS PROPOSED FOR FRESH WASHINGTON APPLES BY THE WASHINGTON STATE APPLE COMMISSION	91
Table 3.4	U.S. APPLE PRODUCTION BY MAJOR STATES AND REGIONS . . .	111
Table 3.5	PRODUCTION UTILIZED FOR FRESH APPLES BY MAJOR STATES AND REGIONS	115
Table 3.6	WASHINGTON AND TOTAL U.S. TRADE OF FRESH APPLES	116
Table 3.7	PROCESSED UTILIZATION FOR CANNING BY MAJOR STATES AND REGIONS	117
Table 3.8	PROCESSED UTILIZATION FOR FROZEN APPLE SLICES BY MAJOR STATE AND REGION	117
Table 3.9	PROCESSING UTILIZATION FOR APPLE JUICE BY STATE AND MAJOR PRODUCTION REGION	119
Table 3.10	AVERAGE PER CAPITA UTILIZATION FOR DIFFERENT APPLE PRODUCTS IN THE U.S.	120
Table 3.11	APPROACHES FOR OBTAINING BROAD INDUSTRY SUPPORT AND INVOLVEMENT	125
Table 3.12	EVOLUTION OF THE MICHIGAN APPLE INDUSTRY STRATEGIC PLANNING TASK FORCE AGENDA	128
Table 4.1	SHIPPER PERSPECTIVES ON HISTORIC STRENGTHS OF THE MICHIGAN APPLE INDUSTRY	142
Table 4.2	SHIPPER PERSPECTIVES ON EMERGING STRENGTHS OF THE MICHIGAN APPLE INDUSTRY	146
Table 4.2	SHIPPER PERSPECTIVES ON WEAKNESSES AND LIMITATIONS OF THE MICHIGAN APPLE INDUSTRY	152
Table 4.7	SHIPPER PERSPECTIVES ON THREATS TO THE MICHIGAN APPLE INDUSTRY	157
Table 4.3	SHIPPER EVALUATION OF AREAS OF GENERAL INDUSTRY OPPORTUNITY PRE-SPECIFIED BY THE TASK FORCE	162
Table 4.3	OPPORTUNITIES FOR EXPANDING INTO MARKETS THAT ARE CURRENTLY MINOR FOR MICHIGAN	166
Table 4.4	OPPORTUNITIES FOR IMPROVING VALUE THROUGH TECHNOLOGY, MARKETING, AND COORDINATION	167
Table 4.5	OPPORTUNITIES FOR CREATING AND DEVELOPING NEW FRESH APPLE MARKETS	168

Table 4.6

Table 4.7

Table 4.8

Table 4.9

Table 4.10

Table 5.1

Table 5.2

Table 5.3

Table 5.4

Table 5.5

Table 5.6

Table 5.7

Table 5.8

Table 5.9

Table 7.1

Table 4.6	A MARKET SEGMENTATION MATRIX FOR MICHIGAN FRESH APPLES	178
Table 4.7	SHIPPER SUPPORT FOR SELECTED AREAS OF INDUSTRY IMPROVEMENT ACTION	180
Table 4.8	AVERAGE VALUE OF ANNUAL PRODUCTION FOR SELECTED MICHIGAN FRUIT AND VEGETABLE CROPS: 1988-92	193
Table 4.9	PRIORITY AREA NEEDS FOR RESEARCH AND EXTENSION SUPPORT SUGGESTED BY MICHIGAN APPLE SHIPPERS	195
Table 4.10	INDUSTRY ACTIONS PROPOSED FROM THE SHIPPER SURVEY, TASK FORCE, AND SHIPPER SUBCOMMITTEE	201
Table 5.1	GROWER PERCEPTIONS OF INDUSTRY STRENGTH	214
Table 5.2	PACKER AND NON-PACKER GROWER PERCEPTIONS OF INDUSTRY STRENGTH	219
Table 5.3	GROWER PERCEPTIONS ON INDUSTRY ISSUES AND CHALLENGES	223
Table 5.4	PACKER AND NON-PACKER GROWER PERCEPTIONS ON INTERNAL AND EXTERNAL INDUSTRY ISSUES AND CHALLENGES	227
Table 5.5	GROWER PERCEPTIONS OF INDUSTRY OPPORTUNITIES BY FREQUENCY AND ACREAGE	231
Table 5.6	GROWER SUPPORT FOR INDUSTRY ACTION AREAS BY FREQUENCY AND ACREAGE	242
Table 5.7	GROWER SUPPORT FOR INDUSTRY ACTION AREAS BY FREQUENCY AND ACREAGE	246
Table 5.8	GROWER SURVEY RESULTS ON THE IMPORTANCE OF INDUSTRY SUPPORT AREAS FOR UNIVERSITY RESEARCH AND EXTENSION.	264
Table 5.9	COMPARATIVE INDUSTRY RESPONSES RELATING TO THE IMPORTANCE OF THE UNIVERSITY'S ROLE IN STRATEGIC PLANNING AND COORDINATION	272
Table 7.1	GENERAL COMPONENTS TO A SUBSECTOR STRATEGIC PLANNING SYSTEM	303

Figure 2.1

Figure 2.2

Figure 3.1

Figure 3.2

Figure 3.3

Figure 3.4

Figure 3.5

Figure 4.1

LIST OF FIGURES

Figure 2.1	A GAME THEORETIC FRAMEWORK FOR INTERDEPENDENT SUBSECTORS	29
Figure 2.2	THE DIMENSIONS OF THE STRATEGIC PROBLEM	37
Figure 3.1	MARKET UTILIZATION OF MICHIGAN APPLES: 1950-1993	72
Figure 3.2	APPLE PRODUCTION IN WASHINGTON, MICHIGAN, AND OTHER U.S. REGIONS WITH 5 YEAR AVERAGES: 1960-1993.	78
Figure 3.3	MICHIGAN'S DECLINING MARKET SHARE IN A GROWING U.S. APPLE JUICE MARKET.	81
Figure 3.4	APPLE JUICE PRODUCTION SOLD IN THE U.S. BY WASHINGTON, MICHIGAN, AND IMPORTS: 1971-1992.	82
Figure 3.5	ORGANIZATIONS CONTRIBUTING TO THE MICHIGAN APPLE INDUSTRY STRATEGIC PLANNING TASK FORCE	102
Figure 4.1	THREE DIMENSIONS FOR DEFINING A BUSINESS	176

APPENDIX A
ON CASE STU

APPENDIX B
MICHIGAN A

APPENDIX C
MICHIGAN A

APPENDIX D
SUPPORTING

LIST OF APPENDICES

APPENDIX A	
ON CASE STUDY METHOD	320
APPENDIX B	
MICHIGAN APPLE SHIPPER SURVEY	324
APPENDIX C	
MICHIGAN APPLE GROWER AND PACKER SURVEY	331
APPENDIX D	
SUPPORTING DATA TABLES	342

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CHAPTER 1

INTRODUCTION

1.1 SUBSECTOR STRATEGIC MANAGEMENT: AN ANALYTICAL GAP

Strategic management is a concept that, although originally crafted for individual competitive firms, is finding its place into more broadly defined organizations, including those within agriculture. A great deal of research capital has been expended in the direction of firm-level strategic management in an attempt to better understand and improve decision making processes and developing prescriptions for the strategic action taken by firms facing various economic conditions with respect to their own resources, the resources of their competitors, and the market. The relevance of and approaches to the process coordinating strategic planning and implementation for a regional commodity subsector, itself a collection of horizontally and vertically related firms has, by contrast, gone largely unaddressed.¹

Several lines of reasoning may be behind this analytical gap. The organization that is the firm, while exhibiting certain similarities, is quite different from the organization of firms that make up the subsector. There is typically little or no managerial or central administrative hierarchy in a subsector to parallel that in a firm. Furthermore, there is explicit competition among subsector firms that are rivals with each other in quite different ways than divisions within a firm. The fragmented, or atomistic, organization of firms as they create value in the transformation and trade

¹ It is noteworthy that joint or interfirm conduct has received greater attention from researchers recently as an increased interest in understanding networking, joint ventures, strategic alliances, and international partnering has emerged in the fields of business and economics.

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of products through the subsector rarely has explicitly stated, unified goals in contrast to divisions vertically integrated under a single firm.

Organizational separation between firms within a subsector leads to inherent difficulties for firms in the subsector to recognize potential joint actions for mutual benefit. Rivalrous relationships and lack of recognized commonality can provide major obstacles for the firms seeking to obtain a reasonably equitable division of effort and reward to their cooperation. There also exist legal bounds that are imposed on inter-firm conduct in the U.S., particularly among those outside of agriculture, as laws attempt to regulate market power than can arise out of collusion and undue price enhancement.

Conceptually, the strategic management of the firm is relatively straight forward compared to a complex subsector composed of many different types of firms. The strategic management of the firm involves in a general sense the coalignment of the internal capabilities of that firm with its external market environment. The key decision makers of the firm are perpetually seeking (or at least are charged by shareholders to seek) ways to appropriately refine, develop, and enhance the firm's capabilities with a view toward the goals of the firm. Capabilities are developed and strategic courses are chosen, furthermore, with a view toward the rivals of the firm and the associated buyers and suppliers. The investment activities of the firm are evaluated by management with a view toward pre-defined (explicitly or otherwise) goals which are in turn consistent with a unified mission of the organization. This general understanding of the concept of strategic management is accepted on a fairly wide basis among those in the business academy and the corporate world.

How the capabilities and environment are assessed, how coalignment takes place, and how mission and goals are best established by the firm remain the subject of some debate. Much of what is currently practiced as strategic management by business practitioners, however, is undertaken within firm organizations that are characterized by a hierarchical autonomy over internal resources; the upper echelons of management serve as a center of strategic command and control. Firm strategies, however they may be derived through this management system, are typically

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planned and implemented in a top-down manner and are intended to support an articulated mission of the individual firm.

Firms are themselves organizations of individuals that emerge to internally organize what would otherwise be market transactions under conditions where the firm costs are less than the costs of carrying out the transaction through the market.² Coase concedes the nature of the firm, a basic unit of analysis in modern economics, to be "shadowy", but suggests that the efficiency of the whole economic system depends to a very considerable extent on what happens within these "economic molecules".³

The subsector can be conceived of, extending the chemistry analogy, as an economic compound made up or defined by the complex interrelationships between these molecules. Firms find themselves, much like the individuals organized under them, often in need of pursuing various coalitions to advance or preserve their individual interests. The economic "system" alluded to by Coase illustrates the interdependence of action and strategy employed by these economic molecules. Together they generate a system performance of value creation, transforming and distributing scarce resources between and among competing outlets.

The nature of trade and the conflict of firm-to-firm goals within a subsector may present significant barriers to implementing higher subsector-level strategy, particularly where there are a large number of different firms, products, channels, supporting institutions, and distinct value-adding stages associated in varying degrees with each other. At the very least, subsector systems of varying complexity may require different conceptual and/or methodological approaches for strategic planning and implementation from those taken by the individual firm or less complex organizations. The development of certain key resources, for example, that would be widely valued and employed by subsector firms, may be constrained by problems of free-ridership; high

² Following the conception of the firm as presented by Ronald Coase (1937), and later Cyert and March (1963) and Leibenstein (1979).

³ R.H. Coase, The Firm, The Market, and the Law, University of Chicago Press, 1988.

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exclusion cost goods from which all attending firms would benefit but no individual local firm has incentive to develop on their own.

There are many positive means of firm cooperation that are demonstrated in agriculture that can lead to general improvements in subsector performance. Trade associations, commodity commissions, cooperatives, Land Grant universities, and even government agencies, all provide (in principle) institutional support for the cooperative efforts of firms seeking to enhance general performance measures related to their productivity, responsiveness, value, and ultimately, competitiveness. Selective cooperation on certain aspects can lead to improved coordination of value-generating activities. Pooling certain types of resources can lead to system-wide economizing on inputs shared by all, such as market information and certain kinds of research and development. Cooperation and coordination also have the potential to lead to improved system-wide responsiveness to shared opportunities and threats. An introspective system-wide search and identification of weak internal linkages critical to the overall value-adding process and identification of new needed resources necessary to enhance overall performance can help subsector member firms to clarify the extent and nature of their interdependencies, identify mutually beneficial projects and strategic directions, and evaluate their own firm-level activities.

Despite the inherent difficulties found in balancing competition and cooperation within a subsector, firms do seek to engage in a wide variety of strategic behavior that depends on cooperation from other firms. Some varying levels of cooperation and coordination often exist between rival firms seeking to identify synergies through various forms of joint activity or partnership. As Douglass North states in making the distinction between institutions (the rules) and organizations (the players): "The purpose of the rules is to define the way the game is played. But the objective of the team within that set of rules is to win the game - by a combination of skills, strategy, and coordination...[m]odeling the strategies and the skills of the team as it develops is a separate process."⁴ The conception considered here is that the "team" can be thought of more

⁴ North, Douglass, Institutions, Institutional Change and Economic Performance, pp.4-5, Cambridge University Press, 1990.

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broadly than the individuals within a firm competing against other firms. A team can be made up of a group of related firms, such as those together in a regional commodity subsector, facing a common threat or acting together to develop a certain opportunity to their mutual benefit.

The subsector, a tacit organization of horizontally and vertically interdependent firms, represents a system within which firms have some similarities and often incentives for some internal competition and cooperation. The activities of an individual firm in the subsector may or may not coincide with the desired course of the broader subsector. The collective management of strategies for any organization, however it is done, including the deriving of goals, joint actions, allocating resources, and ex post strategy evaluation, can be observed to conflict or complement to varying degrees the strategic management initiatives of the individual member firms. The conceptual economic framework guiding research and inquiry for this micro-macro phenomenon investigated in this research will draw in part from the systems orientation of subsector studies, industrial organization, and Thomas Schelling's micro-motive / macro-behavior models. Combining these approaches with the theory and tools of firm-level strategic management can help guide inquiry into subsector strategic planning processes, institutional and organizational innovation, and contributions to long-term planning, coordination, and ultimately, firm and subsector performance.

Commodity subsector research has traditionally devoted considerable attention to issues of cooperation and coordination as they lead to measures of improved performance. Subsector strategic planning and management promises to be a meaningful research area inasmuch as it seeks in principle to selectively facilitate constructive cooperation and coordination on certain key issues between otherwise rival firms related by the value-adding process. Subsector firms often share certain resources within the system (location, public R&D, infrastructure, promotion), compete with common advantages and encumbrances toward often similar customers or markets, and are often threatened together by outside forces.

Shaffer has emphasized the importance of the evaluation of food systems by researchers and participants. There is a need among many to understand better the nature of interactions within the system and how they contribute to the performance of the economic activity contained

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(Shaffer, 1973, 1980). Routine microeconomic tools are generally inadequate to understand and evaluate these systems. The complexity of the interactions within a commodity subsector system can be very challenging for comprehensive evaluation, and therefore a more general understanding of key driving forces needs to be pursued as well as firm and segment relationships.

It is perhaps a more modest endeavor here to focus (following Shaffer, 1973) on key trends, forces for change, unexploited economic opportunities, and anticipated problems leading to performance with a systems orientation to the strategic management initiatives that may be adopted by a subsector. Examples of this, such as those within the Michigan apple subsector, are perhaps characteristic of what may be useful or descriptive of other agricultural commodity subsectors. This can include an attempt to identify, understand, and communicate interdependencies of alternative strategic actions that may not be, as Shaffer suggests, immediate or obvious.

Methodological approaches to implementing a strategic planning and management "system" for a subsector need to be developed more explicitly, based on a better understanding of the relevance of this conceptual approach. Prescriptive measures for a subsector-level approach to strategic planning and management are offered with a recognition that the opportunities and limitations at this level should be viewed with an understanding that much remains to be learned. It is unreasonable to expect one methodological approach to be universally applicable with equal results to all regional commodity subsectors. There exist, however, some basic principles that may be generally applied to many commonly faced situations. The nature of the internal and external competitive conditions faced by the Michigan apple subsector studied in this dissertation are frequently encountered by others.

The case of the Michigan apple subsector suggests that coordinated strategy will typically evolve through a sequence of stages. One stage involves building a strategic orientation for the subsector among subsector participants. Strategic planning for the subsector can then be pursued. A further important stage, inter-related with the others, is the coordination of subsector-wide strategy development and the implementation of improvement actions intended to move the overall

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subsector along a certain direction consistent with the subsector's strategic plan. The concept of subsector strategic coordination, in a sense, captures the essence of the full sequence of orientation, planning, and implementation.

There are several research needs that are therefore recognized. General conceptual and methodological approaches for strategic planning and action for the firms together in the subsector that are facing common economic conditions with respect to their resources, the resources of their competitors, and the market also need to be developed. The impact of a strategy-orienting system developed and implemented at the subsector level needs to ultimately be evaluated for its contribution to system performance - its generation of value and efficient use of resources. Research capital also needs to be expended to better understand and improve joint decision making processes among firms and organizations together in a commodity subsector.

Firms maintain their own strategy often with little regard for the collective effect of all firm strategies in a subsector. There is a further need to understand and evaluate the relationship and dynamics of individual firm strategies as they affect system-wide performance. The firm provides primary focus to its micro-strategy and attending stream of actions, but these must be considered in the context of broader macro-strategies and their attending actions. The strategy-orienting activity within the subsector must include initiative to develop firm-level incentives to cooperate or engage in conduct consistent with what is necessary to improve overall subsector performance. The collective problem in this case involves at least two points of micro-macro tension: (1) individual firms may be unable to sense a need for collective strategic reorientation at the subsector level and (2) individual firms may not have the wherewithal to respond to a threat or opportunity adequately even if it is sensed in a timely way.

The firm-level inability or inertia to alter its strategic course may be more resolvable through collective action and negotiation. Inadequate incentives for the firm to alone pursue the course for the common good of the subsector may be present and thus require negotiation or collective action when investments in high exclusion cost and joint impact goods are required to advance or preserve firm interests. The absence of any mechanism to provide such goods can have

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a profoundly negative bearing on subsector-level performance as it may lead to overall subsector inertia - the whole system is unresponsive to developing a key resource.

There are a number of firm-level concepts which may be useful when extended to subsector strategic planning and implementation. Sustainable advantage through perpetuating superior organizational decision making in relatively efficient markets (Oster:1994), and superior problem sensing as a component to adaptability (Kiesler and Sproull:1982), and first-mover advantages (Chandler:1990) are among the well developed firm-level concepts that may be extended in a meaningful way to subsector-level strategic management.

Relative subsector strategic mobility, or responsiveness, is a capability that perhaps can be developed to improve subsector performance: reducing severe dislocations in factors of production, improving allocative efficiencies, and improving anticipation of consumer needs. Improving subsector responsiveness may take the form of improving issue sensing so that the firms within the subsector are not “caught asleep at the switch”, or it may involve developing mechanisms necessary to develop an effective response or initiative.

This research effort is presented, in part, as an attempt to extend emerging principles of strategic management, formerly applied mostly to the firm, to the long-standing problems of intersectoral planning and coordination often seen in regional agricultural subsectors, particularly those associated with perennial crops. This research is also related to the broad mission of the land grant university toward agriculture: to fill the gap in public research and development, extend information and technology for the betterment of the agriculture community, and basically serve as a resource that would enhance the long range capabilities of agriculture through research, extension, and education. The prioritization of publicly funded research and extension activities corresponding to derived subsector strategies can be an important component to improved coordination and ultimately performance.

There is often a complex system of ancillary private and public organizations that contribute to the collective capability and competitiveness of certain commodity subsectors. It is with a view toward better understanding not only the inter-firm issues and relationships but the

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nature of subsector strategic orientation as it is influenced or guided by the support activities provided by these ancillary organizations, particularly as they interact and provide solutions for the Michigan apple sector, that this research proceeds. Subsector demand expansion organizations such as the Michigan Apple Committee have their own strategic planning initiatives for their particular organizations that are aligned in some way with the (explicit or implicit) broader mission and strategies of their respective subsectors.

Improved subsector performance that can serve as the guiding criteria for the effectiveness of a subsector strategic orientation system includes the improved profitability and competitiveness of a subsector as realized by the firms that comprise it. The broader concept of subsector performance, however, is considered here in a similar fashion as Stephen Sosnick. There is a need to recognize explicitly the existence of such social conflicts as the food-price dilemma and other such conflicting performance criteria are dependent on various interest groups (Sosnick, 1964). No single performance standard, such as grower profit, will be universally acceptable to all subsector member firms, the participants within markets they serve, and firms outside the subsector that are still in some way interdependent as they are competing for scarce resources. The pursuit of strictly defined Pareto improvements can be futile and the system participants and researcher must content themselves to pursue initiatives that help many as much as possible and harm few as little as possible.

It is a primary goal of this study to evaluate the premise that industry or subsector strategic management (strategic planning, action, and evaluation) may in some circumstances be effective in improving industry competitiveness, progressiveness, and vertical coordination among the various segments, and thus improve performance within the regional agricultural sector. Performance would include, among other things, a reduction in sustained periods of chronic losses, reducing firm-level uncertainty with respect to its local environment and thus facilitating appropriate long-term investments, improving the subsector's attendance to and delivery of products best corresponding to consumer preferences.

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1.2 RESEARCH OBJECTIVES

The broad mission of this research is to investigate, conceptually develop, apply and evaluate strategic planning and management generally at the commodity subsector level. It is the task of orienting firms within the subsector to think and plan strategically that is the application of what is developed conceptually.

Distinctions are drawn between firm-level and subsector strategy but with explicit consideration of their inter-dependence. Generalizable conceptual and methodological approaches to strategic orientation for the commodity subsector are explored, drawing primarily from the recent and on-going strategic planning and implementation experiences of the Michigan apple subsector.

The first objective is to develop appropriate definitions and concepts of subsector strategic planning and management through a review of selected strategic planning and management literature. This emphasizes previous work that supports the pragmatic extension of strategic management of the firm to a group of inter-dependent firms such as those in a regional commodity subsector. Previous research developed with a primary focus on firm-level decisions helps to develop a basis for describing a concept and practice of the subsector strategic management process. A related objective is organizing economic literature that points to the relevance of strategic management at the subsector level. These lead to a series of propositions relating subsector strategic orientation to subsector performance.

The second objective is to analytically describe, in the form of a case study, the stages of formulation of some recent strategic planning initiatives and experiences by participants in the Michigan apple subsector. This includes a discussion detailing the formation and activity of the Michigan Apple Industry Strategic Planning Task Force as a facilitating institution. This subsector case provides an initial basis for comparison and contrast of the strategy formulation process for the firm compared with the subsector. Initial guiding principles related to the initiation, development, and evaluation of the activities geared to orient the subsector along the lines of broad planning and strategy are drawn from this case. Key elements are discussed that relate to improved

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subsector performance in relation to the strategic planning initiatives carried out through the Task Force.

The third objective is to analyze the Michigan apple shipper segment related to the broader Michigan subsector and to the subsector strategic planning process. Methodological approaches used and results gathered are evaluated both in terms of content and implications for a broader subsector plan. Alternative directions for improved performance in the future of the subsector, as articulated by the shipper segment, are analyzed and discussed. Evidence for a linkage between performance and the strategic planning activities carried out by the Task Force and Michigan Apple Shippers' Association is to be compiled specifically for the fresh apple shipper segment.

A fourth objective is to analyze and discuss, as part of the case study, collective strategic planning initiatives with a focus on the grower segment of the Michigan apple industry. The approaches employed to facilitate the engagement of growers in the subsector strategic planning process will be discussed. A competitive situation analysis is compared and contrasted to that identified by the shippers. Specific actions identified by the strategic planning process that are anticipated to lead to improved coordination with other subsector segments and performance will also be discussed.

An important overall objective is to provide a summary evaluation of the commodity subsector strategic orientation and planning process and potential contribution to improved performance for Michigan apples. General principles, important considerations, and supporting evidence are analyzed and discussed with a view toward application to other commodity subsectors.

1.3 METHODOLOGICAL APPROACH

The subsector concepts of firm cooperation and coordination toward improved performance developed by Shaffer (1973, 1980), French (1974), Marion (1986), and others is built upon together with the work of other economists and business academics to develop a conceptual framework.

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The Michigan apple subsector is employed as the central case of this dissertation. A case study of subsector strategy development and implementation in the context of the Michigan apple subsector is developed using conventional case study method approaches. A summary of general case study methods that may contribute to subsector strategic orientation and planning is presented in Appendix A.

Case study methods help to provide evidence and insight relating to the relevance of strategic management for the commodity subsector in ways superior to other methods. Strategic management practice is guided by principles that evolve from highly complex interrelationships and idiosyncratic attributes of the organization. Given the complex nature of relationships in a subsector, case methods provide a unique way to shed light on these idiosyncratic interrelationships and attributes and become part of the pragmatic approach to developing "workable" strategies.

Two major survey efforts directed at different segments of the Michigan apple subsector support the work in this dissertation. The first survey involved the 19 major shipper organizations as a segment of the larger regional subsector. The survey approach involved personal structured interviews with each firm's management. The second survey method employed a mailed written survey to the grower segment and was sent to 1250 Michigan growers listed on the Michigan Apple Committee mailing list.

The questions and format of both surveys were developed through an iterative process through collaboration within the Michigan Apple Industry Strategic Planning Task Force. Both surveys were developed at the request of the Task Force and were conducted by Michigan State University researchers. The survey questionnaires used in this study are presented in Appendix B and C.

1.4 OVERVIEW OF THE DISSERTATION

The second chapter will discuss the evolution of strategic management literature identified in the fields of management and economics leading to current definitions of key concepts and

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approaches, particularly as they may apply to the development of a strategic planning and management framework for an agriculturally based subsector. The concept and practice of crafting strategy at the subsector-level is developed further from economic theories of the firm and organizational interdependence. Another section of the chapter presents an economic rationale for pursuing a regional subsector strategy toward improved subsector performance and competitiveness.

The third chapter focuses on illustrating concepts and methodological approaches to subsector strategy formation and implementation through a case study of the Michigan apple subsector. The driving forces that encouraged the investigation into subsector-level strategic planning efforts are evaluated and discussed. Attention is paid to some of the process components of crafting and implementing subsector strategy, describing the specific organizational and coalition building processes employed by the Michigan apple subsector. Particular attention is paid to the formation, administration, and activities of the Michigan Apple Industry Strategic Planning Task Force and its role in facilitating a subsector-level approach to strategy identification and implementation. Differences in strategic management approaches between the firm and subsector are inferred based in part on this experience together with the concepts developed in the previous chapter. Finally, a discussion and analysis of the potential influence of planning and implementing strategy at the subsector-level on the performance of the Michigan apple subsector are presented, particularly along the lines of improving overall subsector responsiveness to broadly recognized threats and opportunities.

The fourth chapter examines a more narrow component and early stage of the Michigan apple subsector planning process with a focus on the fresh shipper segment. Specific conceptual approaches and methods for subsector strategic planning are illustrated, as well as some of the unique opportunities and difficulties of crafting and implementing strategy at this level. The shipper segment view and analysis of the subsector's competitive situation is presented as well as their assessment of actions needed to support general strategic directions for the subsector. Implications for supporting industry organizations are drawn from the results of the survey.

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Finally, prospects for improvements of subsector performance as a result of identified opportunities for cooperation and coordination by the shippers are discussed.

The fifth chapter examines a two additional segments of the apple subsector - the growers and packers. This chapter seeks to illustrate additional approaches to coalition building within the subsector with a view toward improving the effectiveness of strategic planning and implementation. This chapter provides a further illustration of a segment-by-segment survey process that organizes critical information toward identifying feasible action alternatives.

The growers, as a group, are in some respects more diverse in comparison to the shippers, emphasizing more diverse fresh and processing markets. Potential conflicts and opportunities relating to the subsector strategic planning process are discussed as growers relate to other segments. Packers are examined along with the growers, since most packers are also involved with orchard production as growers. Processes for identifying workable actions toward improving subsector performance are further identified and discussed with relation to these segments. Commonalities of recognized opportunities, challenges, and needed actions with the shippers are also explored. Implications for industry support organizations and prospects for improving subsector-wide performance are identified from the survey results.

Chapter six presents a summary of the status and direction of subsector strategic planning for Michigan apple firms and organizations, summarizing the progress to date. The strategy building context for Michigan apples is summarized with a specific focus on (a) relating firm and subsector goals, (b) Michigan's competitive position, (c) driving forces affecting subsector change, and (d) key success factors (emphasizing the fresh market).

The status and direction of priority industry actions that have emerged from the strategic planning process to date are discussed. These include (a) actions to improve overall fresh apple quality, (b) actions addressing pesticide use, availability, and pest management, (c) demand expansion, and (d) variety evaluation.

Considerations relating to implementing a number of changes for the Michigan apple subsector are discussed. The importance of involving key industry leaders, consensus building, and

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building organizational linkages is emphasized in the context of the Michigan apple case. A brief discussion is also presented on future activities and alternative approaches for continuing strategy formation and implementation efforts by the Michigan apple subsector.

Finally, chapter seven provides an overall evaluation of the subsector strategic planning and coordination processes as they have been adapted for Michigan apples. Opportunities and limitations to a subsector-level approach are summarized. General components, component objectives, and tools for a subsector strategic planning system are discussed, based on the Michigan apple case. Considerations for operationalizing strategic planning are similarly presented. Principles and possible extensions to other subsectors are lastly considered as well as venues for future research in this area.

2.0 INTRODUCTION

The purpose of this report is to recognize that the organization is influenced by its environment. Furthermore, the organization is not in isolation, but is changing both internally and jointly with its environment. Interdependence exists between the organization and its environment. A changing environment requires a change in the nature of the subject of the study. The practice of the subject is changing.

The purpose of this report is to implement the foundation of the first section and practice of the first section. Attention is given to the practice of the first section.

CHAPTER 2

STRATEGIC MANAGEMENT CONCEPTS AND INTERDEPENDENT ORGANIZATIONS

2.0 INTRODUCTION

The practice of strategic management has evolved, in part, because firms and organizations recognize that the eventual outcome of or payoffs to certain choices can be advantageously influenced by a well analyzed, coherent, planned set of actions rather than short run reactions. Furthermore, many key payoffs are often impacted by choices made by other firms and organizations. Interdependence is inherent in strategic choice. Business activities are not chosen in isolation, but rather in anticipation of reactions by rivals, partners, and customers, as well as a changing business climate. Firms linked in a subsector similarly choose among various individual and joint ventures based in part on a recognition of their strategic interdependence. Interdependence extends to other subsector participants, rivals and partners beyond the subsector. A changing business climate that influences directly or indirectly the capabilities and performance of the subsector can also contribute substantially to the need for functional strategic management practice at a broad level.

This chapter has several objectives designed to demonstrate the relevance of crafting and implementing strategy at a regional subsector level. The starting point is establishing a conceptual foundation on which to develop methodological approaches to managing subsector strategy. The first section provides background and definitions, and investigates the evolution of the concepts and practice of strategic management as recorded in economic and business literature. Particular attention is devoted to collective and coordinated strategy development and implementation.

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The second section examines four central concepts of firm-level decision making that have been established in the business and economics literature : strategy, strategic planning, strategic management, and factors leading to first-mover advantage. These four basic firm-level concepts are extended to the commodity subsector.

The third section seeks to build on the previous sections by discussing various facets of economic interdependence, and how the firms can benefit from building coalitions to evaluate and implement collective strategies. Implications for possible subsector approaches to these kinds of initiatives are drawn from the theory of the firm and from empirical observation of how firm conduct and performance shed light on organizational interdependence.

The fourth section aims at presenting a rationale for a regional subsector strategy. The specific focus in this section is on organizational interdependence arising from geographical considerations.

The final section extends the concepts developed in the previous sections by considering the relevance of strategic management, particularly as a coordinating mechanism, for a regional commodity subsector that represents many interdependent firms and organizations. It also pulls together the material in the chapter through a sequence of propositions relating to strategic management, the firm, and the subsector. The aim of this section is to clarify the need for further conceptual development and methodological approaches that will be addressed in part through the studies of the Michigan apple and asparagus subsectors.

2.1 EVOLUTION OF STRATEGIC MANAGEMENT

The goal of this section is to systematically lay out the conceptual developments in the business and economics literature that have led up to what is now recognized as strategic management. The purpose of this phase of the work is to lay a foundation for extending these concepts and approaches to areas of conduct and performance within a regional agricultural commodity subsector.

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Much of the current strategic management literature begins with the writings of Chester Barnard. His book, The Functions of the Executive (1938), is cited in almost every textbook on strategic management and has made a profound mark on the field. His themes focus on the individual's engagement in cooperative action on a variety of fronts, recognizing the ubiquitous interdependencies of individual actions with other individuals and the implications for organizational structure and its reason for being. The theme woven throughout Barnard's work is that organizations exist to advance individuals' commonly held goals or to support commonly held principles. These organizations, in turn, choose strategically among a set of alternative actions interdependent with the choices of other organizations. Barnard's work served as the impetus to much of the behaviorist branch of strategic management research and organizational theory. The emergence of organizations that defined corporate America concurrent to his writing drew considerable attention by social scientists seeking to define appropriate firm conduct, both from a manager/board of directors perspective and from regulatory agencies seeking to maintain some manner of countervailing power. Many economists have since made meaningful contributions to firm structure and conduct issues and have thus contributed to the intellectual capital accumulating in economics and business strategy.

Joseph Schumpeter characterized business strategy as ultimately an issue of firm survival in a changing, uncertain environment. The dynamics that characterized capitalism was portrayed in the process of "industrial mutation" that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one. He termed this process "Creative Destruction" and indicated that "(e)very piece of business strategy acquires its true significance only against the background of that process and within the situation created by it. It must be seen in its role in the perennial gale of creative destruction; it cannot be understood irrespective of it or, in fact, on the hypothesis that there is a perennial lull."⁵ Understanding the context of business strategy formation is critical to any kind of evaluation and, as Schumpeter also points out in the context of this argument, performance must be evaluated not at a point in time but over time as it unfolds over decades or even centuries. An implication of Schumpeter's work

⁵ Schumpeter, Joseph, (1950), pp. 83-84.

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Planning has been recognized as an integral part of strategy choice and execution. An increasing concern with respect to the direction of business strategy and the evolving mega-corporation emerged in the decades following Schumpeter's comments. These concerns were articulated, for example, by John Kenneth Galbraith in The New Industrial State where he discussed the incentives for corporations to plan and grow, internalizing more activities in order to circumvent increasingly threatening uncertainties in the market.⁶ According to Galbraith, the corporation served U.S. and western-type economies as the planning instrument to control the supply of savings and ameliorate the vagaries of the marketplace over time with respect to expensive technological innovation. His hypothesis was that the corporate organization was ballooning in size and power as technological innovation was increasingly characterized by an increase in the time and specialization required to develop and maintain them. Planning and control was seen as the central activity and objective of the corporation. These economic conditions gave rise to what he termed the "Technostructure", a governance constructed with the intent to control the organization's environment and the institution through which group decisions are made and power is organized.

Alfred Chandler (1962) echoed Galbraith's assertion that strategy and planning influenced the structure or form of the corporation. Through historical case study accounts of four major U.S. corporations, DuPont, General Motors, Standard Oil, and Sears, Roebuck, and Company, Chandler develops his proposition that strategy and structure evolve in an almost Darwinian cause and effect, refining each other as the competitive forces of the environment drive change and innovation for corporate management.

Approximately concurrent to Galbraith and Chandler was the work of Richard Cyert and James March, A Behavioral Theory of the Firm (1963). This proved in later years to be an enduring and influential work on the theory of the firm and the rationale behind the "decision strategies" (so-called by the authors) adopted by the firm. Explicit consideration was made of the

⁶ Galbraith, J.K. (1967), pp.1-45.

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limited search for information relating to these decision strategies employed by managers. The objective function of the firm was defined in terms of satisficing goals rather than profit maximization. The behavioral dimension of the organizational culture pivoted around balancing internally conflicting goals. Individuals within the firm were seen as having conflicting objectives with other participating individuals. Firm decisions, then, were best understood as the product of internally negotiated courses of action with a quasi-resolution of internal conflict. The collection of material assembled by Cyert and March included one of the earliest professional contributions by Oliver Williamson, a chapter on manager behavior and organizational slack, who would later make significant additional contributions to the theory of the firm and strategic choice employing the economics of transaction costs.

The entire field of organizational theory has evolved around studying processes of organizational administration under various schemes of incentives, structure, interdependencies, and external stimuli.

Cyert and March, concurrently with Herbert Simon⁷, formalized much of the behavioral theory of the firm with respect to observed conduct, noting that firms themselves are coalitions of individuals which represent diverse and often conflicting internal goals (between individuals or between departments) that must be resolved, coalesced, and directed to coalign with the broader mission of the firm. This would suggest that many of the principles that guide strategy formulation for a firm can apply to strategy formulation for a group of firms exhibiting similar characteristics. Logistic complexity is increased, however, by expanding the bounds of strategy formulation beyond the firm's hierarchy of power with its autonomous control over the allocation of the firm's own resources. While certain processes of internal strategy formulation within the firm may bear some resemblance to that within a subsector, several additional inputs are required for a success process to be implemented at the subsector level.

Kenneth Andrews is often pointed to as the pioneer of what has become a prolific tradition of strategic management theory and training from the Harvard Business School. The so-called "Design School" (Mintzberg, 1990) that emerged from this tradition has been subjected to

⁷ March, J.G. and H. A. Simon, Organizations, 1958.

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significant criticism but has, with the likes of Andrews, Alfred Chandler, Michael Porter, and others, developed much of the language of strategic management that has evolved to be used today. The terminology identifying activities related to business strategy and management evolved through the years to business policy in the business academy, then to later corporate strategy. Some earlier circles developed momentum with the use of long-term planning and then later strategic planning⁸, but more recently the field has fairly widely embraced the broader concept of strategy development and implementation as the basic conceptual components of strategic management. The paradigm, for all of its rhetorical tensions and change, has generally focused, however, on essentially the same issue: "the determination of how an organization, in its entirety, can best be directed in a changing world."⁹

Much of what has been developed in business school circles has, until recently, focused on the strategic choice set for the firm; matching the capabilities or objectives of the firm to its environment. The behavior of competitors, the role of government as a setter and enforcer of rules, as well as the complementarity of supporting organizations are all explicitly dealt with in most strategy texts but still with a primary view toward individual firm performance. Interdependence of strategic choices between firms is widely noted and prescription for strategic action for the individual firm is commonly offered for each enterprise. Strategies are recommended given the firm's unique situation where they are viewed as competing with distinctive capabilities in industries characterized by various stages of maturity. The fundamental unit of analysis, however, has generally remained the firm.

⁸ Igor Ansoff, after frustration with the resistance to adoption of rational strategic planning initiatives that were essentially top-management derived, led an initiative to develop a more holistic approach to strategic action by the firm. Mintzberg (1990) later thus dubbed Ansoff's approach the "Holistic School". This shift in thought, evident with Ansoff's co-editing of From Strategic Planning to Strategic Management in 1976, was developed to enhance the implementation of strategy in a sustainable and effective manner. His most recent text, Implanting Strategic Management, demonstrates his continued effort to develop workable and implementable strategy tools.

⁹ Moore, J.I., (1992), p.xii. J.I. Moore provides a wonderful summary of the primary contributors and a summary of their contributions, which in itself is a meaningful addition to the literature in this young but rapidly emerging field of study. It serves as a valuable resource for students of business strategy with both an excellent bibliography and breadth of coverage.

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The conceptual notion of strategic groups has been developed more recently to better examine parallel behavior of like firms. Sharon Oster provides a commonly accepted definition of strategic groups as "[c]lusters of firms within an industry that share certain critical asset configurations and follow common strategies."¹⁰ The thrust of this conceptual approach suggests (depending on who was doing the grouping) that the relevant focus of competitive activity is among and by primarily firms in an industry sharing similar characteristics (ie., competing for similar market position, competing with a similar resource base, maintaining similar diversification strategies, etc.). Conduct is generally examined within the group or between groups with rival strategies. An example of a widely cited study in this literature is that of Hatten and Hatten (1985) on the U.S. brewery industry. Firms are assigned by virtue of their analysis as members of one of three tiers (groups), depending on advertising levels, market share, profitability, and apparent market strategies. The means for grouping in this literature, however, has been varied and widely debated.¹¹ The grouping has focused on like firms across a horizontal slice of a sector rather than regional vertically and horizontally related firms. There is a recognition within this sub-field of strategic management, however, that related firms may choose like strategies in response to a shared environment or common capability-changing factor.

There is unfortunately little acknowledged in this literature concerning intra-group dynamics. These studies seem more focused on developing taxonomies of strategic approaches for different industries than at explicit intra-group efforts to cooperatively develop viable strategies to countervail their competitors. Legal bounds on inter-firm cooperation (collusion), of course places limitations on extending group strategy research in this direction. Latitude in cooperation and a long history of institutional means for facilitating the coordination of vertical and horizontal activities in agriculture, however, open this area for potentially fruitful research when defining groups as regional commodity subsectors.

¹⁰ Oster, S., (1994), p.398.

¹¹ Recent descriptive and theoretical articles on strategic groups are many. See McGee and Thomas (1986) and Nayyar (1989) for an overview and theoretical discussion.

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Michael Porter (1990) recently compiled industry competitive characteristics research from 10 major industrialized countries to better understand and evaluate why some industries were more successful in certain countries than others. He highlights competitive advantages observed in a number of industries derived through the sharing of certain activities in the value chain by related industries, such as distribution channels, technology development, and local education.¹² The implications that are drawn suggest that there are specific industrial policy initiatives that national governments can adopt that will enhance the competitiveness of national related sectors. Furthermore, certain industries have an incentive to jointly develop shared activities (or resources) to their mutual benefit. The nature of these interdependencies, he suggests, together with relative factor conditions, demand conditions, related and supporting industries, and firm strategy-structure-rivalry make up the basic determinants of national advantage.

Similar theoretical arguments are set forward by Lester Thurow for national competitive advantage, although they differ somewhat from those of Porter. Strategy is again elevated beyond the micro-level and prescribed at a meta-level by broad geographical regions in Thurow's recent book, Head to Head (1992)¹³. Thurow challenges the atomistic, anti-cooperative bent of American industrial policy, suggesting there is a need to recognize the ubiquitous interdependencies of business groups in a manner similar to their European and Japanese counterparts. The changing boundaries of trade from primarily national to international markets should, suggests Thurow, call for a rethinking of how American firms are allowed to cooperate. Thurow states candidly that the ability to cooperate effectively with your direct adversary will be a requisite for survival.

¹² Porter's value chain is a concept he employs to describe the linkages of resources within a firm to generate value to their customers. The value system refers to the vertical stream of all value generating activities that may be over several firms. Value chains and the value system are discussed in detail in an earlier work; Competitive Advantage: Creating and Sustaining Superior Performance, (1985), pp.33-61.

¹³ The debate regarding the appropriate philosophical orientation to be held by economists regarding policies that support "national" advantage has heated up in recent years. Many major industries or sectors in the U.S. have continued to realize most of their trade in domestic markets, therefore it might be argued that this is an issue of secondary importance. A number of agricultural commodity sectors, however, including apples and asparagus, have realized significant changes in their international patterns of production and trade.

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Both Porter and Thurow take a much broader view of strategy and competitiveness than most. Strategic choices are viewed as available to political powers that determine the rules of trade and property rights, and therefore influence firm incentives and strategy for investment. Industrial policy is regarded as a fundamental tool for nations to influence the strategic choices of firms that define the nation's industry. The implications of this "instrumentalist" approach is that governments can create industrial winners. Porter (1990), for example, identifies four basic inter-related determinants of national advantage: (1) home factor conditions, (2) home demand conditions, (3) related and supporting industries, and (4) firm strategy, structure, and rivalry. Meta-strategies that influence these determinants can change the dynamics of national competitive advantage.

It is the development and implantation of strategic management at the meta-level, among multiple vertical and horizontally related firms, that is of primary interest in this research. A necessary condition for understanding strategy at this level is the identification of synergistic linkages between firms or groups of firms, an understanding of the value-adding process, the private and/or public development of key strategic resources, not for the procurement of local monopoly profits but for increased efficiency, improved coordination, and better products provided by related firms within a sector. One must further identify the driving forces of change within the sector.

Alfred Marshall expounds on the varieties of cooperation among kindred businesses in Great Britain near the turn of the century. Cooperation was there largely achieved through trade associations. He recognized the costly development of operational and standardizing studies and concluded that the results of such studies are a valuable property to the whole industry concerned. His recommendation thus was that these studies may best be undertaken by an Association; and the broader the scope of that association the better. An association for scientific research in relation to cotton and the cotton industry, for example, "aims directly and exclusively at enabling the country to do a large part of her work better and less wastefully than she otherwise would do; it has no design of enabling one section of the nation to get the better of others in bargaining."¹⁴

¹⁴ Marshall, Alfred, Industry and Trade, (1919), pp.607-608.

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2.2 EXTENDING RELATED DEFINITIONS AND CONCEPTS OF STRATEGY TO THE SUBSECTOR

The rhetoric surrounding the conception, implementation, and evaluation of organizational strategy can be confusing and has been compounded by differences in understanding of often employed jargon within the different intellectual circles of game theory, business administration, management, industrial organization, and other related but distinct fields of inquiry. This section examines and extends four central concepts of organizational decision making to the commodity subsector: strategy, strategic planning, strategic management, and mobility as it relates to both first-mover and sustainable advantages. Conventional conceptual approaches by tools for managing organizational strategy employed by economists and the business academy are modified and extended to the commodity subsector level. The objective of this section is not so much to derive a rhetorical consensus from the many diverse sources that seek to address issues of strategy, but rather to draw on various definitions and conceptions of key ideas that can be employed in the derivation, implementation, and evaluation of strategy within and by a subsector.

2.2.1 Strategy

What is strategy? Strategy takes on a rather narrow definition within game theory - a basic conceptual tool employed by neoclassical economists. Actors, endowed with various analytic and processing capabilities, and endowed with varying levels of information with regard to the choices and payoffs available to themselves and other actors, respond to relative incentive conditions by choosing among a set of actions that correspond to the relative payoffs with an intent to maximize or at least satisfy some objective function. Game theory is often employed by decision-makers and theorists to shed light on prescriptive and predictive decision-making under various conditions of interdependent choice between multiple actors. Dixit and Nalebuff illustrate the ubiquity of what they call "strategic thinking" in routine decision making from the perspective of game theorists by applying basic models and decision rules of game theory to a wide array of problems. The "game" represents a situation where there is strategic interdependence - the choices and payoffs of one

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economic actor influence the choice and payoff of another actor.¹⁵ The mathematical complexity of game theory, with its matrix of multiple actors and types of uncertainty corresponding to different payoffs, have been employed to only a limited degree by practicing managers.¹⁶ Profit or utility maximization, the driving force guiding actor choices, oversimplifies the motivation behind strategic choices.

Strategic management usually begins with the premise that decision making is made by organizational leaders in the context of a broader mission. This mission can be quite different for interdependent actors. Furthermore, choices are often made out of a set of alternative tactics to maintain a coherence with other activities and must be considered in light of the degree of complementarity with other actions currently engaged by the actors. Still, game theory yields some useful principles of contracting, bargaining, and prediction of behavior patterns, and is not altogether unuseful to organizations strategizing to further their own interests. The basic ideas of recognizing interdependent payoffs, recognizing and choosing dominant strategies, and identifying means for promoting cooperation are certainly relevant conceptually to a commodity subsector strategic management system.

There appears to have been little overlap to date between the business school's strategic management literature and the formal game theory of economics. The conception of firm strategy in the business academy takes on a more organic and eclectic notion, considering the context of a strategy as it projects the firm and its representative leadership ahead from its history. The evaluation of static game theoretic competitive equilibria becomes too complicated for most practicing managers as they seek to direct their firms through Schumpeterian change - characterized by constantly evolving firm capabilities that must be reevaluated in the context of their competitive

¹⁵ A. Dixit, and B. Nalebuff, Thinking Strategically: The Competitive Edge in Business, Politics, and Everyday Life, (1991), p.85

¹⁶ There may be a trend, however, toward more broad acceptance of the game theory of the academic economist by decision makers in the business community as witnessed in a recent Fortune article by Rob Norton, "A New Tool to Help Managers", featuring noted game theorists John Roberts and Paul Milgrom. Economists appear to be making genuine effort to develop workable tools for practicing managers based on the principles of game theory. Still, the focus is on firm-level decision making.

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environment.¹⁷ The mathematical elegance of game theory often yields to conceptual management models that are more information intensive. Strategy in the business academy is viewed as directives generated from a complex management system. As a starting point toward the business school conception of strategy, consider the definition of strategy proposed by James Quinn from the Amos Tuck School of Business Administration, Dartmouth College:

"Strategy is the pattern or plan that integrates an organization's major goals, policies, and action sequences into a cohesive whole. Well formulated, it helps to marshal and allocate an organization's resources into a unique and viable posture based upon its relative internal competencies and shortcomings, anticipated changes in the environment, and contingent moves by intelligent opponents."¹⁸

This appears to fairly represent the idea of strategy as the matching of capability and opportunity (Andrews¹⁹) and positioning according to competitive advantage (Porter²⁰) developed at the Harvard Business School. Thompson and Strickland (1980), with a similar business school orientation, consider a strategy to be a course of action that is a means to an end, a choice among alternative actions that should best fulfill organizational objectives and its ultimate mission.²¹ Alfred Chandler makes the distinction between strategic decisions (concerned with the long-term health of the enterprise) and tactical decisions (dealing with day-to-day activities necessary for efficient and smooth operations). His view of strategy thus appears to align itself more with

¹⁷ One particularly challenging sub-field of strategic management research is the area of management decision-making in high velocity environments - conditions of very rapid change. The commonly cited example is computer firms in the Silicon Valley.

¹⁸ James Brian Quinn, Strategies for Change: Logical Incrementalism, (1980), p.7.

¹⁹ Kenneth R. Andrews, The Concept of Corporate Strategy, (1987).

²⁰ Michael E. Porter, Competitive Advantage, (1985). This work specifically develops his ideas of generic competitive strategies and developing distinctive sources of sustainable advantage.

²¹ This conception of strategy appears quite similar to Igor Ansoff who describes a business strategy to be "Rules for developing the firm's relationship with its external environment: what products-technology the firm will develop, where and to whom the products are to be sold, how will the firm gain advantage over competitors". I. Ansoff and E. McDonnell, Implanting Strategic Management, (1990), p.43-46. They concede, however, that strategy remains an elusive and somewhat abstract concept.

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Thompson and Strickland's concept of a mission.²² Ansoff's conception of strategy and objective also supports Thompson and Strickland. Objectives are to strategy what ends are to means. When taken together, well-integrated objectives and strategies should filter projects.²³

Henry Mintzberg extends the business school definition of strategy to include emergent and deliberate strategies, depending on the intention of the strategizers. The "realized" strategy of the firm is a product or combination of intended deliberate strategies and emergent (not explicitly intended) strategies. Strategy can be evaluated as ex post facto results of decisional behavior (Mintzberg's research orientation) or as a priori guidelines to decision-making.²⁴ Strategy need not be a deliberate, pre-meditated initiative of the firm but can emerge as an unconsciously or passively chosen pattern of behavior that is derived through a Darwinian type of learning process. He emphasizes the distinction between planning and learning in the strategizing process, but also their important interplay, noting that strategy is often conceived informally before being programmed formally.²⁵

Strategy is also seen as a means for simplifying complex decision processes within an organization. Strategy helps to "marshal and allocate an organization's resources" by providing a decision rule, guidelines, or sorting criteria for alternative courses of related actions and a means for evaluating choices the organization may encounter. A strategy provides an organizational

²² Chandler makes a distinction between entrepreneurial decisions and actions (the allocation of resources that effect the enterprise as a whole) which appear to correspond to strategy, and operating decisions, which are those decisions and actions carried out by using the resources already allocated. Strategy and Structure, (1962), p.11.

²³ Ansoff, I., Corporate Strategy, (1987).

²⁴ Mintzberg, H., "Patterns in Strategy Formation", Management Science, 24(9):934-948, 1978. Mintzberg draws conclusions from his own work, conceiving of strategy as a pattern in a stream of decisions, that strategy can fruitfully be viewed as the interplay between a dynamic environment and bureaucratic momentum with leadership mediating between these two forces.

²⁵ Henry Mintzberg has made many conceptual contributions to the arena of strategy and strategic management. An interesting sequence of article, comment and response presented a debate between Mintzberg and Ansoff on the adaptive nature of strategy, its conception, role, and effect on business performance, and the breadth of perspectives representing distinctive schools of thought on this area. Mintzberg's own taxonomy distinguishes 10 different schools. See Mintzberg (1990, 1991) and Ansoff (1991) for a summary of this debate.

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guideline for what Chandler refers to as the tactical, day-to-day kinds of activities, and as such it imposes a sort of directive to all internal decision makers not unlike the effect of a standard operating procedure.²⁶

Given this conception of strategy, the limitations of game theoretic modeling of strategic choices can be further illustrated. The subsector can be evaluated itself as an organization making strategic choices. A series of choices must match a series corresponding payoffs. One approach to evaluating subsector strategies is by taking the aggregation of payoffs to all member organizations. This can be presented conceptually in a game theoretic dimension with strategic choices and relative payoffs within well-defined subsector boundaries. A simplified single period game with aggregated payoffs to a finite set of mutually exclusive strategies is presented in its generalized model form in Figure 2.1.

Figure 2.1 A GAME THEORETIC FRAMEWORK FOR INTERDEPENDENT SUBSECTORS

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	Sm	β_{m1} α_{m1}	β_{mn} α_{mn}

An example of an interdependent situation that could be considered in this framework would be the level of the local (regional) grower assessment for local (regional) promotion chosen

²⁶ Following Cyert and March (1963) and later Shaffer (1980), the role of the SOP is to reduce transaction costs in group decision making. They are regarded as generally accepted rules of thumb for the firm that simplify or eliminate complex and costly managerial oversight. SOPs are retained (as might selected strategic courses) as long as the goals of the group members are satisfactorily met.

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by each the state of Washington and Michigan.²⁷ Growers in each region voluntarily choose a level at which all regional growers are taxed. These monies are collected by regional promotional commissions, which in turn develop regional marketing, promotion, and merchandising strategies.

Payoffs to alternative strategies (promotion assessment levels through respective mandatory state marketing programs) might be in part contingent on the assessment level chosen in the competing region. Payoffs could represent aggregate assessment adjusted gross margins of growers in each state.²⁸ The assessment level would be chosen by each region by considering the options available to the other region and reasoning backward in anticipation of the competition choosing according to their best interests. Dominant strategies emerge when one strategy dominates (at least weakly) all others for each economic actor.

This sort of conceptual framework is workable only under very strict assumptions and therefore limited in usefulness for fully evaluating subsector strategy. One of the most limiting requirements for such an approach is the need for mutually exclusive strategies. Given the conception of strategy as articulated by those such as Chandler and Quinn (a stream of related tactics or activities), specific tactics may support or be consistent with a number of alternative strategies. Furthermore, rewards functionally tend to be multi-period and multi-firm. The interdependencies between strategies and payoffs make this approach too complex for practical comprehensive strategy evaluation, especially in the context of a subsector. A final point that suggests the need for a different conceptual approach to organization strategic choice is that choices in the game theory models are contingent on known expected payoffs (at least relative payoffs) to all strategic options by all actors. Practically, payoffs to a particular subsector strategy are usually very difficult to assess and may require a considerable time period to evaluate.

²⁷ The assessment level example here is a simplistic conception of strategy in the sense used by Quinn and Chandler. The assessment level would probably be referred to as an action or tactic supporting a more broadly defined strategy that would be pursued by a collection of actions. It is chosen purely for illustration.

²⁸ No assumption has been stated regarding the distribution of payoffs between growers. The limitations of aggregating preferences toward some manner of collective welfare function are stated by Arrow's Impossibility Theorem (Kreps, 1990).

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The evaluation of strategy is further complicated by conflicting objectives within the "actor" (where the actor is a firm or a coalition of firms). A common assumption employed while evaluating strategic choice between firms is the unity or homogeneity of objectives by firm members, or equivalently, a consensus objective of a board of directors or CEO. Satisficing criteria of organizations, as suggested by Simon, and later, Cyert and March, guide search, change, and allocation rather than profit maximization. Conflicting goals are balanced only through "quasi-resolution".

The assessment example is presented with a consideration of the objective functions of many individual growers, representing a single segment of the subsector. The choice of assessment level potentially impacts the fresh shippers, packers, and growers in each region as well as local input suppliers inasmuch as the primary factor of production and derived demand is influenced at these secondary levels by the respective grower group choices. Should the net gross margins for these other related sectors corresponding to each strategy (assuming they could be measured) be included in the payoff matrix in this case? The game theoretic approach is useful for some types of analyses, but doesn't lend itself well to the evaluation of general strategic directions relevant to a subsector.

The collection of all firm-level strategies chosen by each of the regional subsector members yields a mosaic that can be referred to as the meta-strategy aggregated over all regional firms. This mosaic may or may not be a coherent strategy itself. An individual firm seeks to coordinate its own activities along its own strategic course. The strategy of the firm is developed in response to the actions of other subsector members as well as outside economic actors. Firm-to-firm transactions are coordinated to various degrees through market transactions, working relationships, contracts, shared information, and shared threats and opportunities that generate interdependent micro-incentives.

In summary, the concept of strategy suggested by the academics in the business school as well as by practicing managers differs in a fundamental way from the economist's discrete choice-payoff view. Johannes Pennings expresses what may be considered a more typical business school orientation to strategy:

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"...strategic decisions cannot be easily pinpointed, because they are embedded in an amorphous, lengthy process whose process defies punctuation. Their 'messy' appearance might lead one to conclude that it is better to refer to *strategy*, *strategic change*, *strategic momentum*, or a *stream of decisions* that reveals a certain directionality." (italics his)²⁹

Strategy as a stream of decisions indicating a certain directionality results in a blurred strategy-payoff matrix. There is, nevertheless, a coherency and a synergy that can be sought among decisions as they are sequentially filtered by the actor (however defined). Evaluating such a stream of decisions must be undertaken with a recognition of how the decisions are related. Furthermore, recalling Schumpeter on evaluating strategy, it may take a considerable period of time before one stream of decisions can be truly evaluated against an alternative course.

Extending this to collective decision making by the many rival but related firms in a commodity subsector, strategy at this level can be usefully conceived as involving a set of actions supporting certain general but definable directions. These directions may be driven by market forces beyond the subsector's influence, but is also derived with a consideration of the overall capabilities of the subsector. The number of alternative directions may also be limited by the bounded rationality of the economic actors.

Strategy that is well formulated in a subsector, whether revealed as emerging patterns of choices or through purposeful, deliberate formulation, will integrate the activities within the subsector into a cohesive whole. Well crafted strategy should improve coordination among activities taking place within different subsector firms and organizations.

The distinction between strategic decisions (regarding long-term health or performance) and tactical decisions (regarding short term activities) is also useful in the context of a subsector. Decisions pertaining to subsector strategy will be considered here to be made with a view toward the broader, longer-term performance of the subsector as a whole system. Subsector strategies are built on the subsector's relative internal competencies and shortcomings, anticipated changes in its environment (including widely influencing opportunities and threats), and contingent moves by rivals who are competing for similar markets or resources.

²⁹ Pennings, Johannes M., Organizational Strategy and Change, 1985, p.x.

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The process of identifying the larger picture, that is, the full set of alternative subsector strategic courses, is alone a very complex and difficult task. While the full range of strategic alternatives is unlikely to be known, it may be possible to define alternatives and reach agreements on specific actions reflecting common objectives.

If a preferred course can be identified and generally agreed upon by those in the subsector, the actions and resources necessary to pursue the course must be coordinated. Workable approaches allocating responsibility and rewards, and policing commitment to developing and sustaining what is often inherently a public good are critical components to effective strategic management program at the subsector level. This is especially true where firms are predisposed to focus on rivalry conditions and the threat or opportunity in common is not clearly visible. Sustainability of cooperation in developing a subsector-level strategy depends on a clear vision of the benefits to cooperation.

2.2.2 Strategic Planning

Strategic planning refers to the activity within an organization to derive and evaluate alternative strategies. It is therefore process and administratively oriented. For the firm, it is an internal activity with a view toward the firm's resources and distinctive capabilities as well as the market and competitive environment. The more general idea of organizational planning is conceived of by Simon and March (1958), and later Galbraith (1967), as an attempt by the organization to circumvent the market through some manner of centralized planning that directs the allocation of resources. The organization seeks to minimize its dependence on uncertain markets by seeking to gain greater internal control over key resources and activities. Planning is necessary for the firm because externalities exist that make the provision of key resources by the open market unreliable. Galbraith considered the nature of industrial planning and concluded that because of the increasing requirements of time and capital to recover the development of industrial technology, the needs of the consumer must therefore be anticipated by months or years. Planning is the firm's response to see that what it provided would be purchased by the customer at a

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remunerative price, and that key inputs would be available at a cost consistent with that price.³⁰

Galbraith goes on to define planning in the following way:

"Planning consists in foreseeing the actions required between the initiation of production and its completion and preparing for the accomplishment of these actions. And it consists also of foreseeing, and having a design for meeting, any unscheduled developments, favorable or otherwise, that may occur along the way."³¹

The direct customer for any individual firm changes as one moves vertically through a subsector. Derived demand, however, is ultimately dependent on the end user. Applying the concept of strategic planning to the subsector suggests that there may be a collective subsector response to see that what was provided through the value-adding process would be purchased at a remunerative price distributed over the vertically related activities conducted by different firms. Furthermore, strategic planning by the related subsector organizations would contribute to insuring that key inputs would be available at a cost consistent with that price.

Agricultural subsector innovations are increasingly capital intensive and often developed and used over long periods of time (ie., orchards, perennial crop varietal research, high tech packing house equipment, mechanical harvesting, new value-added products, specific chemical inputs, etc.). Many of these innovations make use of research that is on-going within Land Grant Universities, government agencies, and trade associations. Close linkages between the subsector and the subsector support organizations, including key public institutions such as the Land Grant University, are important and may be facilitated with a subsector strategic coordination process.

Many attempts have been made to formalize the firm's planning process. The elements of formal planning systems such as those of Quinn (1980) are presented in Table 2.1.

³⁰ J.K. Galbraith, The New Industrial State, pp.23-24.

³¹ J.K. Galbraith, The New Industrial State, p.25

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Table 2.1 QUINN'S ELEMENTS OF A FORMAL CORPORATE PLANNING PROGRAM

1.	Analyzing one's own internal situation: strengths, weaknesses, competencies, problems.
2.	Projecting current product lines' profits, sales, investment needs, etc., into the future.
3.	Analyzing selected external environments and opponents' actions for opportunities and threats.
4.	Establishing broad goals as targets for subordinate groups' plans.
5.	Identifying the gaps between expected and desired results.
6.	Communicating planning assumptions, goals, and policies to lower echelons.
7.	Requesting proposed plans from subordinate groups with more specific target goals, resource needs, and supporting action plans.
8.	Occasionally asking for special studies of alternatives, contingencies, or longer term opportunities.
9.	Reviewing and approving divisional plans and summing these for corporate needs.
10.	Developing long-term budgets presumably related to plans.
11.	Assigning implementation plans.
12.	Monitoring and evaluating performance for emphasis presumably against plans, but usually against budgets.

Source: J.B. Quinn, Strategies for Change: Logical Incrementalism, (1980:168-169).

Formal planning in the business school and many larger corporations has tended to be dominated by financial analysis techniques and thus has been inclined to omit or drive out or overlook important goals and programs not easily quantifiable. Quoting Quinn on the limitations of these procedures:

"One would expect the adherence to such procedures would lead to a finely honed strategy, but this rarely happens. ...[L]ogic, politics, and events do not lend themselves well to the process in detail. But more insidiously, within the structure itself, mechanics often begin to overwhelm thought processes. And unconsciously, certain analytical procedures undermine the very strategies they are supposed to create."³²

Ansoff, Declerck, and Hayes (1976) provide an historical perspective on strategic planning that represented it as imposing rigorous strategic discipline not easily installed. They note further that there frequently exists an organizational inertia which frustrates managerial efforts; planning efforts are rejected as a "foreign antibody". Strategic planning is treated by these authors as a technological input. It is regarded as a management technology derived experientially and similar to other technologies such as financial ratio analysis, management by objectives, and strategic issue

³² J.B. Quinn, (1980), p.169.

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analysis. Their indictment of formal strategic planning was the absence or suppression of social adaptation mechanisms and that the desirable approach would combine both cognitive-logic (formal planning) and social-psychological dynamics (adaptive learning).³³

Explicit application of formal strategic planning, such as that proposed by Quinn for a corporation, to the much more complex set of firms and organizations in a commodity subsector is apt to be regarded, at least by some participants, as a "foreign antibody". It may be dismissed as unworkable, unneeded, bureaucratic meddling, unnecessary centralized control, coercive, and perhaps compromising the right to independent decision making held by each individual organization.

The failures associated with the formal corporate planning process, with its focus on budgets, financial accounting performance measures, and concentrated managerial decision making has required a reconsideration of how to make this a meaningful exercise for the firm. Certainly different planning approaches and measurements are even more so required in the context of a commodity subsector beyond those of the formal corporate planning process.

The practice and objectives of strategic planning for the firm have evolved toward a more qualitative and behavioral process. Strategic planning, for example, is viewed by Ansoff as only a component of the broader task of strategic management, representing a means (planning and problem solving rather than implementation and control) by which management evaluates and acts upon external linkages with respect to techno-economic-informational variables. The dimensions of the strategic problem and the place of strategic planning in addressing the strategic problem as conceived by Ansoff is presented in Figure 2.2.³⁴

³³ H. Igor Ansoff et al, (1976), pp.39-78.

³⁴ Ansoff, H.I., and R.L. Hayes, "Introduction", in From Strategic Planning to Strategic Management, ed. by Ansoff and others.

Figure 2.2 THE DIMENSIONS OF THE STRATEGIC PROBLEM

Source: Ansoff, Declerck, and Hayes (1976)

Mintzberg provides his own definition of planning that departs somewhat from Ansoff with his comment, "an organization can be said to plan to the extent that it uses formalized procedures to make and integrate its decisions and then articulates the results."³⁵ He qualifies this conception with the point that a good deal of highly effective strategy making observed in his research involved no (formal) planning. This phenomenon would be characterized from Mintzberg's other work as emergent strategy, which can be a meaningful component to the revealed strategy chosen. The later contention of Mintzberg is that deliberate planning (the "rational approach") is not enough, that "we shall get nowhere without emergent learning alongside deliberate planning (Mintzberg, 1991:465). The implication of Mintzberg's conclusion for the subsector is that the process at this level must allow for adaptive learning in its structuring of the planning activities. The popularized conception of a "learning organization" in the business school can apply equally well to the complex system that is the subsector.³⁶

March and Simon, discussing the merits of centralized versus decentralized planning, raise what should be regarded as an important point relating to formal planning, that "since there is no reason to suppose that any technique of decision-making - whether centralized or decentralized - will bring the organization into the neighborhood of a genuine 'optimum', the search for decision mechanisms cannot take criteria for optimization too seriously, but must seek 'workable' techniques for satisficing"³⁷ Formal planning processes (programmed decision making to March and Simon) cannot generate courses of action ensuring optimal outcomes in the Pareto sense and actually imposes a rigidity over less formal, un-programmed planning that may impede system performance. This qualification applied to a firm should be extended to a coalition of firms such as those within

³⁵ Mintzberg, H. "What is Planning Anyway", Strategic Management Journal, (2):319-324, 1981. Other definitions that present planning as simply taking the future into consideration, or as conscious attempts to integrate decisions across different areas remain too broad for Mintzberg who goes on to suggest that it is the orientation toward analysis as revealed in a formalized procedure and articulated result that captures what most mean by planning.

³⁶ See, for example, Peter Senge's The Fifth Discipline: The Art & Practice of the Learning Organization, (1990).

³⁷ March and Simon, Organizations, (1958), p.209.

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a subsector, seeking to identify a collection of workable techniques aiding intra-subsector decisions toward alternative courses of action leading to improving their competitive position.

Thomas Schelling provides a useful perspective on planning. It points to the value of applying the principles and pursuing the objectives of strategic planning to systems such as the agricultural subsector. His admonition follows:

"If the sluggard can be admonished to study the ant, the social planner is well-advised to study traffic signals. They remind us that, though planning is often associated with control, the crucial element is often coordination. People need to do the right things at the right time in relation to what others are doing."³⁸

Improved coordination leading to improved performance within the system should be viewed as the primary driver behind the collective strategic planning effort. Institutional innovation that can bring about means for improved coordination can improve the functioning of the entire system. Sometimes a very simple rule or mechanism can provide micro-level incentives that propel the actors and the system forward to focus on other activities with little thought or concern about issues of equity, control, or monitoring.

Although the administrative complexities of a formal planning process may limit the direct extension of strategic planning in the business school sense to the subsector, there are many useful principles. The process of strategic planning in the context of the subsector would involve many similar components, although with somewhat different approaches and objectives.

Evaluating the subsector's internal situation, analyzing resource and end-product trends relevant to the general value-adding processes within the subsector, analyzing the environment external to the subsector for opportunities and threats are steps that can be taken toward evaluating the subsector's competitive situation.

Firms and organizations within the subsector can plan and develop strategies in a forward-looking way that can better assure responsive adaptation to markets and external changes, the development of certain resources, reduce the limitations of certain internal externalities, improve the flow of critical planning information, and otherwise create a process for general problem-solving through collective efforts.

³⁸ Schelling, "On the Ecology of Micromotives", The Public Interest (25):62, 1971.

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The key difficulties for establishing such a strategic planning process in the context of a subsector include the facilitating, stimulating, communicating, pulling together, and maintaining momentum for the process. Conflicting internal subsector interests, priorities, and goals must be considered throughout the process. Legal limits on cooperation, inherent challenges to resource development necessary to develop and implement strategies, and the inclination toward resistance to planning by independent-minded individuals representing various firms are also among the particular significant issues that need to be addressed in relation to the strategic planning process for the subsector.

2.2.3 Strategic Management

The managerial problem was extended to take into account the internal configuration of the organization that would best support all dimensions of the strategic problem.³⁹ The organizational resistance to and inherent difficulties of the formal strategic planning process, including program rigidity (Ansoff and McDonnell, 1990; Quinn, 1980), the pressure for a strong central decision making body with autonomy over its resources (Reid, 1989; Chandler, 1962; Mintzberg, 1990), and the top-down tendency of strategy identification pressures (Reid, 1989), have caused academic researchers and business managers to consider a more flexible conception of business strategy and the process of creating it.

The attention of researchers and managers has been more recently extended to the implementation and control dimension of the planning process. Behavioral and political variables are now explicitly included in the strategy identification and implementation process in addition to techno-economic-informational (rational) variables used in more formal strategic planning approaches.

Certain strategic planning approaches acknowledged the importance of identifying and adopting an organizational structure compatible to a chosen strategic direction (Chandler, 1962, Quinn, 1980). Chandler differentiated the strategy of an organization from its structure or what

³⁹ This conception is due to Ansoff and Hayes (1976). The dimensions of the strategic problem are referred to in Figure 2.1.

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could be called its organizational-administrational configuration with his famous dictum that structure follows strategy.⁴⁰ Implementation to Chandler was a dimension of the structure that was a product of strategic choice involving the crafting and/or discovery of the appropriate corresponding and supporting organization. Strategic management for the firm attempts to make this crafting and discovery process more explicit by focusing resources toward the development of a management system that makes strategic planning work effectively. Implementation has been elevated to a higher status in strategic management relative to formal strategic planning.

Rapid reconfiguration of some organizations to best support a chosen strategy may be possible under strong, central leadership. This is unlikely to be a very workable approach, however, with a regional subsector. Structural change can be induced to a limited extent by subsector participants jointly pursuing a desired strategic direction, but unlike a firm, there typically is no central command and control center to administrate major subsector reorganization.⁴¹

Strategic management in the Design School is held in essence to be the matching of the internal capabilities or competencies of the firm to the environment within which the firm finds itself competing; strategic planning with more explicit consideration on effective planning processes, implementation, and evaluation. The focus is on the internal formulation of mission, goal, strategy, and filters for alternative actions within the organizational boundaries of the firm.

A good representation of this school of thought is presented by David Jemison, who states:

“...strategic management will refer to the process by which general managers of complex organizations develop and utilize a strategy to coalign their organization’s competencies with the opportunities and constraints present in their environment.”⁴²

⁴⁰ A.C. Chandler, Strategy and Structure, p.14. Structure, in Chandler’s conception, is the organization devised to administer the activities and resources that comprise the strategy for growth. (p.13)

⁴¹ The voting in of a marketing order that regulates regional supply or quality is an example of a subsector initiative directed to induce structural change in support of a jointly pursued strategic direction.

⁴² David B. Jemison, (1980:601). Jemison elaborates further in this article on needing to direct research along the lines of what should be done (content) and how it is accomplished - the processes of strategy formulation and implementation (process).

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Porter and many contemporaries (Igor Ansoff among the more notable) adopted the now stylized concepts of organizational strengths and weaknesses in relation to the external environmental opportunities and threats to characterize and evaluate a firm's capabilities and relative competencies. Porter used this internal-external orientation as a basis for developing what have become widely employed techniques for analyzing industries and competitors.

The so-called SWOT analysis is presented in the introduction one of Porter's earliest works, Competitive Strategy: Techniques for Analyzing Industries and Competitors (1980). The emphasis on strategic positioning relative to a firm's competitive advantage, striving for security in a unique segment of the market based on distinctive competency, is a recurring theme throughout much of Porter's later work.

Extending strategic management conceptually to a regional agricultural subsector involves a consideration of the regional "internal" collective capabilities and competencies, which would include explicitly addressing the subsector's synergies and conflicts (or competition). These can be matched or co-aligned with an external environment where there may be shared opportunities and collective threats. In practice, this may need to involve the partial redirecting or possibly restructuring of a current organization or perhaps the creation of a new, supporting institution erected or empowered by subsector participants. Such an institution may be able to facilitate subsector firms in addressing the difficulties and economic complexities of free ridership, equitable distribution of benefits, the quality and quantity of subsector joint impact goods, as well as explicit consideration of appropriate collective conduct leading to a generally recognized improvement in overall subsector performance.

The process of strategic management in various organizations has been regarded as an important area of study among business strategy research practitioners, seeking to understand the process of matching, coalignment, or more basically, the identification process and implementation of effective strategies leading to improved organization performance (or competitiveness).⁴³

⁴³ An excellent bibliography of recent strategic process research initiated within the school of business is presented in an article by Anne Huff and Rhonda Reger, "A Review of Strategic Process Research", Journal of Management, 13(2):211-236, 1987.

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Given the mission of the firm and an endowment (or resource base), the firm employs a process by which alternative actions are filtered. These actions may ultimately involve a redistribution of assets or investing them in such a way to influence or refine the future stock of the firm's capabilities. This can be through such actions as investment in internal technical research and development, institutional development, training programs designed to enhance human resources, or simply changing obsolete standard operating procedures to accommodate more efficient ways of doing business.

Strategic content (the substance of the strategy developed) and the processes employed in formulating it must always be subject to evaluation. Consideration of the quality of the input into the process must be made. A process that formerly generated a plethora of good ideas or provided an effective early warning system of trouble may become obsolete. The organization may outgrow a company suggestion box or reliance on trade magazines for competitor intelligence. More complex or rigorous processes may need to be employed to develop good strategies as the structure or competitive context of the organization changes.

The general strategic management process, afforded much more detail in later writings of Porter, Thompson and Strickland, Ansoff, and others, considers the matching and coalignment actions by the firm to be iterative, guided by a firm mission statement or business definition which is pursued by specific actions consistent toward achieving this mission. Given a certain endowment of resources and competencies, the firm considers means to apply their assets in a way so as to best achieve their mission.

The commodity subsector represents a unique organizational form - a complex system of independent but related firms together making up a value-generating system. Simple "how-to" formulas are not apt to adequately address the strategy process needs of such a complex organizational system. Still, there is a need to carefully examine and evaluate alternative processes to strategic management at this level to gain an understanding of what may lead to meaningful guiding principles applicable across different commodities. The premise of most strategy process research is that a good process leads to identifying better strategies and, as such, favorably influences performance outcomes.

Strategy

examines the performance of the firm in its environmental context. It can be evaluated by comparing the firm's performance that

J.I. Moore

planning is viewed in relation to the firm's performance with both its business and its environmental performance. It has evolved to represent a more comprehensive view of appropriate capabilities

The distinction between the two may be artificial, but it is useful for making distinctions. While the former is a system of planning, the latter is a system of Hayes, Davous, and Hayes versus a rational system

The concept of the individual firm's independent decision-making, on the other hand, is a strategy to the firm's strategy, and/or lack of cooperative action

⁴ An example of a strategy "Evaluation" 1986.

Strategy content is the derivative of the strategic process. Strategy content research examines the performance outcomes of strategic choices by organizations competing within various environmental contexts with a view toward developing basic prescriptions.⁴⁴ Strategy content must be evaluated by its resulting performance (as measured by the organization) relative to the performance that could be expected from an alternative strategic course.

J.I. Moore recounts the evolution of thought in the writings of Igor Ansoff where strategic planning is viewed as merely a rational approach to assessing and defining linkages of the firm with both its business and societal environments. Strategic management, on the other hand, has evolved to represent an activity that will both discern the external possibilities and bring about the appropriate capability changes. (Moore, 1992:23)

The distinctions between strategic planning and strategic management in some literature may be artificial and it is not uncommon to find the terms used somewhat interchangeably. The distinctions, when drawn, tend to emphasize (1) a behavioral phenomenon or total management system of planning, implementation, and control over a strategy production process (Ansoff and Hayes, Davous and Deas, 1976; Tabatoni and Jarniou, 1976), or (2) a learning and adaptive system versus a rational, optimal strategic design process (Mintzberg, 1990).

The concept of "management" may be somewhat alienating on the surface to some individual firms or organizations within a subsector. Individual firms value their right to independent decision making with respect to their resources and conduct. Each organization, on the other hand, can contribute in a meaningful way to help set and maintain a course or general strategy to the benefit of all subsector participants without giving up individual control of their firm's strategy. Strong hierarchical overtones to the planning process in the subsector, inflexibility, and/or lack of responsiveness to the expressed individual needs are likely to foster an anti-cooperative attitude that can cause the process to self-destruct. The traditional concept of

⁴⁴ An excellent, though slightly dated, taxonomy and bibliography of various approaches to strategy content research is presented in an article by Liam Fahey and H. Kurt Christensen, "Evaluating the Research on Strategy Content", *Journal of Management* 12(2):167-183, 1986.

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“management”, inasmuch as it may be approached in these ways, would not be well suited for crafting and implementing strategy in the context of the subsector.

The conceptual advances of strategic management beyond formal strategic planning systems are meaningful and apply particularly to strategy development and implementation in a subsector. Strategy in this context is much better regarded as a learning and adaptive system. Further, given the atomistic and independent nature of decision making characteristic among firms within a subsector, developing and facilitating effective processes for collective identification, implementation, and evaluation of alternative actions is particularly critical. Rigid planning regarded as a “foreign antibody” in a firm will only likely be regarded as more so in the context of a subsector.

These points made, given the reluctance of subsector firms to be “managed” and the need to stimulate a sense of cooperative, collective, and joint decision making within the subsector, the term strategic planning will in practice here be employed. It will be used less with a view toward the formal corporate planning processes and more in consideration of and including adaptive planning, collective learning, and the behavioral aspects of implementation.

2.2.4 Mobility: Implications for First-Mover and Sustainable Advantages

A major objective of an effective strategic planning system is to maintain an organizational responsiveness to move within the larger space of strategic alternatives. First mover and sustainable advantage are among several important concepts that are often related to strategic management and the mobility of the organization. These include crafting strategies to capture advantages relating to being the first mover to develop a particular opportunity and, a sometimes related objective, developing a strategy that would lead to a sustainable advantage. These concepts are discussed here with particular consideration of their implications for a commodity subsector.

Strategic mobility or responsiveness can be considered the extent of the ability of that subsector to adapt and modify its strategy. Mobility is related to rapid issue identification, including those specifically relating to the subsector's capabilities, opportunities, and threats. Further, the wherewithal of the subsector to marshal and deploy new resources, and to affect a

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modified subsector orientation, can be particularly critical for overall viability. Affecting needed changes in strategic orientation can be a significant challenge for a subsector where an over-arching management control system is absent.

Strategic mobility receives its importance from the efficient market hypothesis which posits that, under most competitive market conditions, opportunities tend to be short-lived and have a narrow window. Anticipation and responsiveness are key ingredients to competitiveness and must be built into the orientation of an organization as a matter of course. Competitive advantage for a firm can be sustained under certain conditions, through access to unique resources or through an organizations distinctive competence in using these resources, but sustainability depends on the persistence of friction in the market that prevents imitation (Oster, 1994:115).

The fleeting existence of easily captured opportunities is highlighted (in a somewhat colloquial manner) by McCloskey's Axiom of Modest Greed that concludes there is no \$500 bill on the sidewalk because someone would have picked it up already. This axiom somewhat exaggerates a basic economic principle - still, supernormal profits tend to be dissipated quickly.⁴⁵ The implication of this axiom is that those organizations (or groups of organizations) with consistently lesser means for quickly identifying profitable opportunities and/or credible threats relative to other rivals are unlikely to be able to sustain a relative competitive advantage.

The best strategies can become diminished in their effectiveness or irrelevant if they take too long to formulate, particularly in environments characterized by rapid changes in market demand or technology of production. Sharon Oster uses the principle of efficient markets to emphasize the imperative for decision making mobility within an organization.⁴⁶ The returns to

⁴⁵ McCloskey, Donald N., If Your So Smart: The Narrative of Economic Expertise, (1990), pp.111-134.

⁴⁶ "An efficient market is one in which prices reflect information instantaneously and one in which extraordinary profit opportunities are thus rapidly dissipated by the action of profit-seeking individuals in the market." (Oster, 1994:18)

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superior organizational mobility and the existence of first mover or entrepreneurial advantages, though often temporary, can be substantial and are detailed by many.⁴⁷

Porter (1990) identifies the competitiveness of supporting industries as an important determinant of (national) industry advantage. An important implication of vertical interdependence is that inertia or productive innovation at one level of a regional subsector can be transitive in effect. A lackluster or vital sector can lead to poor or strong performance of tangent sectors. The overall subsector advantage can therefore be eroded with the erosion of the competitiveness of a specific segment within the system's value-adding activities.

The inability of plant breeders, for example, to develop in a timely way a strain of asparagus resistant to fusarium in New Jersey led (in a large part) to the dislocation of the asparagus processing industry in that state and, subsequently, most asparagus production.⁴⁸ The overall performance of the New Jersey industry was swayed by the performance of the input sector.

Oster suggests the basic organizational central planning issue to be the following: how much time to devote to identifying and entering attractive existing markets, and how much time to spend cultivating entrepreneurial ability and high performance within the current organization (Oster, 1994:116). A logical extension of this central planning issue in the context of a subsector would be the following: how much time to devote to entering attractive existing markets (1) through individual firm effort and (2) through joint efforts; and how much time to spend cultivating entrepreneurial ability and high performance (1) within the current organization and (2) with related organizations whose performance positively correlates with the current organization. This is the

⁴⁷ See, for example, Schumpeter on entrepreneurial profit (1934:128-156) and Chandler (1990). Chandler differentiates the first mover from the inventors. "The first movers were pioneers or other entrepreneurs who made the three interrelated sets of investment in production, distribution, and management required to achieve the competitive advantages of scale, scope, or both." The distinction is important. The wherewithal to move on an opportunity in this sense is different from simply identifying one.

⁴⁸ Ironically, a first-class asparagus variety breeding program has since been developed in New Jersey. A large share of the varieties grown in Michigan have been developed in this program. The exit of processors to other states, together with flat demand for processed asparagus, has left there only a small fraction of an industry compared to what was formerly a major regional asparagus subsector.

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essence of the central planning decision faced by individual firms as they carry out their respective activities within the subsector.

The point to make at this juncture is that whether it is moving on new market opportunities or cultivating internal ability to serve existing markets, many opportunities are fleeting. They can only be exploited when organizations can identify, evaluate, devise a plan, and marshal and allocate resources necessary to capture first-(or early) mover advantages while they still remain. Oster follows the Schumpeterian perspective of an organization being embedded in an environment in which new ideas are constantly developing and therefore it requires internal mobility to maintain a clarity of vision both for new emerging markets and new ways of producing in the old market. Business strategies have a dimension of timeliness that can be enhanced by responsive decision making within an organization. Recognizing barriers to responsiveness is an important step toward improving the strategy formulation process.

Organizational inertia can come from several sources. The complexity of bureaucratic structure can impair responsiveness and mobility. Such a barrier can limit an organization's ability to marshal and allocate resources in a timely way. Complex organizations are often characterized by diluted incentives for individual members to invest in change. High exclusion costs to risky, but perhaps innovative, approaches to seizing opportunities or addressing problems perceived by organization members leads to free ridership or shirking. Alchain and Demsetz elaborate on the stagnating effects that can result in a firm when employee marginal contribution and reward are not closely aligned. Cumbersome internal dialogue and bureaucracy can also persist with respect to opportunity identification, evaluation, plan alternatives, and resource allocation. Informational stimuli that would provide a rationale for organizational change can be muted or go undetected.

Signals for needed change often present themselves weakly relative to the static in the environment. A superior means for identifying and sorting out these signals can raise the organization, whether a single firm or a subsector system, to a new height of competitiveness. Such signals include information (intelligence) pertaining to consumer trends, competitor activity, government regulation, and new technology. Inertia, in this case, is more a product of inadequate monitoring mechanisms for the organization.

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Organizations that are consistently “asleep at the switch” relative to their competitors can generally expect to achieve a lower level of performance. This source of inertia differs from the high exclusion cost problem. In the former case, the need for change may be detected but is not acted upon because of micro-disincentives. In this case, the need for change is not even detected. This can result from (1) a lack of adequate monitoring resources in general and (2) monitoring too narrow a field. A parallel to this signal reception problem (not detected-not acted on) is suggested by Albert Hirschmann who points to the missed opportunities to identify consumer preferences and exploit employee ideas as a result of unknown exit or suppressed voice.⁴⁹ The ability for an organization to perceive weak signals (low signal/noise ratio) depends on a number of factors including (1) the quality of information gathered, and (2) the barriers (such as bounded rationality or internal bias by the economic agent) to interpreting the information (Arrow, 1974).

Inertia can also come from sticky strategies (Oster, 1982, 1994) which can also be conceived of as rigid, routinized standard operating procedures. Strategies can be considered as a sequence of related actions that direct an organization on a trajectory, a path dependency, so that incremental action sequences are significantly dependent upon past choices made by the organization. Sunk cost effects, past commitments to a narrowly-defined strategy of specialization, and the significance of dedicated or specific assets in current production are among the factors that also contribute to organizational inertia. A regional commodity subsector often faces the obstacles of coordinating among many different firms that, though technically related, have conflicting goals and may lack a central organizing force that coordinates the team productive process within a firm.⁵⁰ Opportunities may be perceived by the subsector members but, due to the fragmented and micro-competitive nature of their subsector organization, they may be unable to agree on a plan to pursue the venture or may be unable to agree on how to or who should marshal the resources or allocate the rewards. Such conduct demonstrates a lack of subsector adaptability.

First mover advantages, whether derived through superior sensing or as a product of intensive research and development, may not always be exploitable by an individual firm within

⁴⁹ A.O. Hirschmann, Exit, Voice, and Loyalty

⁵⁰ This conception of a firm is due to Alchian and Demsetz (1972).

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a subsector. Significant innovations often require a network of coordination. Mechanical harvesting for asparagus, for example, requires a degree of coordinated innovation development on the part of growers, processors, and developing engineers. Economies of scale, high exclusion costs (supporting research and development, for example), or institutional constraints (legal conduct) may preclude entrepreneurial initiative by the individual firm. Institutional mechanisms are sometimes able to overcome these barriers to firm cooperation as may be seen within an agricultural subsector. These would include such institutions as supply and marketing cooperatives, land grant universities conducting agricultural research, trade associations, marketing orders, and publicly funded market news services. Still, the micromotives of the individual firm often run counter to the desirable macrobehavior of the local system where subsector information and responsiveness is to the benefit of most.⁵¹

The establishment of a viable fresh asparagus segment that annually delivers a certain minimum volume threshold of reasonably high quality product is generally regarded by growers, processors, and fresh shippers alike as beneficial to everyone in the industry, providing a needed profitable alternative outlet for production surges, and generally enhancing the demand for the grower's product. The lack of a needed minimum critical mass of quality product consistently deliverable each year, unable to be met by any one grower, however, has resulted in a relatively small, weak fresh market for Michigan.⁵² While all agree a fresh market is probably sustainable in Michigan, uncoordinated individual action has to this point been unable to raise the fresh segment to a significant commercial level.

Strategic issue management has been rigorously developed by Igor Ansoff (1990) as a prescriptive strategy process tool for improving an organization's mobility or responsiveness. It

⁵¹ Not all firms necessarily benefit from increased subsector responsiveness to shared opportunities and threats. One Michigan apple shipper pointed out that a few individual organizations thrive in the mix of activities precisely because the subsector is unresponsive in a coordinated way to address shared threats and opportunities.

⁵² John Platt's (1973) concept of a social fence parallels this situation: the consideration of individual advantage preventing one from doing something that might nevertheless be of great benefit to the group as a whole. Schelling's (1976) critical mass models are also related. Schelling suggests that in some behavioral models a minimum level of activity is required to perpetuate growth and to a self-sustained interest in a collective activity. Kindling may be required to get a fire "going".

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provides a systematic means for an organization to monitor issues (opportunities and threats), prioritize them in terms of urgency (level of expected impact) and timing (when impact is likely to be felt), and thereby developing a priority and basis for considering action alternatives. The intent of this management activity is to provide an on-going mechanism to monitor and anticipate systematically changes in the environment and construct an action plan that can best situate the organization for a timely and appropriate response. The upper echelons of firm management can utilize a tool such as this to manage strategic issues for an individual firm with their leadership and initiative.

Strategic issue management (SIM), as practiced by the firm, can be modified to enhance collective responsiveness at the subsector level. Resources of both a leadership and financial nature can be pooled to monitor joint opportunity areas and detect joint emerging threats in a way that can be superior to SIM programs carried out independently by each organization. Detection of opportunities and threats can be earlier as pooled resources permit more careful monitoring of more issues (a wider agenda). Furthermore, alternative firm-level responses that may require a degree of coordinated effort can be negotiated and better implemented. A greater set of subsector action alternatives may be identified through a pooled SIM effort. This need not replace the individual firm SIM, but rather can extend and complement it. Individual organizations are likely to express a different sense of priority and willingness to commit resources to different responses to the identified issues due to variable payoffs. The likelihood of emerging opportunities and threats taking the subsector collectively by surprise, however, could be reduced with this approach. A means for identifying and articulating mutual organizational needs typically provided through a public service organization can be established to supplement current approaches to this activity. Missed and mistaken investments at the individual firm level could thus be conceivably reduced.

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2.3 THE FIRM, ORGANIZATIONAL INTERDEPENDENCE, AND SUBSECTOR STRATEGIZING

The intent of this section is to provide a further rationale for subsector-level strategic management by considering the economic nature of interdependencies commonly present in the organization of firms in a subsector. The premise is that there are certain economic realities that link the performance of firms together. Furthermore, there is an opportunity for certain linked firms to improve their collective performance by explicitly recognizing these interdependencies and undertaking certain joint activities. Consideration of prospects for cooperation attempts here to consider issues for improved performance rather than market power. A rationale for inter-firm strategizing is presented as an approach for guiding system efforts toward minimizing transaction costs.

A system-wide creation of value and competitiveness is discussed in the context of the economic notion of derived demand. The importance of the creation and distribution of shared resources - joint impact goods, within a subsector are discussed. A further rationale for considering collective strategy formation in a commodity subsector hinges on cognitive conceptions of interconnectedness - many factors support a sense of shared or common purpose and similarity of goals that can be built upon for mutual benefit. Inter-firm synergy is also discussed as it offers important opportunity for capturing economies of scope by firms and organizations seeking to mutually improve their performance outcomes.

Ronald Coase (1988) expressed a concern for the narrow scope of industrial organization pre-occupied with the study of monopoly, the control of monopoly, and anti-trust policy. His conclusion was that the negative and suspicious view ascribed (in some cases prematurely) to cooperation precluded meaningful investigation into ways in which healthy cooperation could be encouraged. This section seeks to advance economic arguments supporting a healthy cooperation for improved performance in a commodity subsector.

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2.3.1 Organizational Interdependence to Minimize Transaction Costs

The value-adding process involves exchange between a number of economic agents controlling value-adding activities. Exchange is not frictionless, that is, there are real costs associated with search, bargaining, contract development and enforcement, and other activities principally related to the exchange process. These costs may be different depending on the institutional system under which they are organized. Transaction costs drive organizational structure and influence the overall structure of a subsector.

Williamson provides a compelling theoretical basis for identifying the activity boundaries of the firm and presents a transaction cost minimizing argument for vertical integration. He argues that the complex modern corporation under which a diverse array of production activities may be organized is mainly to be understood as the product of a series of organizational innovations that have had the purpose and effect of economizing on transaction costs.⁵³ The conclusion of transaction cost economists is that organizational structure (governance) will evolve that best economizes on the costs of exchange.⁵⁴

The perception of Williamson avoids prescriptive models of organization except that they maintain the intent on economizing, achieving administrative efficiency. Comparative economic organization should be driven, he suggests, more by first-order economizing than by strategizing. Strategizing is relevant principally to firms that possess market power (a small fraction of the total) and thus efforts should be directed toward eliminating cost excesses in production, distribution, and organization. "Economy is the best strategy" is his fundamental conclusion.⁵⁵

⁵³ O.E. Williamson, (1985:273).

⁵⁴ Williamson (1975, 1985), Eggertsson (1990), and Kreps (1990). The concept of a corresponding governance structure that minimizes the cost of transacting, or, as Kreps suggests (p. 744), that transactions can often be organized in different ways within social and legal institutions each with distinct costs. That given, transactions tend to be "placed" in a way that maximizes the net benefits they provide, including the cost of the transaction. A transaction whose transaction costs outweigh the benefits of completion will not be undertaken at all.

⁵⁵ Williamson, O., "Strategizing, Economizing, and Economic Organization", Strategic Management Journal, (12):75-94 1991.

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This conclusion (economizing as the first principle) retains some merit for an organization of firms within a subsector. Williamson, for example, goes on in this paper to suggest that the complexities of organization and the real cognitive limitations of the economic agents imply that there is routinely a mis-alignment of types of transactions with the most cost effective and competent governance structure. These conditions apply equally if not more so to an organization of firms.⁵⁶ The frequent incidence with which there is a blurring of firm boundaries (Eggertsson, 1990:162), the existence of widely adopted industry standard operating procedures (Hamm, 1981), and the systems nature by which subsectors are most reasonably analyzed and evaluated for performance (Shaffer, 1973, 1980; French 1974) suggest a subsector could benefit from giving careful attention to the way transactions are conducted between member firms. The process of negotiating acceptable conduct between firms and the erection of institutions that reduce the costs of exchange inextricably link many subsector members. Institutional opportunities to reduce transaction costs within a subsector can provide symmetric, or at least mutual, benefit to the member trading firms. Each member has a vested interest. Evaluating the whole system, the consumer has a vested interest as well, inasmuch as lower transaction costs lead to lower product costs at the end in a competitive market.

Williamson's conditions under which strategizing is relevant (primarily for organizations possessing market power) appear too narrow. Williamson's conception of business strategy is primarily of the efficiency kind; the most efficient organization wins in the long run. Strategic decisions are not confined, however, only to organizations possessing market power. Strategizing, whether by firms or a subsector, is a ubiquitous and perpetual activity carried out by economic agents in response to perpetual changes in the environment, the outcome of whose choices depend upon the choices of another firm or firms acting purposively.⁵⁷ Business efficiency and economizing governance structures play an important part of a subsector strategic planning system, but positioning, planning, and capability development are all going to be influenced by the

⁵⁶ Williamson, O., "Strategizing, Economizing, and Economic Organization", p.79.

⁵⁷ Dixit A. and B. Nalebuff, Thinking Strategically, p.85.

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concurrent and/or anticipated actions of other economic agents, including governments which dictate the rules of conduct or by competitors.

In summary, firms in a commodity subsector share participation in a value-adding process that has both transformation and transaction costs. Economizing on transaction costs is desirable for the system but may not come about just as a matter of course. Cost effective and competent governance structures under which subsector transactions are organized may require explicit cooperative design. Strategizing need not be narrowly associated with organizations seeking to extract monopoly rents.

2.3.2 Derived Demand and Supply

Derived demand implies a dependence on a primary demand articulated from some end-user(s) that signals preferences upstream in the production system. Firms are linked inasmuch as they share signals of scarcity and demand, either through prices or more centralized institutions. A network of market reactions is played out as upstream production activities are coordinated and adjusted in response to these signals to profitably respond to the next user's needs. This sequence of factor markets can vary in the stages of value adding and in the number of distinct firms transacting and adding value. Tomek and Robinson describe firm interdependence based on this progressive signaling.⁵⁸

Downstream signals of changing upstream supply conditions, such as crop size impacted by weather, new varieties, lower cost of production opportunities due to a new technology, and the like, sends a signal through the same sequence of firms to the end-user. Apple growers, apple packers, and apple shippers are related and interdependent in this sense, looking to each other for supply and demand signals. This dynamic system of supply and demand adjustments is full of

⁵⁸ The concepts of primary and derived demand and supply are discussed at some length by Tomek and Robinson (1990), pp 108-120. Price discovery in many perennial crops is often quite a complicated undertaking. The processing segments for apples and asparagus in Michigan negotiate single season prices between growers and processors paid for the raw product through a state marketing order that requires, from time to time, independent arbitration settlement. Tomek and Robinson present a taxonomy of alternative institutional arrangements common to agriculture that facilitate the price discovery process (pp.199-214).

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firm-level uncertainty within subsectors, especially those that involve perennial crops. Decision-making is executed at each level based on quite long term market expectations, but firms in other segments emphasize short-term aspects. It is in the context of this decision making that planning takes place.

F.A. Hayek noted the concept of planning to be broadly understood in the following way:

"In ordinary language we describe by the word "planning" the complex of interrelated decisions about the allocation of our available resources. All economic activity is in this sense planning; and in any society in which many people collaborate, this planning, whoever does it, will in some measure have to be based on knowledge which, in the first instance, is not given to the planner but to somebody else, which somehow will have to be conveyed to the planner."⁵⁹

Subsector members, as they vertically coordinate production and the allocation of resources, are interdependent in the sense that they commit resources as firms to production based on intra-subsector signals and together (tacitly) derive an output equilibrium, whether through market prices or other programmed planning processes.

Porter (1985:33-61) would likely say, according to his value chain framework, that subsector firms are related because they are members of the same value system. It is the value system around a firm that determines firm competitiveness. A firm's product eventually becomes part of a buyer's value chain. The buyer perceives the supplier as providing value to a process in which the supplier is engaged. This value system, the sum of activities where suppliers provide value to buyers, is presented as the conceptual focus of Porter's work in The Competitive Advantage of Nations. National advantage is derived through maximizing the value generated within a system.

In summary, subsector members share and depend on progressive signals through the vertical market system. Good firm-level planning is contingent on accurate signals. Some level of cooperation and/or coordination may improve the signals received by all subsector firms. Firm and overall subsector performance may be enhanced (value generated increased) and scarce

⁵⁹ F.A. Hayek, "The Use of Knowledge in Society", American Economic Review, 35(4):519-530 1945

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resources better allocated through improved vertical coordination of production and markets through joint subsector planning and implementation.

2.3.3 Subsector Systems and Joint Impact Goods

It is often useful to characterize goods into the economic dimensions that define them. Al Schmid has attempted to construct such a taxonomy in his book, Property, Power, and Public Choice, illustrating how the nature of the different goods employed for production imply various conditions of inter-dependence. Some goods can enter into two or more persons' utility irreducibly. Schmid terms these as joint-impact goods (JIGs), where the benefit of goods are widely realized but the quality and quantity of the good available is not reduced by extending the benefit to one more user at the margin. The marginal cost of another user approaches zero over some range.⁶⁰ The example of such a good suggested by Schmid is national defense.

Such goods are commonly present within an agricultural subsector. Publicly provided research and extension, commodity promotion provided through a grower-based tax, or quality road construction and maintenance. The level and quality of these kinds of goods available irreducibly to subsector members, contributing significantly to the productivity of a subsector with the same input-output properties as other non-joint factors of production, are commonly derived through either collective or public action. Pricing signals from the market for these kinds of goods typically indicate a low willingness to pay on the part of individual firms, particularly when there is high exclusion and high development cost involved. Where free ridership is possible, marginal contribution to the provision of a "public good" is negated. Equitable contribution (individual contribution equal to the marginal benefit of the good received) to a public good is often difficult to obtain when externalities (positive or negative) exist. An evaluation of system-wide or aggregated benefit must be made with cost sharing administered based on proportion of total benefit. A certain amount of collective planning and development independent of market price

⁶⁰ Schmid, A. Allan, (1987). See the broader discussion of joint-impact goods presented in his text, pp.75-94.

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toward the provision of these kinds of goods is suggested inasmuch as there is opportunity to internalize or equitably meet the external effects within a subsector.

The strategic dimension of a joint-impact or public good arises when a group of related yet independent enterprises (through a grower cooperative, a regional subsector, a nation) together derives a level of provision of such a good for their joint use and such a level is interdependent on the choices made by another economic agent. The military case can illustrate this condition; as one country chooses a level of military defense provided irreducibly to its member citizens, it chooses that level not only with a view toward the preferences for resource allocation by its citizens, but with a view toward the credible threat of armament levels chosen by rival countries.

Agricultural examples can include regional grower resources allocated to state commodity promotion set to a level with regional resources in mind but also with a view toward promotion levels chosen by rival states. The paradigm of strategic management that argues for unique positioning relative to rivals would suggest that collective resources be allocated to develop local distinctive advantages, again chosen in part with a view toward the choices made by rivals. Choice sets for some may be more narrowly defined than for others, depending upon the resources and capabilities of a subsector.

The implication of this economic relationship between JIGs and individual firms for commodity subsector strategic management is that, because joint impact goods are set at qualitative and quantitative levels outside the individual firm, coordinated strategic management can influence these goods. They can be crafted in such a way as to support a general strategic direction for the subsector. Indeed, the atomistic nature of the individual firm provides limited opportunity for meaningful influence on the quality or quantity of a good that may be central to that firm's competitiveness. JIGs such as research and extension, provided by a single institution, can be prioritized in a meaningful way when a subsector-level strategy is developed, agreed upon, and articulated. JIGs such as state-level promotion can be co-aligned to support the general strategy of the subsector. Strategic alliances can be developed with other outside interests to further

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develop JIGs that would be consistent with supporting the strategic direction of both organizations.⁶¹

An often non-trivial dimension of subsector strategic management is to develop means for addressing the "public good" provision problem. How does one decide on which public goods are to be produced, and in what order? What level or quality of goods such as research and extension or state-level commodity promotion should be pursued? How are total benefits of JIGs to the subsector to be measured and costs allocated? The relationship between joint impact goods and designated subsector strategies must also be considered.

2.3.4 Cognitive Conceptions of Interdependence

Organizational interdependence in a regional commodity subsector is cognitively reinforced both by the participants and by related outside organizations. This section argues that there is often a cognitive linking between subsector organizations - they have developed patterns of association with a general subsector, particularly on a regional level. This cognitive association is reinforced by patterns of economic activity. The individual sorts through a perpetual stream of economic association data relating to other individuals and organizations that signals some degree whether they represent a rival, a non-influence, or a source of common interest. Furthermore, there is often a sense of social identification by individuals with groups; other farmers, other rural citizens, fruit growers, state agriculture, etc.. Social identification is supported by a heightened sense of common interest. Trade associations (such as the Michigan Apple Committee, Shippers' Association, MACMA, and others, and trade shows serve to strengthen a sense of cognitive association.

Rivals from other regional subsectors also reinforce the sense of association in their language and conduct. Washington produces and promotes their apples as "Washington apples". Growers and shippers support, through mandatory self-assessment, this promotional approach. The thrust of the promotion is even toward consumer brand recognition and value. Florida oranges,

⁶¹ The International Marketing Program for Agricultural Commodities and Trade (IMPACT) Center at Washington State illustrates the provision of a joint impact good provided to diverse agricultural interests. Technical and marketing support is provided to enhance and facilitate Washington commodity exports, making each participating commodity group more competitive than they would be otherwise.

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California raisons, Georgia peaches, and Idaho potatoes all represent similar cognitive groupings, in these cases promoted for the purposes of marketing.

The basic observation here is that organizations participating in the value system or subsector will thus refer to themselves as "the Michigan apple industry", or "Michigan asparagus industry". A recognized commonality and interdependence is revealed in the language, association, and conduct of the organizations participating in the subsector.

A certain rivalry or inherent distrust may exist between members of related segments. However, following Porter's orientation of the value system, there is usually a recognized appreciation for the value of healthy buyers and suppliers.

These state subsector groupings, each driven by regional associations, while not corporations, still represent an organization of firms in a value system or commodity subsector seeking to expand the collective value of the product produced in that system through coordinated strategic choices.

2.3.5 Synergy Between Firms

The economic argument for subsector-level strategic management extends not only from scale economies but also economies of scope. Opportunities for cross-fertilization may exist under certain conditions during the process of identifying and evaluating alternative strategies and their supporting actions. Sharon Oster relates the concepts of synergy and economies of scope stating:

"Two business units have synergies if their union allows for opportunities not available to either separately. Economies of scope are a more specific expression of synergy, usually thought of primarily in the cost context. Economies of scope exist when it is less costly to do something when two units are joined than when they exist separately" (Oster, 1994:184).

The strategic management literature tends to emphasize this concept in the realm of mergers and acquisitions. Firms do not have to join in a merger, however, to take advantage of scope economies. Strategic alliances, joint ventures, and other strategic partnerships have

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demonstrated the ability of firms to maintain their autonomy and at the same time pursue opportunities arising from economies of scope.⁶²

Synergy between organizations will not necessarily be captured by respective organizations responding to competitive pressures of the market. Bounded rationality and costly search limits the scope of inquiry for potential synergies by individual organizations. Apples, for example, are considered a minor use crop for purposes of classifying total pesticide use, along with most other fruits and vegetables.⁶³ Chemical inputs are critical, however, to the production of apples. Apples have among the highest ratios of chemical costs to total costs of production. Political lobbying for favorable legislation in the area of pesticide availability, development of alternative approaches to chemical inputs, and re-registering certain chemicals or develop new ones are very expensive, but necessary activities. Such activities are certainly prohibitive for any individual apple firm. Joining in coalition with other minor use crops, however, permits a lower cost to be derived to the total initiative. This is not only due to scale economies, more resources brought to bear on the effort, but due to cross-fertilization of ideas, alternative approaches, and innovation in general that spills over between minor use crops during lobbying efforts, university-based pest management research, and the develop of private sector chemical innovations that can be rewarded by the broader coalition.

A fundamental activity of subsector strategic management is to facilitate the identification of such synergies between firms. The capabilities of the subsector can be enhanced as previously unidentified synergies are identified and captured to enhance the value generated, and therefore the competitiveness of the subsector. The enhancement of subsector capabilities can redefine the appropriate strategic course for the subsector.

⁶² See, for example, Thomas Sporleder's paper "Strategic Alliances as a Tactic for Enhancing Vertical Coordination in Agricultural Marketing Channels", presented at the 1993 IAMA meetings. He points out that strategic alliances are a weak but malleable form of pursuing vertical control relative to other means of enhancing vertical control, but often serve as a viable alternative to merger for vertical integration.

⁶³ A perhaps better description of these kinds of commodities that more clearly expresses the fruit and vegetable situation has been suggested by a Michigan State University entomologist: "High Input - High Value" commodities.

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2.4 FURTHER RATIONALE FOR EXPLORING REGIONAL SUBSECTOR STRATEGY

The objectives of the subsector actors who have developed individual firms within a regional apple industry such as in Michigan are at least to some degree advanced or thwarted together, that is, there is a high correlation between the performance indicators within these geographically common firms and the exogenous economic factors influencing them together.

The broad product and market definitions relating to the Michigan apple subsector suggest there are strategic issues that are common to the subsector independent of location. There is even a sense in which the Michigan industry must consider itself as having common interests with the national industry.

One proposition is that, there exist strategic issues influencing the subsector that are substantially independent of location. Another proposition is that many strategic issues exist that are common only to certain regional components of the national subsector. Market and resource development strategies make sense for some regional subsectors and not for others. Competition exists between regional subsectors for geographical and product markets as well as factors that enhance regional comparative advantage. This section develops more formally an economic rationale for a regional subsector strategy by considering the sources and nature of regional interdependence.

2.4.1 Technical Interdependence of Nearby Firms

Why do firms locate near one another? Why does an engineering research park develop next to a big college? Why does a bond office locate near city hall or a parking garage near a dense group of downtown stores? Groups of like firms also group together in a common geographic area, creating an intense competitive environment but sharing assets that advance their

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individual objectives. Garment districts, malls, and college apartment housing represent various examples of this phenomenon.⁶⁴

Twelve of the twenty major apple shippers in Michigan are located within a 30 mile radius of Grand Rapids. These firms remain autonomous in one sense in that they retain decision making control over the planning and allocation of resources within their firm. They are, however, inextricably linked to the planning and management decisions of other firms within the regional industry system.

Firms may choose a common locality to maximize their profits under conditions where value-adding involves a high transportation cost, desired by both firms to be economized. Cheung cites the frequently employed example of an apple orchard owner contracting with a beekeeper to pollinate his orchard, noting the fuzziness of firm boundaries in this case where firm distinctiveness, at least in the mind of most economists, hinges on the form of contract (wage or rental) between the two.⁶⁵

2.4.2 Agricultural Development and Schelling's Tipping Model

Path dependency in agricultural development is an economic phenomenon that sheds light on the dynamics of firm structure, interrelationships with other firms, and location. New firms, recognizing the technical interdependence of their production or service activity with those of other firms, are inclined in many cases to choose to structure and organize their activities in a proximity to vertically related firms that have exhibited strong historical performance. Past performance is often a component in formulating expectations for future performance. Michigan apple processing firms recognized a dependence on a strong and profitable grower community that could supply high quality processing raw product and chose to locate near its source.

⁶⁴ Electronics firms in the Silicon Valley were pointed out as another example. Porter provides an interesting survey of localized industries within nations, suggesting that a geographic concentration of rivals, customers, and suppliers will promote efficiencies and specialization. (Porter, 1990:154-159)

⁶⁵ Cheung, Steven N.S., "The Contractual Nature of the Firm", Journal of Law and Economics, 26:1-21, 1983.

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A leader of a Washington asparagus group conveyed an interesting history of agricultural development in the Columbian River Basin. He noted that early development was slow and agricultural production was confined to a few selected areas along the river. Innovations in irrigation, however, have led to a rapid expansion in productive land beyond the riverside areas. As asparagus production was able to overcome previously constraining climatic conditions it attracted other firms to locate in the Basin seeking to take advantage of this emerging production base. Eventually processors, chemical and fertilizer suppliers, railroads, expanded ag research facilities, and a variety of other supporting organizations located nearby, encouraging even more the development of the local asparagus subsector.

Thomas Schelling discusses processes of this sort in his models of critical mass.⁶⁶ System effects can resemble chain reactions of taking off or unraveling that may or may not result in a state desirable to the participants within the system. Schelling discusses a series of these models that he call "tipping" models, reflecting the idea that system dynamics often have an inherent critical point or condition. The system may be propelled or "tipped" toward one of several outcomes depending on the actions of participants within a system and their proximity to these critical points. Those involved in strategy formation processes in a subsector should be cognizant of the fact that systems have a dynamic nature such as this with "taking off" and "unraveling" points that may propel the participants to unanticipated overall performance outcomes. Similarly, efforts by one or several individuals may be insufficient to propel the subsector to a universally desired higher level of performance. Certain coordinating or facilitating mechanisms may be necessary.

2.5 RELEVANCE OF CRAFTING AND IMPLEMENTING STRATEGY FOR A COMMODITY SUBSECTOR: AN OVERVIEW

The general objective of this section is to demonstrate the relevance of the concepts of strategic planning and implementation to issues of structure, conduct, and performance facing a commodity subsector. The first argument is that many of the economic and behavioral phenomena

⁶⁶ Schelling, (1978) Micromotives and Macrobehavior, pp.99-133.

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that are addressed through strategic management by a firm are, with only some differences, similarly faced by related firms within a subsector. A wider conceptualization of an organization is necessary to extend this framework. The subsector, as a complex organization or system of related firms, is seeking to achieve its goals in the context of its external economic environment.

Systematic patterns of strategy can be observed as having been employed by a subsector, whether by emergent or deliberate action. Firms in a regional subsector often have similar bases for competitive advantage with respect to other regions producing the same commodity or competing commodities, whether they explicitly recognize it and develop their strategies around them or not. The aggregation of firm-level strategies within a commodity subsector produces a mosaic of strategies, a mix of collective and independent approaches, deliberately pursued or otherwise, that may or may not be effective in matching the internal environment of the subsector to its external environment in such a way as to yield the desired performance of the individual subsector members. It is proposed here that certain approaches to collective strategy for the subsector may be employed by certain related participant firms to improve the means by which they identify strategic alternatives, choose among them, and implement them to the benefit of many.

It is proposed here that firms and organizations within a subsector share, to a significant degree, certain kinds of resources and capabilities (strengths and weaknesses) that may be organized to create an environment that emphasizes the commonalities among firms within the subsector. Firms organize these resources with a view toward a common economic environment (opportunities and threats) that are often to a substantial degree external to the subsector. There is a certain transitivity in the influences meted out to subsector organizations by higher level economic environmental factors. The competitiveness of subsector firms is influenced, often in a similar way, by exogenous factors beyond the scope of influence by any individual participant. Furthermore, some strategic alternatives available to subsector firms can be considered as requiring varying degrees of inter-firm or, even more broadly, inter-sectoral coordination in order to take the greatest advantage of these alternatives.

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For some purposes it may be a useful theoretical aggregation to consider a subsector to be in and of itself an organization. Commodity subsector participants, particularly within a given region, often think of each other as “members” and often cooperate at high levels with certain like or nearly related firms. Kenneth Arrow (1974) argues that the term “organization” should be treated quite broadly. Participants in organizations may be themselves organizations as well as individuals. He argues that the market system itself can be regarded as an organization with elaborate means for communication and joint decision-making (p.33).

The choice set available to individual firms in the face of economic change is often significantly constrained when opportunity for cooperation is limited. Certain strategic choices available to the individual firm acting alone may be inadequate to meet the opportunities or threats facing the firm or not as effective as certain collective or coordinated stage-setting strategies. Strategies requiring greater coordination, however, have implicit additional costs relating to search, bargaining, monitoring, and administration in comparison to those that can be implemented by an individual firm.

Relevance of strategic management for the subsector should be considered more broadly than expanding the set of strategic choices available to the individual firm. There is often opportunity to reduce the search, implementation, and monitoring costs associated with various coordinating-intensive business strategies, especially compared to each firm doing these things individually.

Proponents of firm-level strategic management argue that the costs of certain kinds of decision making internal to the firm are reduced when effective strategy development takes place. A clear vision or mission can be crafted based on firm goals and provide a basis for renewed competitive advantage. Such an organizational strategy can be prominently integrated into the activities of the organization and placed before management and employees as a sort of “guiding star”. Resources can therefore be marshalled, focused, and allocated with a view toward firm goals, and activities that are at odds with these priorities or objectives can be weeded out.

To the extent a group of related firms within a subsector can identify similar goals and co-align individual activities in such a way as to improve overall performance on selected common

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goals (or work toward a common subsector "mission"), they may be able to similarly collectively improve their efficiency and performance in the way they do business. The outcome would ideally be reducing internal costs, improving the services provided, and thereby enhancing their competitiveness. Individual firms are often constrained in their ability to influence their environment due in part to the limited resources able to be delegated to affect certain kinds of favorable changes. Rivalry internal to the subsector can further limit firm-level strategic choices on certain aspects.

Improved vertical coordination toward improved subsector performance has long been an objective of subsector research.⁶⁷ A number of firms and organizations will often conduct activities supporting the individual business activities of participant firms by providing certain public goods of various types. The priority with which these goods are developed and implemented is generally established by some mechanism other than market price. Orienting the individual members and organizations toward collective strategic planning and implementation potentially provides a means for better signaling priorities in developing resources that can contribute to subsector competitiveness between private firms and supporting organizations.⁶⁸

Bernsten and Staatz (1992) underscore the importance of both the process and outcome of vertical coordination and the contribution made toward improving understanding of subsector needs leading to improved coordination through the use of subsector analysis. They argue for broadening research approaches to include systems of production to better understand the interaction between technologies, institutions, and policies, and further, to identify major information gaps, recognize inappropriate technical options, highlight access and equity issues, refine technical options, specify technology characteristics, and identify institutional and policy constraints.

Many of the approaches employed by organizations to address these issues within the system bounded by the firm under the rubric of strategic management are suggested here to be

⁶⁷ eg, Marion and Ward (1986), Shaffer (1973, 1980), Bernsten and Staatz (1992).

⁶⁸ Arrow (1974) suggests that organizations are a means of achieving the benefits of collective action in situations where the price system fails (p.33). Organizations supporting the commodity subsector may be the result of focused collective action, such as in trade associations providing promotion support, or through more dispersed collective action, which represent a collective action of a much broader interest.

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feasibly extended, with some modification, to improving coordination and performance within a subsector. This may be particularly effective where there are mechanisms other than prices needed to carry information and incentives to those allocating public good-type resources in support of the subsector.

The concepts discussed and the argument presented in this chapter have emphasized the need for considering firm-level strategic management principles and practice in the context of a larger subsector system. Certain modifications of the formal corporate planning systems are likely necessary to make strategic planning and implementation workable and meaningful for firms and organizations together in a subsector.

The recent strategic planning efforts of the Michigan apple industry present a unique opportunity to examine, describe, and evaluate a somewhat unique attempt to develop this process in the context of a commodity subsector. Chapters 3 through 6 present this case study. Approaches, considerations, and components to a subsector strategic planning process, as explored and illustrated in this case study, reflect back to the concepts and principles developed in this chapter, relating the need for and possible approaches to strategic planning for interdependent organizations.

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CHAPTER 3
DEVELOPING A SUBSECTOR STRATEGIC PLANNING APPROACH:
THE MICHIGAN APPLE SUBSECTOR CASE

3.0 INTRODUCTION

The previous chapter sought to establish a relevance for examining principles and concepts of subsector-level strategy formulation and implementation. This chapter introduces a case study of the Michigan apple subsector (or industry)⁶⁹ and the subsector strategic planning initiatives developed within it over the past few years. Chapters 4-6 provide further detail and summary. Initiatives that have been proceeding recently in the Michigan apple industry present a unique opportunity to observe approaches that have been used for strategic planning and implementation at a regional subsector level.

One central component of this case is the formation and activities of the Michigan Apple Industry Strategic Planning Task Force. This relatively unique and new organization has sought

⁶⁹ The concept of a subsector is somewhat foreign to those in the firms and organizations involved with a commodity industry. They would use "industry" to represent the concept of the subsector. This can possibly contribute to some confusion as I try to relate these developments back conceptually to subsector strategic management. The use of the term "industry" will refer to the concept of "subsector", while "segment" will refer to what the subsector literature would identify in its taxonomy as an "industry", a horizontal slice containing like members of the subsector that focus on similar production activities. Furthermore, the distinction between strategic planning and strategic management held by business school academics, has not been maintained by those involved with the Michigan Apple Industry Strategic Planning Task Force. The attention devoted to adaptable and acceptable implementation of strategy and actions by the many diverse firms and organizations in a commodity subsector is consistent with a more flexible conception of strategic planning and orientation as outlined earlier.

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Observations of the strategic planning activities recently undertaken by the Michigan apple industry, are utilized to illustrate one subsector approach. Results are also considered to provide an early preliminary evaluation of effectiveness and its potential, although the process is still in a relatively early stage. The process of strategic planning at this level can be seen as unfolding in a number of distinct stages, each involving active group decision making and action. Economic, competitive, and organizational conditions propel the process. The approaches to coalition building, industry goal development, the crafting of an industry agenda, and the formulation of collective actions and strategies are all considered in this case. The case further seeks to demonstrate the appropriateness of the approaches employed in the Michigan apple industry. These approaches were chosen in consideration of the driving forces affecting the industry and the structure of organizations that were already in place.

The potential contributions of the strategic planning approaches employed in a subsector to improve system performance are considered. Particular attention is focused on the activities as they contribute to improving the coordination of production and marketing within the industry, as well as contributions to improving the overall responsiveness of the industry to the dynamic and competitive nature of outside opportunities and threats.

The chapter is divided into several components. The first section presents a brief overview of the Michigan apple industry in terms of its size and product utilization trends.

The second section discusses the major forces that have contributed to the need for more organized industry action in the form of collective strategic planning. These include a series of threats and opportunities that have significant and broad implications for Michigan firms involved in apples.

The third section discusses the formation, goals, activities, and approaches of the Michigan Apple Industry Strategic Planning Task Force, specifically as a mechanism employed by industry organizations to facilitate the process of industry strategic planning and implementation. This section seeks to illustrate some of the advantages and limits to joint strategic planning efforts as

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undertaken by firms within a commodity subsector. Issues of coordination encountered by the Task Force are discussed.

The fourth section discusses the information gathering processes employed by the Task Force in formulating and operationalizing its agenda. One component of this is market and production trends influencing this process that are considered as they contribute to a competitive situation analysis for Michigan as an apple supplier region.

The fifth section discusses specific strategies and actions that have evolved from the industry planning process, with particular attention paid to implications for improving the industry's performance and competitiveness. Approaches for developing and implementing industry-based actions used by the Michigan apple industry are discussed. Finally, the sixth section discusses conclusions and implications that arise from the case. The sections together seek to illustrate various stages of orienting the subsector toward crafting and implementing strategic actions and directions.

This case study is presented as a summary and evaluation of the strategic planning activities in the Michigan apple industry to date. Much of the process remains to be worked out and refined by those who are involved in the industry process. An ex post evaluation of the Task Force initiatives on the performance of the subsector cannot be made at this stage of the process. The first series of actions are yet to be fully implemented. At the writing of this dissertation, several of the components to a commodity subsector strategic management system, as later proposed to be necessary as a result of this research, are planned by the Michigan apple industry but have not yet been formally undertaken. Although learning and adjustment continues, many of the pioneering efforts and experiences of the Michigan apple industry and the Strategic Planning Task Force can be drawn upon to the benefit of other commodity subsectors which face similar economic and organizational circumstances.

3.1 AN OVERVIEW OF THE MICHIGAN APPLE INDUSTRY

The apple industry represents the largest fruit commodity produced in the state of Michigan. The total value of production at the grower level has averaged approximately \$90

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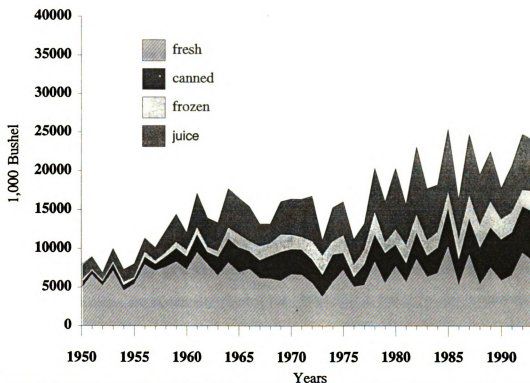
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million over the past 5 years. Michigan has been among the leading supplier regions in the U.S. for nearly a century. Total production has grown slowly, but at a steady pace in the state since the early 1950s. The increasing importance of processing markets for Michigan apples over the last 30 years, such as canned, frozen, and juice, can be seen in Figure 3.1. Between 60% and 70% of total production is now marketed by Michigan growers to some processing market.

The diversity of production and marketing orientation within the industry, however, does not always lend itself to broad-based cooperation between the many diverse firms and organizations. This diversity of focus is illustrated by the fact that there co-exists a significant and growing fresh apple sector, averaging over \$39 million in farm gate value between 1988 and 1992, together with a wide mix of processing activities.

Figure 3.1 MARKET UTILIZATION OF MICHIGAN APPLES: 1950-1993



The approximately 20 major processors in Michigan produce the following products with varying degrees of specialization: frozen and fresh slices, sauce, juice, cider, concentrate, canned

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slices, pie filling, puree, vinegar, diced apples, spiced rings, and essence.⁷⁰ A larger share of the apple crop has been marketed through the various processing markets, but the fresh component is also an important factor. Approximately 20 shippers market most of the fresh apples for some 150 packing houses. Vertically integrated systems for the fresh market are common. Most packers are also growers. Larger shippers often have their own primary packing facility and orchards.

Growers appear to be in a gradual trend toward consolidating into fewer, larger operations. Current survey data suggests that there are approximately 1100 growers, a decline of over 400 operations within the past 15 years.⁷¹ This trend is likely to continue as key inputs become more costly and apple orchard management more specialized. Net returns to growers are relatively low, increasingly complex orchard and business management is required, and investment requirements for orchard modernization is high.

Most growers with larger operations market some fraction of their production into both processed and fresh markets. Many in the industry regard the combination of both strong fresh and processing markets as a key source of competitive advantage for Michigan as a producing region. Michigan has continued to develop several major market outlets. Washington, which directs most of its attention to the fresh market (typically over 75% of its production), has increased substantially its volume sold to processing markets recently in conjunction with its rapid growth in overall production. Washington provides Michigan with strong competition especially in the fresh markets, but also in processed apple markets.

The Michigan apple industry produces and markets a large number of apple varieties. This is also regarded by many as a key source of competitive advantage. Dual purpose (fresh or processing) varieties are commonly planted for flexibility in future market conditions. Most

⁷⁰ These are the product categories identified in the Michigan Apple Committee Processor Directory supplied by the 23 processors listed, September 1993.

⁷¹ The Michigan Rotational Fruit Survey (MDA) for 1991 indicated there were 1300 operations. Michigan Apple Committee data, together with responses from the grower survey conducted by the Strategic Planning Task Force, suggest this number is probably now closer to 1100-1200. The number of operations producing apples appears to have been steadily declining in Michigan. The 1982 MDA survey indicated there were 1540 operations at that time. Smaller operations have led the decline in numbers. The number of larger operations (100+ acres) was actually up in the most recent census.

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growers maintain a mix of varieties to accommodate changing demand conditions, maturity and harvest schedules, pollination requirements, and site-specific growing conditions. The many varieties grown in the state, as well as the climatic and production differences between the northern and southern regions also contribute to Michigan's competitive advantage through diversity.

There are complications and difficulties that arise from production and marketing diversity within the industry. Many common economic forces influence both fresh and processing markets directly or indirectly. The synergy between fresh and processing markets raises the need for broad-based industry cooperation to develop viable strategies that exploit this industry advantage.

The common economic forces influencing firms point to a need for a degree of cooperation among them, for mutual interests to be addressed and synergies to be exploited. Changing markets and production technologies present new opportunities that require continual adjustments and adoptions of new approaches to production and marketing in the state. External threats, such as those relating to pesticide availability and use, regulations, labor, and trade laws, as well as growing domestic and international competition influence the viability of the diverse segments within the Michigan apple industry in a transitive way and require continual adjustments by the Michigan industry.

An awareness of shared external threats and (to a lesser degree) opportunities emerging from changing market conditions contributes to the preliminary investigation into the possibilities for collective strategic planning by the subsector. The major driving forces prompting industry-level initiative are discussed in the next section.

3.2 EXTERNAL FORCES CONTRIBUTING TO A NEED FOR INDUSTRY ACTION

A series of imminent and broadly impacting forces influencing the viability of the apple industry in Michigan contribute to the potential for joint strategic planning development initiatives by the key Michigan apple leaders and organizations. These forces helped to raise awareness by key industry leaders that a number of industry issues need to be addressed, some of which are to a substantial degree beyond the scope of influence of individual firms or organizations. A perceived need for improving the competitiveness of Michigan apple firms has received increasing

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priority following several years of relatively low returns -- especially to growers. This contributed to a wide and concurrent recognition of outside market forces influencing the economic viability of Michigan apple firms in much the same way.

Representatives from a number of these leading industry organizations began to investigate additional strategies and consider action alternatives both within their firms and through the established industry organizations to address some of these key issues. These earlier discussions and investigations revealed a need to consider additional approaches to strategy development that required more inter-organizational and/or inter-sectoral coordination and cooperation.

The marginal contribution of any one factor, force, or issue to raising the felt need for expanding an industry approach to strategic response is difficult to measure. The factors are interrelated. There were, however, forces that carried more influence than others and are discussed in the following sections. The discussion is divided for the purpose of facilitating presentation into the major observed threats to the industry followed by observed opportunities.

3.2.1 OBSERVED THREATS TO THE INDUSTRY

A sequence of emerging threats to the viability of apple production in Michigan have provided some of the motivation for industry leaders to consider organized industry action that might address these challenges. These include the following:

- low returns to Michigan apple growers
- strong competition, including expanding production in Washington
- increasing competition from imported apple juice and other changes in international trade
- regulations threatening reduced availability of key chemical inputs

Depressed prices recently have been, in effect, the product of a series of related and emerging threats to the Michigan apple industry. The increasing competition from Washington is widely felt in Michigan as well as strategic changes in other key competing regions. Some recent aggressive organized strategic planning initiatives, particularly in Washington, were observed and provided an example of a more organized approach that might also be used for Michigan.

A changing international trade environment provided both threats and opportunities. A significant expansion in the consumption of apple juice in the U.S. has taken place over the last

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An increasingly burdensome regulatory environment has also been an increasing threat to the Michigan apple industry. These regulations and unfavorable economic conditions threaten the availability of key chemical inputs necessary for a viable apple industry in Michigan. Each of these threats are discussed at length in this section.

Lower Returns to Michigan Apple Growers

A major factor that has stimulated industry-wide consideration and interest in industry strategic management for Michigan apple firms and organizations has been the lower grower net returns often below grower costs. Depressed prices, together with increasing costs of production resulted in economic difficulties for many growers in Michigan for several years. Some Michigan growers, as indicated earlier, have been exiting the apple business.

Many industry organizations gauge their own long-term viability with that of the growers. Indeed, most major apple organizations in Michigan (Michigan Apple Committee (MAC), the apple division of MACMA, Pomesters, Michigan State Horticultural Society, Michigan Apple Promoters) are grower organizations particularly sensitive to grower concerns. The MAC and MACMA are funded through grower assessment monies or membership fees.

Processors and shippers generally recognize their own interdependence with the welfare of the grower segment and have been among those expressing concern with grower welfare. A progressive and viable grower segment can favorably influence the competitiveness of processors and shippers which add value to the raw product delivered by growers.

While the Michigan industry has observed near record production and distinctly lower prices in 1992 and again in 1993, prices for both fresh and processed apples were relatively strong in 1990 and 1991. Many grower costs continue to rise at rates out of line with current prices. Recent season average prices for Michigan are presented in Table 3.1.

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Table 3.1 MICHIGAN SEASON AVERAGE PRICES FOR FRESH AND PROCESSED APPLES: 1988-1993⁷²

	FRESH	CANNED	FROZEN	JUICE
Year	---Cents per Pound---			
1988	13.20	8.20	9.20	5.30
1989	11.80	7.40	8.80	4.30
1990	14.80	8.60	9.80	6.10
1991	16.40	9.10	10.30	7.00
1992	11.00	8.00	9.00	5.60
1993	12.00	7.65	8.90	4.60

A recent survey of fresh apple shippers indicated low grower prices to be an important issue for the industry, as 92% of the shippers indicated a need to raise prices received by Michigan shippers and growers to be either very important (50%) or important (42%). Impressions of the growers' current economic welfare varied somewhat from shipper to shipper. Still, the sharp decline in both fresh and processed prices in 1992 and 1993 accentuated the cost-price squeeze, together with increasing overall national supplies created a major point of concern for many industry leaders.⁷³

Growers echoed the perception of the shippers in their own survey. The need to raise grower prices was identified as one of the most important issues by all growers, independent of grower size or market emphasis. Lower prices and the concern over how certain forces may impact future prices were important factors encouraging the investigation of strategic alternatives for the industry that may provide some remedy.

Strong Competition and Expanding Production in Washington

⁷² Source: USDA Non-Citrus Fruits and Nuts Mid-Year Supplement.

⁷³ A study by Kelsey and Schwallier (1989) indicated that since the early 1980s costs have been trending upward and exceeding season average prices for apples in Michigan. Estimated costs have continued in excess of season average prices to date, according to personal communication with Phil Schwallier, a district extension horticultural specialist.

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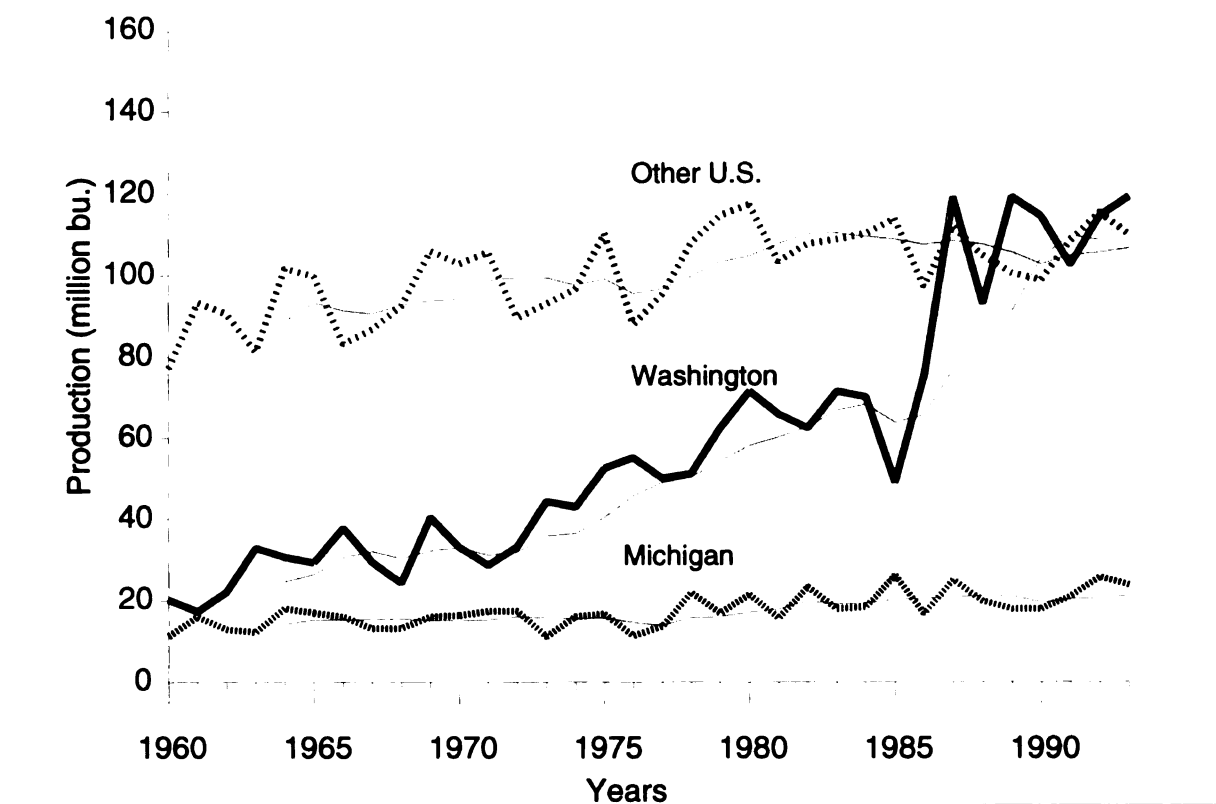
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The state of Washington continues as an increasingly strong and competitive supply region for apples in the U.S.. This causes major challenges for Michigan firms, especially in fresh markets. Particularly noteworthy have been the dramatic increases in Washington apple production and fresh apple sales along with the aggressive promotion by firms and organizations in the state of Washington in recent years. Growth in apple production has been trending upward in the U.S. since 1960, led primarily by Washington as exhibited in Figure 3.2. Although the rate of growth has recently leveled off somewhat, Washington produced a record crop in 1993, exceeding 119 million bushel. Production in other U.S. regions has continued as a group at relatively stable levels over the last 30 years.

Figure 3.2 **APPLE PRODUCTION IN WASHINGTON, MICHIGAN, AND OTHER U.S. REGIONS WITH 5 YEAR AVERAGES: 1960-1993.**



Growth in Washington's production as well as in the U.S. apple supply overall has put significant competitive pressure on Michigan. Michigan now contributes a smaller share of the total apple supplies produced in the U.S., especially because of Washington's larger growth in

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production. Washington's growth has been stimulated in part due to size economies with respect to local assessment revenues, effective regional organizations, and increased leverage in promotion and merchandising relative to Michigan.

The rapid growth in Washington's apple production observed through the 1980s appears to have leveled off in the early 1990s. The estimated commercial bearing acreage in Washington peaked in 1990 at 155,000 acres and has declined somewhat since to 147,000 acres in 1993. The decline in acreage does not necessarily mean a decline in future productive capacity by this region, however. Some outlook measures indicate a likely further expansion of production in the state. New tree plantings have continued strongly in Washington since 1987, according to Marshall and Andrews (1994), when 1.92 million new trees were planted. This trend has continued at least to 1993 when there were another 3.86 million added. Marshall and Andrews estimate a record 3.95 million apple trees were to be planted in Washington during 1994 based on new propagations expected for sale currently observed in Washington nurseries. Thus various indicators show that growth in Washington's production capacity is likely to be sustained for some time if removal rates continue to follow their historical pattern.

Michigan, by contrast, planted 279,000 new trees in 1987 with subsequent plantings averaging 302,000 new trees per year between 1988 and 1991.⁷⁴ There were 6.8 million trees total planted in Michigan as of a 1991 orchard census. Washington will have planted an estimated 11.39 million new trees to date just since that Michigan census. The five year average production in Washington has increased nearly five times over the levels observed in the mid-1960s, while there has been relatively little change in Michigan or the aggregation of other U.S. regions. Washington now produces nearly half of all the apples in the U.S..

Bearing acreage in Michigan has increased, but slowly compared to Washington. USDA data (Non-Citrus Fruits and Nuts) indicate small increases each year since 1987 when there were 49,500 bearing acres in Michigan to 1993 when there were 56,000. New dense planting systems

⁷⁴ Based on data reported in the Michigan Rotational Survey: Fruit 1991, Michigan Department of Agriculture, MASS, June, 1993. Removal rates are difficult to estimate from current available data. An important feature of new plantings, however, is that the quality and productivity of the newer planting systems typically exceeds that from trees being removed.

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employing dwarf varieties, however, have been widely adopted throughout the U.S. so that bearing acreage alone is not necessarily a good indicator of production capacity. Yield per acre has been increasing with increased planting density. Marshall and Andrews (1994) report planting densities in Washington to have increased steadily from under 250 trees per acre in 1980 to about 450 currently.

The Washington apple industry has become the dominant regional force in the fresh U.S. apple market and a major force in international apple markets. This has been because of their large, increasingly dominant volume and their high performance on quality, year around supplies, merchandising support, advertising budget, etc.

The apple industry in Washington has been able to leverage their growth to influence fresh market conditions. They are a major international supplier that has been able to exert leverage on their buyers as the principle year around source of high quality fresh apples - a critical source of value for larger supermarkets and other commercial accounts.

The size and degree of in-state coordination by Washington growers and shippers has resulted in Washington setting many of the standards for other regions supplying fresh apples. Quality dimensions, price, standard operating procedures for buying and selling, varieties, and promotion are all areas where the Washington industry has been a major force, particularly in the fresh market.

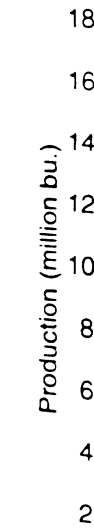
Imported Apple Juice and Other Changes in International Trade

The international trade arena has increased in importance for apples marketed both as juice and as fresh. A number of changes in international trade have set in motion forces for change in the Michigan apple industry. Import competition expanding the supply of apple juice concentrate and changing international demand and supply conditions have been major or potential threats for Michigan as a competitive juice supplier.

Apple juice has traditionally been regarded as an important secondary market outlet for the Michigan crop, making up approximately 28% of the utilized production during 1988-1992. Although the value of Michigan's apples in the juice market have been relatively stable over the

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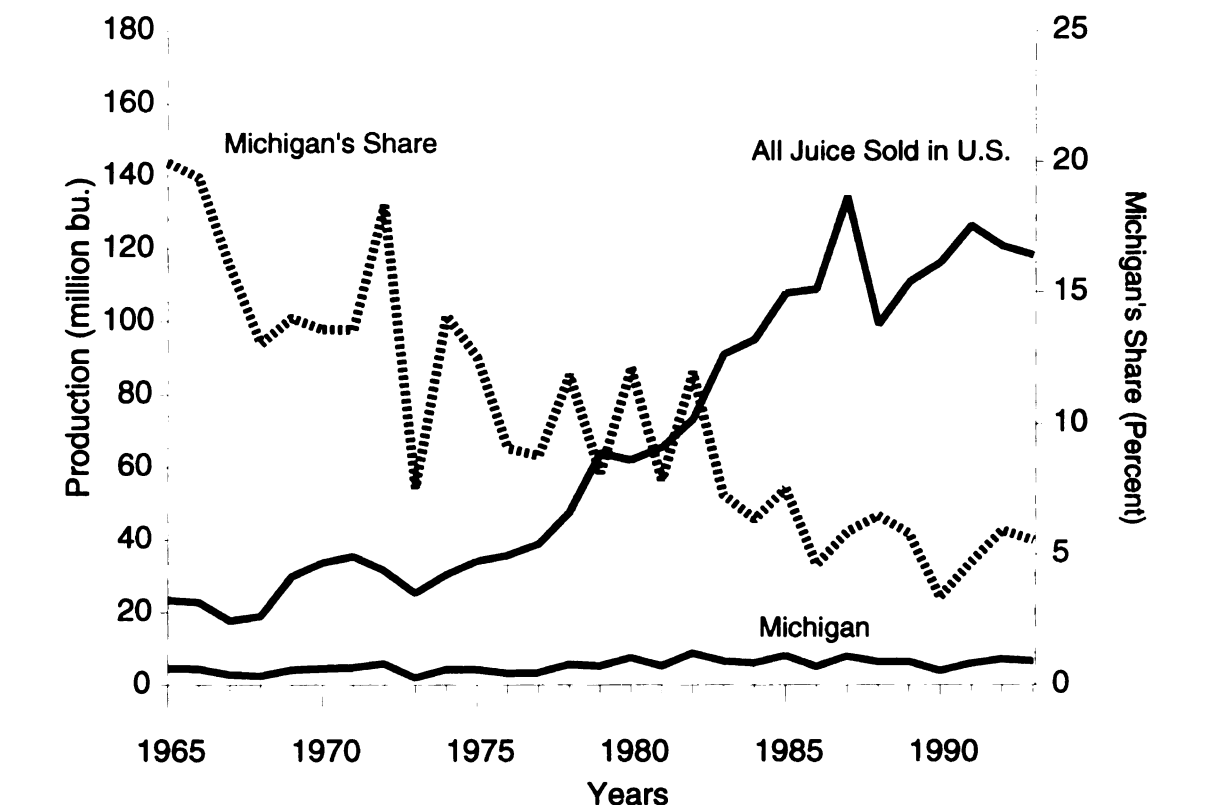
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past 10 years, Michigan has not paralleled the growth realized in Washington and other international supplying regions. The consequence has been an eroding U.S. market share for Michigan as exhibited in Figure 3.3. Michigan's share of the U.S. juice market has fallen from 15-20% in the early 1970s to around 5% currently.

Figure 3.3 MICHIGAN'S DECLINING MARKET SHARE IN A GROWING U.S. APPLE JUICE MARKET.



Expansion in juice sales by Washington in the late 1980s, and particularly the growth of imported juice over the mid-1980s, as exhibited in Figure 3.4, together with relatively little growth

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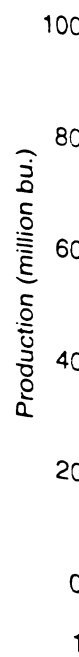
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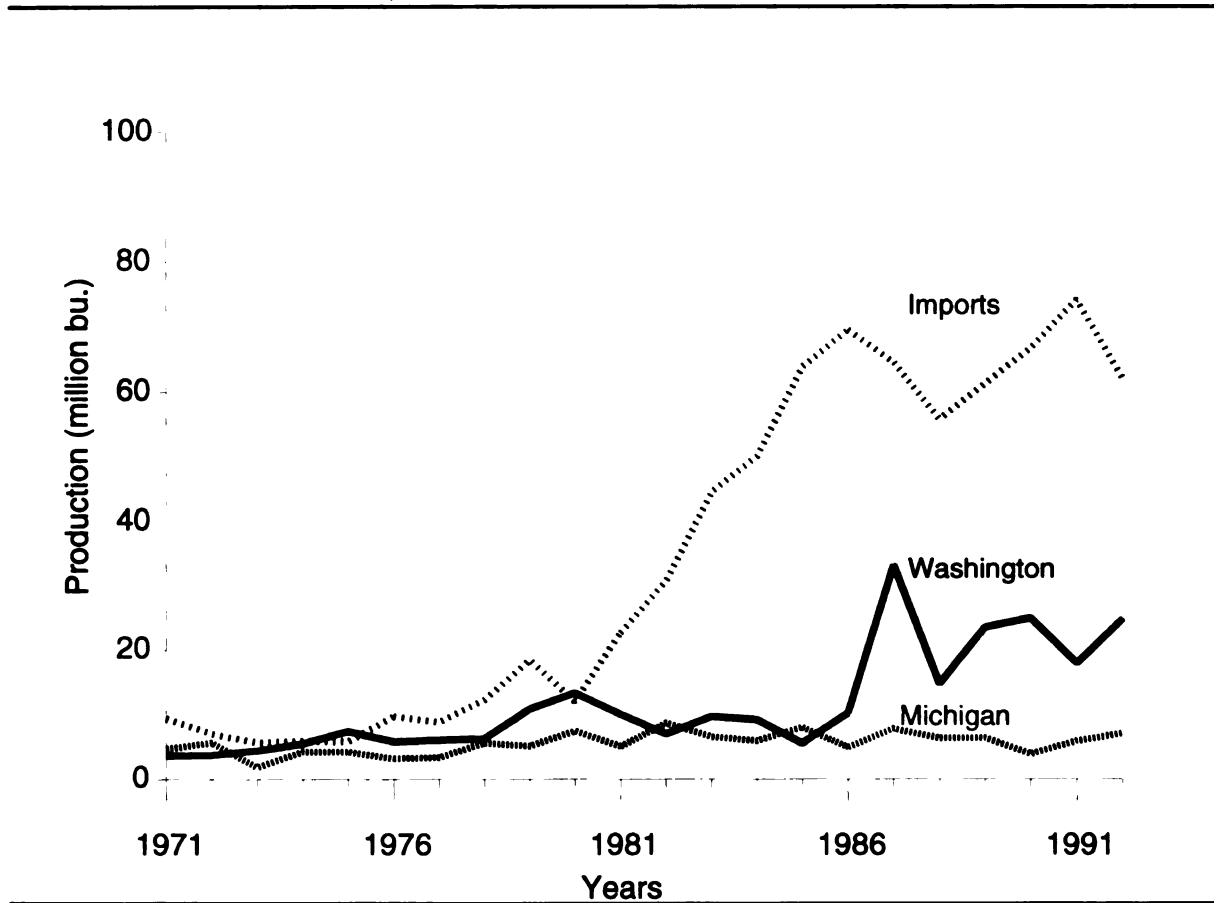


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in Michigan juice markets illustrates this market condition. California has also realized some significant recent volume growth in the juice market parallel to their overall growth in production.

Competition from abroad for U.S. juice markets has primarily come from Europe (Germany, Hungary, and Austria) and South America (Argentina, Chile, Mexico, and recently Brazil). Over half of the juice sold in the U.S. currently comes from some international supplier region. Sources of juice imports and U.S. production since 1989 are presented in Table 3.2. The data in this table illustrate the breadth of competition Michigan processors face in the juice market. The demand for apple juice products have grown faster than fresh or any other processed apple

Figure 3.4 APPLE JUICE PRODUCTION SOLD IN THE U.S. BY WASHINGTON, MICHIGAN , AND IMPORTS: 1971-1992.



product in the U.S. over the past 20 years, but the rate of growth has been substantially filled by expanding imports and has more recently slowed which thus may lead to a more intense competition among suppliers.

Table 3.2 IMP

Production Region
Argentina
Germany
Chile
Hungary
Austria
Turkey
Mexico
Brazil
S. Africa
Others
Total Imports
Washington
California
Michigan
New York
Other U.S.
Total Juice Imports and U.S. Production

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Table 3.2 IMPORTED AND DOMESTIC SUPPLIES OF APPLE JUICE: 1989-1993⁷⁵

Production Region	1989	1990	1991	1992	Average 1989-1992	1993
	---Million 42 Pound Bushel Single Strength Equivalents---					
Argentina	15.0	23.7	19.3	21.5	19.9	19.3
Germany	15.2	12.6	12.7	11.7	13.1	13.4
Chile	4.0	5.5	8.4	8.7	6.7	9.7
Hungary	6.3	8.0	7.9	4.1	6.6	4.3
Austria	8.2	6.4	8.1	2.2	6.2	2.5
Turkey	0.5	1.9	3.7	1.6	1.9	2.6
Mexico	0.8	1.8	2.1	1.9	1.7	2.3
Brazil	0.0	0.0	0.0	1.6	0.4	2.0
S. Africa	0.0	0.0	0.0	0.7	0.2	2.5
Others	11.1	6.7	11.8	8.0	9.4	7.4
Total Imports	61.1	66.6	74.0	62.0	67.2	66.0
Washington	23.6	25.0	18.0	22.6	22.3	20.7
California	6.8	7.6	7.5	7.7	7.4	8.3
Michigan	6.4	3.9	6.0	7.1	5.9	6.5
New York	3.0	3.2	6.4	6.0	4.7	3.7
Other U.S.	9.8	9.8	14.3	15.7	12.4	17.2
Total Juice Import and U.S. Production	110.4	116.1	126.2	120.8	118.4	122.4

Barriers into growing export markets have also presented a challenge to the Michigan industry. The Mexican market for U.S. fresh apples has recently opened up and Washington shippers moved in quickly to supply this outlet (although trade has declined again with the recent devaluation of the peso). Michigan firms, however, came up against Mexican phytosanitary regulations that have prevented any exports to date.

⁷⁵ Source: compiled from USDA NonCitrus Fruits and Nuts Mid-Year Supplement, and as reported in MACMA Apple Crop Statistics and Market Analysis: 1994.

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Regulations Threatening Reduced Availability of Key Chemical Inputs

The demand for safe produce in the U.S. has increased parallel to a demand for high quality produce with unblemished appearance. This can present a dilemma for growers and shippers. Regulations governing the production and use of key chemical inputs for apple production have been a major point of concern for U.S. apple producers in recent years. Michigan, with its climatic conditions, has a broad spectrum of apple pests that are often managed through some combination of chemical and cultural control measures. Growers have become increasingly concerned with trends in the regulatory environment that have reduced the number of effective pesticide tools available and therefore have raised their costs of chemical inputs.

A number of research documents have been prepared by Michigan State University scientists who work with the Michigan apple industry explaining the current usage of pest control methods, including a variety of pesticides, and that these are being both judicious and often lacking viable alternatives.⁷⁶ Continuing regulatory pressure on pesticide availability and usage presents major problems and high risks to the industry. The threat of further reductions in availability of key pesticides poses an especially high risk and threat to the industry. Leaders within the industry have subsequently considered the need to consider alternative strategies to address these threats.

Particular concern has centered around the issue of pesticide re-registration. Agricultural chemical companies face difficult decisions when re-registering chemicals considered essential to the apple industry. Tighter regulations on a chemical's use, together with very expensive testing, raises the company's costs above that for which they can reasonably expect to realize a fair return from the market, particularly from pesticides for low-volume, "minor-use" crops such as apples.. Such regulations have resulted in some cases companies declining to pursue re-registration.

Parallel to the re-registration challenge is the changing economic environment related to incentives to develop new chemicals that are less expensive, more efficient, and safer. The costs of research and development associated with a new chemical alternative is often quite high,

⁷⁶ See, for example, a staff paper prepared by Ricks, Hull, and Kelsey in collaboration with a number of extension agents, entomologists, plant pathologists, and horticulturalists, "Impact on the Apple Industry of Reduced Pesticide Usage", Department of Agricultural Economics Staff Paper No. 93-46, March 1993.

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requiring high remunerative prices and/or large volume sales. The EPA has recently blocked almost all registration of new materials regardless of indicated safety.

Research to develop viable and sustainable production systems that employ fewer pesticides or make more efficient use of others is on-going for apples in Michigan, but takes considerable time and resources to develop, test, and extend. Chemical controls for many diseases and insects are an integral part of an overall integrated management system for a Michigan apple pest complex that includes diseases (up to 20-25 serious in any given year),⁷⁷ insects (up to 50 serious annual pests of Michigan apples)⁷⁸, and weeds⁷⁹. Other minor use chemicals are employed to manage post-harvest quality (primarily scald and decay)⁸⁰ and the regulation of plant growth⁸¹. The relatively high level with which a variety of chemicals are needed for marketable apples relative to most other crops (particularly non-horticultural) tends to attract the attention of those opposed in principle to the use of chemicals on food products, and therefore the apple industry in general is vulnerable as a political target.

The challenges arising from the regulation of key chemical inputs are representative of a more fundamental industry issue - finding the means to produce the high quality of product demanded by the consumer at remunerative prices to those producing it. Quality, in this sense, represents the whole package of value: attractive, safe, flavorful, good condition (firmness), all at a reasonable price.

⁷⁷ Jones, A.L. "Disease Control on Apples in Michigan and Perspectives on Strategies for Reducing Fungicide Inputs", special report to the Task Force, June, 1994, 13p.

⁷⁸ Johnson, J.W., "IAI-EPA Strategies: Apple Insecticides, Michigan Scenario", special report to the Task Force, June 1994, 7p.

⁷⁹ Hull, Jerome Jr., "Orchard Weed and Vegetation Management", special report to the Task Force, June 1994. Effective weed management relates closely to effective management of insect, disease, and vertebrate pests, as well as influencing optimal vegetative growth.

⁸⁰ Beaudry, R.M., "PostHarvest Disorders of Apple: Rationale for Use/Disuse of Chemical Control Measures", special report to the Task Force, June, 1994, 6p.

⁸¹ Flore, J.A., "Plant Growth Regulators for Apple", special report to the Task Force, June 1994, 2p. The paper suggests that plant growth regulators provide basic benefits of higher cosmetic quality, greater yield, lower labor costs, and superior timing of harvests.

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Michigan apple firms recognize this challenge to the industry to be far reaching, a common threat to apple production in the whole region. Efforts to remedy or to at least meaningfully address this issue are recognized as requiring broad and coordinated industry commitment.

In summary, a number of factors have been recognized to have increasingly important significance for the overall viability of the Michigan apple industry. Firms and organizations within the industry all face these issues and have improved prospects for influencing or safeguarding against these factors through collective strategic planning beyond the efforts of their own individual firm.

3.2.2 OBSERVED OPPORTUNITIES FOR THE INDUSTRY

A number of opportunity areas also serve as forces for setting the stage for needed industry action. These are divided here into industry opportunity areas associated with (1) new and expanding markets and (2) improving capabilities to serve these markets.

New and Expanding Markets

New and expanding export market opportunities are emerging, particularly for fresh apples. New varieties being produced competitively in Michigan, such as Empire, have been emphasized in certain export markets. This variety, for example, has been well received in the UK. The Washington apple industry has been expanding their exports of fresh apples to markets all over the world. The prospects for Michigan to profitably increase overall industry participation in some way in the changing international trade environment appears favorable to many in Michigan. The nature of supplier entry for many of these export market segments, however, requires regional coordination of market research, overcoming import barriers, maintaining adequate supplies, promotional support, and service.

Continued growth in the consumption of fresh fruits and vegetables in the U.S. over the past 15 years also appear to present further opportunity for Michigan firms involved in the fresh market. Demand for fresh fruit in the U.S. generally continues to appears strong. However, the

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volume of Michigan apples sold in the fresh market has increased slowly over this period, particularly in comparison to Michigan's processed markets.

Additional opportunities have been suggested by surveys of the Michigan shipper and grower segments. The need to identify and better understand export and domestic markets and how Michigan could best move to take advantage of these is recognized as important by many in the industry. These indicate a number of more specific opportunity areas in new and expanding markets offering potential for growth for Michigan-based firms. These are discussed in more detail in later chapters.

Expanding Capabilities in Michigan

A number of innovations and improved capabilities have contributed to an industry-wide recognition that Michigan firms are improving in means to generate value in their products. Factors such as improved packing house and storage equipment, as well as the quality and yield from new planting systems and varieties, offer opportunities for Michigan to enhance its overall competitiveness. These, and other technical innovations, could potentially aid Michigan firms to better serve both existing and new market segments.

There is again a recognition that a certain level of industry-wide coordination may help to enhance and to maximize the value of these innovations. Newer packing house methods and technologies, newer varieties and strains, and alternative approaches to quality management have been recognized by many to require some degree of coordination to facilitate industry education. There is a need for Michigan firms to consider, as an industry, alternative means by which they can together improve their capability to deliver the demanded product to key market segments.

Opportunities to further improve the overall capabilities of firms in the Michigan apple industry have been identified through the segment survey process. These are discussed in more detail in the following chapters.

A degree of purposeful identification, evaluation, and coordination through collective strategic planning efforts may be necessary to fully exploit or respond to market or innovation opportunities. The full potential for the Michigan apple industry to further develop certain

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opportunities through collective influence or coordinating mechanisms remains to be discovered, however, industry opportunities, like industry threats, once realized as requiring certain joint effort to address, can serve as an impetus for strategic planning at an industry level.

3.2.3 STRATEGIC PLANNING INITIATIVES IN KEY COMPETING REGIONS

The industry improvement strategies through collective action or strategic planning by key competitors, primarily in Washington and New York, was one (although relatively minor) stimulus for organizations in the Michigan industry in the early stages while developing and emphasizing their own subsector strategic planning. The strong competitive position of the Washington industry which has grown and evolved over time has been further aided in recent years by some aggressive subsector strategic planning by leading apple organizations in Washington. The recent significant expansion of production in that state, together with other growth and high performance factors, have made this region an especially competitive threat to the Michigan industry. The industry-based activities of the Washington State Apple Commission, the Washington Tree Fruit Industry Task Force, and the Western New York Apple Growers Association are discussed below.

The Washington State Apple Commission

The Washington State Apple Commission (WAC) has been a major organizer of industry activities for firms marketing apples from Washington through aggressive and effective demand expansion programs. They have been instrumental in setting certain strategic courses for Washington apples and marshalling the needed resources to implement demand expansion strategies and supporting activities.

The Washington State Apple Commission was formed in 1937 as a state agency and is one of the oldest commodity groups in the nation. It has helped to benefit the Washington apple industry through high organizational performance, capturing certain size economies for promotional activities and developing momentum in key markets. Examples of some of their more recent activities have been related to state-level generic promotion and product differentiation, retail merchandising support, Hispanic market development, and extensive export development. These

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and other market segment development strategies all have been geared to improve the overall performance of the apple industry in Washington.⁸²

The relative size of the Washington apple crop, the state's primarily fresh market orientation, and relatively higher per unit assessment level enable the WAC to be a major force in U.S. apple promotion and advertising compared to the much smaller commissions in Michigan, New York, and California.

The Michigan Apple Commission, for example, in support of export market development, received \$208,000 in MPP funds between FY 1986 and FY 1993. The International Apple Institute, which represents interests of fresh apples produced throughout the U.S., received \$910,000 in MPP funds during that same period. The Washington State Apple Commission received \$3,910,000 in MPP funds just for FY 1993 and \$24,210,000 in total since FY 1986.⁸³

The WAC developed their 1992-1997 Strategic Plan for their organization which was crafted with their perspective of the conditions facing their regional competitors and consumers in 1992.⁸⁴ The 85 page document contains a background, a situation analysis, goals, and time lines, including contingency plans for alternative crop sizes. This particular strategic planning effort was aimed at prioritizing WAC efforts help to provide the best possible returns for the Washington growers which they represent. While strategic planning was initiated and implemented through a

⁸² The Commission is forbidden in its constitution to participate in political lobbying or horticultural research. The WAC had 16 full time employees at their headquarters with another 16 retail field representatives throughout the U.S. in 1989, with an operating budget of \$10.5 million. A grower check-off is administrated through the warehouses on a \$0.25/box basis. There is no check-off for processed apples. (Anderson, 1989)

⁸³ Based on FAO data reported in Mendelowitz (1993). The Washington State Apple Commission received a ceiling for their MPP programs of \$3.747 million for FY 1994, according to FAS reports recorded in World Horticultural Trade & U.S. Export Opportunities (June, 1994). The International Apple Institute was designated to receive a maximum of \$552,000 for FY 1994. These include the 1994 allocation plus any unused funds from the previous year's allocation. Congress continues to cut back on this program, authorizing a total of \$100 million for FY 1994, down 32% from FY 1993. Participation has also become more difficult as congress has further required submission of a description of unfair trade practices as well as a minimum 10% contribution on non-brand promotions by the commodity organization.

⁸⁴ The material presented here is based on a special edition newsletter distributed by the Washington Apple Commission, "Commission Sets Course for Future" highlighting the contents of the more detailed strategic planning document. This special issue of the Washington Applegram, was distributed August/September, 1992.

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single organization in this case, the emergent objectives and strategies reflected performance and action on a state-wide subsector basis, representing the aggregate production and marketing of many different grower, packer, and shipper firms. Highlights from this plan were published recently in a newsletter for Michigan growers by the Michigan Apple Research Committee, stating that Michigan could benefit from developing their own collective goals in a similar manner.

The WAC identified four basic goals for their five year plan, each with supporting objectives and specific initiatives intended to bring about a desired level of improved state-wide performance benefitting the Washington growers. The first goal was to improve the domestic marketing of fresh Washington apples to increase the market share of Washington as a supplier region. The second goal was to increase U.S. per capita apple consumption from 22.5 to 25 pounds, increasing consumption from Washington from 11.4 to 12.4, while FOB prices remain constant or increase. The third goal was to expand export marketing programs to help achieve export sales equal to a minimum average of 20 percent of the fresh Washington apple crop. The fourth goal was to meet the communications needs of the Commission and the industry. These are summarized in Table 3.3.

Table 3.3 GOALS, OBJECTIVES, AND SPECIFIC ACTIONS PROPOSED FOR FRESH WASHINGTON APPLES BY THE WASHINGTON STATE APPLE COMMISSION¹

Goal 1: <i>Improve the domestic marketing of Washington apples to increase market share.</i>	
Specific Objectives	Proposed Actions
a. Have 50% of Washington apples identified as "Washington" at retail	<ul style="list-style-type: none"> • WAC will require identification of Washington apples in promotional

Table 3.3 GOALS, OBJECTIVES, AND SPECIFIC ACTIONS PROPOSED FOR FRESH WASHINGTON APPLES BY THE WASHINGTON STATE APPLE COMMISSION¹

Goal 1: Improve the domestic marketing of Washington apples to increase market share.	
Specific Objectives a. Have 50% of Washington apples identified as "Washington" at retail	Proposed Actions <ul style="list-style-type: none"> WAC will require identification of Washington apples in promotional programs, cooperative and otherwise. Develop new POP material. Increase merchandising research.
b. Achieve partnership marketing programs equal to 50% of all domestic Washington apple sales	<ul style="list-style-type: none"> Increase in-store consumer sampling.
c. Improve the working relationship between the WAC and warehouses, shippers, and marketers.	<ul style="list-style-type: none"> Increase WAC efforts to coalign promotional efforts with sales opportunities. Improve communication of WAC efforts to these organizations.
d. Develop a more integrated approach to marketing.	<ul style="list-style-type: none"> Study and test opportunities to significantly expand integrated marketing programs. Expand integrated marketing to 15 markets within 5 years.
e. Prioritize efforts and achieve 75% share in new markets chosen for primary attention.	<ul style="list-style-type: none"> Trial programs indicate 5 promising new markets: primary: Club/membership warehouses, Military commissaries, Fundraising. secondary: (specifically watched for future growth) Convenience & Discount Stores.
f. Increase shelf space as new varieties emerge; respond to competitive (fresh fruit) threats and develop programs to exploit opportunities.	<ul style="list-style-type: none"> WAC will take preemptive measures to protect Washington apple shelf space against other apples and produce. Expand research efforts demonstrating benefits to retailers for prominent display of Washington apples.
g. For Foodservice, achieve a 70% share of category for Washington apples; increase sales from an estimated 7 million boxes to 9 million by 1994 and 12 million by 1997.	<ul style="list-style-type: none"> Tailor specific strategies to each distributor, institutional, and commercial segments. Focus promotion to result in (1) increased requests for "Washington" apples and (2) increase apple usage.

¹ Based on highlights of the Washington State Apple Commission's Five Year Plan as reported in a special edition Washington apple industry newsletter, The Aug./Sept. Applegram.

Table 1.1

GOALS, OBJECTIVES, AND SPECIFIC ACTIONS PROPOSED FOR FRESH WASHINGTON APPLES BY THE WASHINGTON STATE APPLE COMMISSION

Specific Objectives	Proposed Actions
Goal 2: Increase per capita consumption from 22.5 to 25 (Washington consumption from 11.4 to 12.4 pounds) while FOB prices remain constant or increase.	<ul style="list-style-type: none"> • Maintain at least 1991-92 advertising levels in selected markets. • Invest to increase the effectiveness of commercials and media use. • Invest to increase the effectiveness of commercial trade mission and Gallup

Table 3.3 GOALS, OBJECTIVES, AND SPECIFIC ACTIONS PROPOSED FOR FRESH WASHINGTON APPLES BY THE WASHINGTON STATE APPLE COMMISSION

<p>Goal 2: Increase per capita consumption from 22.5 to 25 (Washington consumption from 11.4 to 12.4 pounds) while FOB prices remain constant or increase.</p>	
<p>Specific Objectives</p> <p>a. Achieve 15% higher demand and 15% more favorable attitudes for Washington apple in advertising markets as compared to non-advertising markets.</p>	<p>Proposed Actions</p> <ul style="list-style-type: none"> ● Maintain at least 1991-92 advertising levels in selected markets. ● Invest to increase the effectiveness of commercials and media use. ● Track demand and performance through econometric modeling and Gallup tracking studies.
<p>b. Enhance and protect Washington apple image of being healthful/nutritious against increasing snack fruit competition.</p>	<ul style="list-style-type: none"> ● Continue funding for successful programs: ● Continue "Healthy Choices for America" program. ● Continue "Healthy Choices for Kids" curriculum. ● Continue brochure series for health professionals.
<p>c. In those markets where the Hispanic program is employed, increase consumption/demand for Washington apples among Hispanics by building 10% increased awareness and gaining 10 points in market share.</p>	<ul style="list-style-type: none"> ● Continue program thrust pending evaluation to be completed in 1993. ● Current program emphasizes markets in Miami, Puerto Rico, San Antonio, Houston, Los Angeles, and San Diego. ● Integrate Hispanic program into the marketing department.
<p>Goal 3: Expand export marketing programs to help achieve export sales equal to a minimum average of 20% of the fresh Washington apple crop.</p>	
<p>Specific Objectives</p> <p>a. Reach 70% of the goals in the export marketing plan.</p>	<ul style="list-style-type: none"> ● Integrate long range plans and targets detailed in the WAC plan to administer Market Promotion Program funds.
<p>b. Assist in reducing trade barriers in targeted markets.</p>	<ul style="list-style-type: none"> ● Set up special \$250,000 reserve fund to targeted to reduce trade barriers. ● Coordinate initiatives for change with other organizations. ● Develop and protect good relationships with foreign governments.
<p>Goal 4: Meet the communications needs of the Commission and the industry.</p>	
<p>Specific Objectives</p> <p>a. Manage selective issues so as to diminish and/or prevent market damage domestically and internationally.</p>	<ul style="list-style-type: none"> ● Commit 25% of WAC VP time to issue management. ● Develop means for preemptive media education and coordination with other organizations.
<p>b. Continue building a favorable public image of Washington apples and the industry.</p>	<ul style="list-style-type: none"> ● Integrate varietal education and food publicity into support for other programs.
<p>c. Build a cooperative spirit between growers, shipper, and marketers and the Commission by increasing personal interaction, improving communication, and involving industry members in promotional efforts.</p>	<ul style="list-style-type: none"> ● Measure attitude about WAC performance through follow-up surveys. ● Reach 85% agreement on availability of information against 1991 survey.

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It is apparent from the published and widely disseminated plan that the proposed activities by the WAC are proactive, involve a refined relatively focused agenda, and have direct implications for the competitive position of the Michigan fresh apple segment to the extent these objectives are achieved. Apples produced in other regions such as Michigan are regarded as a substitute or rival for Washington apples, competing for the same shelf spaces and food service accounts.

Increased fresh sales volume, buyer identification of "Washington" apples, and market share are central measures of the WAC promotion strategy. Performance in the WAC plan is generally measured and evaluated at a state level as the Commission, financed primarily through grower assessment funds, seeks to expand markets for Washington apples, improve the welfare of Washington apple growers, and, indirectly, the many other firms associated with the Washington apple industry.

The Washington promotion strategy emphasizes the high quality of fruit consistently available from the state, as well as the dependable supplies and strong merchandising support. An apple from Washington is also promoted as having distinctive value, representing qualities and characteristics that uniquely fill consumer preferences.

Michigan firms are affected by Washington's promotional strategy. Consumer expectations for apples (size, color, variety, packaging, etc.) on a general level are carried over to Michigan-based suppliers. The sheer size of Washington as a supplier region relative to other states enables them to heavily influence the standard operating procedures of most produce buyers.

Suppliers of fresh apples from Michigan will be pressured to conform to the quality standards and many of the supplying conventions initiated by Washington firms. The wide use of tray packs, high quality fruit (including premium grades), large promotional allowances to the trade, high profile consumer advertising, and, more recently, PLU labels on fruit are increasingly expected of all suppliers by buyers who do a significant business with Washington-based firms. Suppliers of fresh apples from Michigan will be pressured by buyers to supply similar fruit and related supporting services as Washington-based firms or the buyers may increasingly shift to source from Washington.

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The WAC's 5 year strategic plan includes specific measurability of most performance objectives. This facilitates ex post evaluation of the stated objectives by the WAC and grower community.

Growth in market share is targeted for various market segments, increases in merchandising participation is enumerated, specific growth in state label recognition is targeted, improvement levels relating to consumer attitudes are identified, and specific actions corresponding to these objectives are proposed. While these targets may be revised as other data is assimilated, the WAC is able to gauge progress toward these goals. This enables them to communicate their successes, revise approaches in the event of a goal shortfall, and, if necessary, revise specific objectives.⁸⁵

Specific means for engaging the participation of other Washington apple industry organizations outside the purview of the WAC is not stated, though a key component of their goals is to meet communication needs of the Commission and the industry. It can be a difficult dimension of industry strategic planning to engage meaningful cooperation from competing, independent, or only remotely related organizations. An advantage held by the WAC when it comes to garnering in-state cooperation, however, is its size and influence by which it is able to devote resources to develop fairly specialized attention to a broad array of issues.

These strategic initiatives undertaken by the Washington Apple Commission on behalf of the fresh segment of the Washington apple industry have not gone unnoticed by individuals associated with the apple industry in Michigan. They have been particularly monitored by those in the parallel Michigan Apple Committee.

The strategic planning approaches utilized by the WAC provide a number of interesting illustrations of some alternative means to carry out planning with a view toward influencing the performance of a regional commodity industry. Considerable and specific detail is provided with

⁸⁵ The need for quantifiable organizational goals and objectives is a point of some debate among business strategy academics and practicing strategic managers. Those favoring quantifiable goals emphasize the merits of clarity of goals, ease of ex post evaluation, and clear signals for strategic change or goal adjustment arising from differences between measurable goal and reality (Ansoff and McDonnell, 1990; Thompson and Strickland, 1990). Those presenting a counter-argument (Quinn, 1980) suggest quantifiable goals can unwittingly present focus or rallying points for opposition, unnecessarily reduce flexibility, and therefore should be stated more generally.

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regard to their goals and specific objectives for the industry and proposed actions to implement each plan component. The WAC, on the other hand, is one organization with a somewhat more narrow focus with regard to their strategic planning (marketing and promotion, demand expansion, industry communication) than that pursued by Michigan firms and through the Michigan subsector planning. It illustrates, however, both approaches of an industry to collectively influence their market environment and the nature of the threat faced by Michigan firms in the form of an aggressive and growing rival supplier region.

The Washington Tree Fruit Industry Task Force

The Washington Tree Fruit Industry Task Force is an example of an industry organization that meets for the purpose of advancing common interests over otherwise diverse industry segments and firms. The Washington Tree Fruit Industry Task Force was formed in 1989 to evaluate and address broad issues influencing the various tree fruit industries in Washington, of which apples is among the most important.⁸⁶ The Washington State Horticultural Society, one of the lead organizations involved in establishing the Task Force, provides financial support of about \$10,000 annually to cover travel, meetings, mailing, and other expenses.

The goals of the Task Force cover a broad base of industry issues and segments over a variety of tree fruits produced and marketed from Washington. Stimulus for early development initiatives included low returns in 1987 and 1989, the Alar crisis in 1989, and a felt need that concerted long-run problem analysis was needed for the broad industry. Task Force goals included the following:

1. Help maintain an economically sound Washington fruit industry
2. Identify important issues that are or will affect industry returns
3. Provide a broad-based forum on industry issues in which representatives from all segments of the industry are involved

⁸⁶ Much of the information presented here is based on an unpublished summary paper of a study trip to the Washington Tree Fruit Task Force by Don Ricks (1993), subsequently presented to the Michigan Apple Industry Strategic Planning Task Force.

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The mission statement of the Washington Tree Fruit Task Force is as follows:

"The Washington Tree Fruit Industry Task Force is an industry-wide organization that (1) develops ideas to address future issues that affect the economic well-being of the tree fruit industry, and (2) will pass on and support suggestions and/or actions to the appropriate industry groups for their consideration".

Representation includes each major fruit industry organization and currently involves about 50 participants. The Task Force has been co-chaired by a Washington State University extension agent and an industry leader. Substantial use is made of subcommittees that focus on issues such as post-harvest, production, marketing, and environment and public health. These committees gather information, ideas, identify action alternatives, and then prepare a situation report for their respective topic area (marketing, environment and public health, legislation, education, and farm labor) which are then presented to the Task Force.

This Task Force is considered by its members to be an on-going industry organization committed to issue identification, improved industry communication, developing appropriate inter-sectoral linkages, and facilitating the development of tree fruit industry strategies that are intended to improve the welfare of the industry's firms and organizations. Implementation of Task Force strategies and suggested action plans are encouraged by letters from the Task Force to the various industry organizations. These communications describe the issue and discussed action alternatives and indicate that the Task force either encourages a certain kind of alternative program, suggests modifications to current program approaches, suggests a re-prioritization of certain issues, or may encourage some specific manner of cooperation between different segments in order to implement a particular action plan. The Task Force views its primary course of implementation as influencing change through established industry organizations rather than as an independent action-implementing agency itself. An annual status report on recommended Task Force actions is pursued. Similar goals and approaches have been used by the Michigan Apple Industry Strategic Planning Task Force with specific focus on Michigan apples.

The Washington Tree Fruit Industry Task Force has been productive in a variety of areas. They have been important facilitators in recent industry actions that have included increasing assessments for the Tree Fruit Research Commission, establishing minimum quality standards (minimum pressure tests) for fresh Washington apples, initiatives to reduce the acreage of poor

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quality Red Delicious, and other industry improvement actions. Other efforts have related to improving pest management research, improving pre-harvest crop estimates, establishing a tree fruit breeding program, expanded research and extension on biological pest control approaches, initiating a new orchard survey, review and modernization of grade standards for new varieties, reforming controlled atmosphere regulations, as well as a number of other activities and strategies aimed at improving overall performance of the Washington fruit industry. The Task Force has apparently been fairly well received by the Washington industry as an organization and is considered an important avenue through which the tree fruit industries can plan for their future.

The Task Force mission, goals, activities, and operation provide an illustration of strategy formulation and implementation at an industry or subsector level. Since the Washington Task Force had been operating for several years, it was of interest to Michigan leaders as they proceeded with their own regional industry strategic planning efforts.

The Western New York Apple Growers Association

The Western New York Apple Growers Association (WNYAGA) undertook a strategic planning project several years ago, to assess the competitiveness of the state's apple industry. This effort was completed in cooperation with Bruce Anderson at Cornell University in 1989.⁸⁷ Anderson's work on this project included surveys of producers, processors, and retail produce managers throughout the New York industry as part of the project to identify viable strategic alternatives for the WNYAGA and the New York apple industry. Anderson used the survey results, together with market supply projections estimated from state orchard planting surveys, to identify and recommend strategies for the Association along five basic areas: (1) advertising and promotion, (2) leadership, (3) marketing and product research, (4) information service, and (5) industry organization.

The strategic planning effort, somewhat like that undertaken by the Washington Apple Commission, focused on refining the agenda for a specific organization which primarily emphasizes

⁸⁷ The strategic planning efforts by the Western New York Apple Growers Association are relayed here as recorded in Bruce Anderson, "Strategic Alternatives for the New York Apple Industry", Agricultural Economics Research Report No.89-15, September 1989.

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demand expansion for the state's apples. The surveying of various segments of the state's apple subsector to identify key issues and strategic alternatives leading to viable production and marketing was demonstrated to be a good approach for assembling valuable industry information. Important segment interrelationships were clarified. Recommendations to the WNYAGA were formulated from this information that were intended to improve the overall production and marketing of New York apples.

The situation in regard to some manner of industry strategic planning and the attending obstacles to collective approaches are somewhat different for firms in New York and Michigan as compared to Washington. New York, though a much smaller producing region than Washington, exhibits an industry structure much more similar to Michigan in terms of firm size and number, relatively greater emphasis on processing, similar climatic conditions, and a similar production and promotion of a wider variety mix. The firms and organizations involved in the industry strategic planning process have similar goals. Maintaining strong fresh and processing markets are important to both New York and Michigan. Firms in both states also tend to emphasize similar geographic markets. Given the similarities in production and organization of the New York and Michigan apple industries, some of the recommendations offered as a result of Anderson's study may also be meaningful for the Michigan industry.

A further point not fully considered to date is that two regions such as these, facing similar challenges and opportunities, may have some incentive to coordinate on some fronts to advance their mutual interests. Cooperative effort to further basic research or market development, for example, may be in the interest of both regions.

3.2.4 A SUMMARY OF FORCES INFLUENCING INDUSTRY ACTION

In summary, the interest in Michigan industry strategic planning was influenced by the impact of strong competition in both fresh and processed markets. There are also perceived unexploited opportunities for Michigan as viewed by industry leaders in Michigan. The related financial stress at the grower level, and mounting pressures to address challenges to current pest

management practices commonly employed by Michigan producers, and other pressures, provided encouragement for industry leaders to investigate or express interest in possible joint intra-industry efforts to address these and other matters.

The patterns and competitive pressures of certain collective strategic activities in key competing regions served as additional stimulus for industry action in Michigan. There has been a growing recognition that potentially there exists substantial benefit to greater industry coordination and cooperation on many key issues. Early discussions between trade association leaders and managers of key firms in the apple industry confirmed the fact that greater joint influence could be brought to these issues, as well as other emerging and on-going issues, through coordinated effort compared to the sum of efforts that might be initiated through each individual firm or organization.

There is a recognition by key industry leaders that there are some kinds of problems impacting the industry in such a way that they require broader cooperation and joint effort across industry segments in order to most effectively develop response strategies and that a lack of collective initiative can result in a deterioration of Michigan's viable participation in many apple market segments.

3.3 THE MICHIGAN APPLE INDUSTRY STRATEGIC PLANNING TASK FORCE

This section presents a general background on the formation, organization, and activities of what has evolved to become the Michigan Apple Industry Strategic Planning Task Force. This institutional innovation has been a major focus of developing an effective industry strategic process in Michigan in support of the apple industry. Issues relating to coordination among industry segments are also discussed. This Task Force has been a major facilitating organization for the Michigan apple industry to collectively evaluate a number of major issues and coordinate industry approaches toward improving the overall competitiveness of the industry.

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3.3.1 THE FORMATION, ORGANIZATION, AND ADMINISTRATION OF THE TASK FORCE

The Michigan Apple Committee (MAC), which serves as the major promotional arm of the industry, was a major organization initiating the subsector strategic planning process for Michigan. This board recently set about the task of crafting a new five year plan for the MAC. This planning activity raised awareness and receptivity for industry strategic planning on a more general level than just the MAC organization itself. The MAC, like the other trade associations in Washington and New York, is funded through a grower assessment but works closely with growers, shippers, and processors. Because of its broad industry goals and linkages with various industry segments, the MAC is very interested in strategic planning and improved industry coordination.

The Michigan Apple Research Committee (MARC) also played a role in initiating the Task Force. The MARC allocates apple research funds to various apple research. This committee is funded by the research assessment together with the MAC. Leadership on the MARC has supported a broad industry-wide approach for strategic planning with a view, in part, toward helping them establish meaningful priorities for research.

A recognition of the need for long term planning by the subsector led to discussions among individuals representing each the MAC and the MARC, together with the support of several university professionals concerning the need for a concerted industry strategic planning effort. This resulted in the formation of a "development" committee that planned the effort and recommended the formation of an industry strategic planning task force. The general goal was to begin a process of broad industry strategic planning that would help clarify the appropriate strategic courses of the Michigan apple industry and would set a relevant perspective for effective planning by these and other key industry organizations.

It was recognized that substantial industry involvement and "ownership" of this task force would be necessary in order for effective and credible long term planning and strategy implementation to be executed. There was a consensus that a significant amount of strategic management could be effectively carried out by individual firms with the assistance of the

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corresponding industry organizations. The need was felt, however, for improved intersectoral linkages to aid the effectiveness of broad strategic planning both at the industry and the firm levels.

Some general goals for industry strategic planning that were later agreed upon and operationalized by the broader industry task force were generated from the initial development committee:⁸⁸

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

The development committee recommended the formation of an apple industry strategic planning task force with representation from all of the major industry organizations. Each of the major organizations were encouraged to designate one or more leaders to serve both as participants on the Task Force and as liaisons between the Task Force and their specific apple industry organization. A schematic representation of the organizations contributing leadership capital to the Michigan Apple Industry Strategic Planning Task Force is shown in Figure 3.5.

The breadth of industry value-adding activities represented on the Task Force, together with the active involvement of quality leadership representing the key industry organizations enables the Task Force to be a powerful voice articulating the needs of the industry. This approach to concentrating the industry "voice" provides a credible mechanism through which broad industry needs can be expressed to other organizations, both outside and within the Michigan industry. Synergistic analysis, consensus and coalition building can be facilitated to take place relatively quickly and at a high level, which in turn can facilitate a more rapid and effective response by the industry to emerging opportunities and threats. A high quality rapid appraisal of the impact and urgency of certain industry-wide issues or strategies can be conducted on a broad basis and in a more efficient manner compared to an appraisal conducted by individual firms or outside analysts.

⁸⁸ These goals were summarized in a staff paper by Don Ricks, "Strategic Planning for the Michigan Apple Industry", (December, 1992)

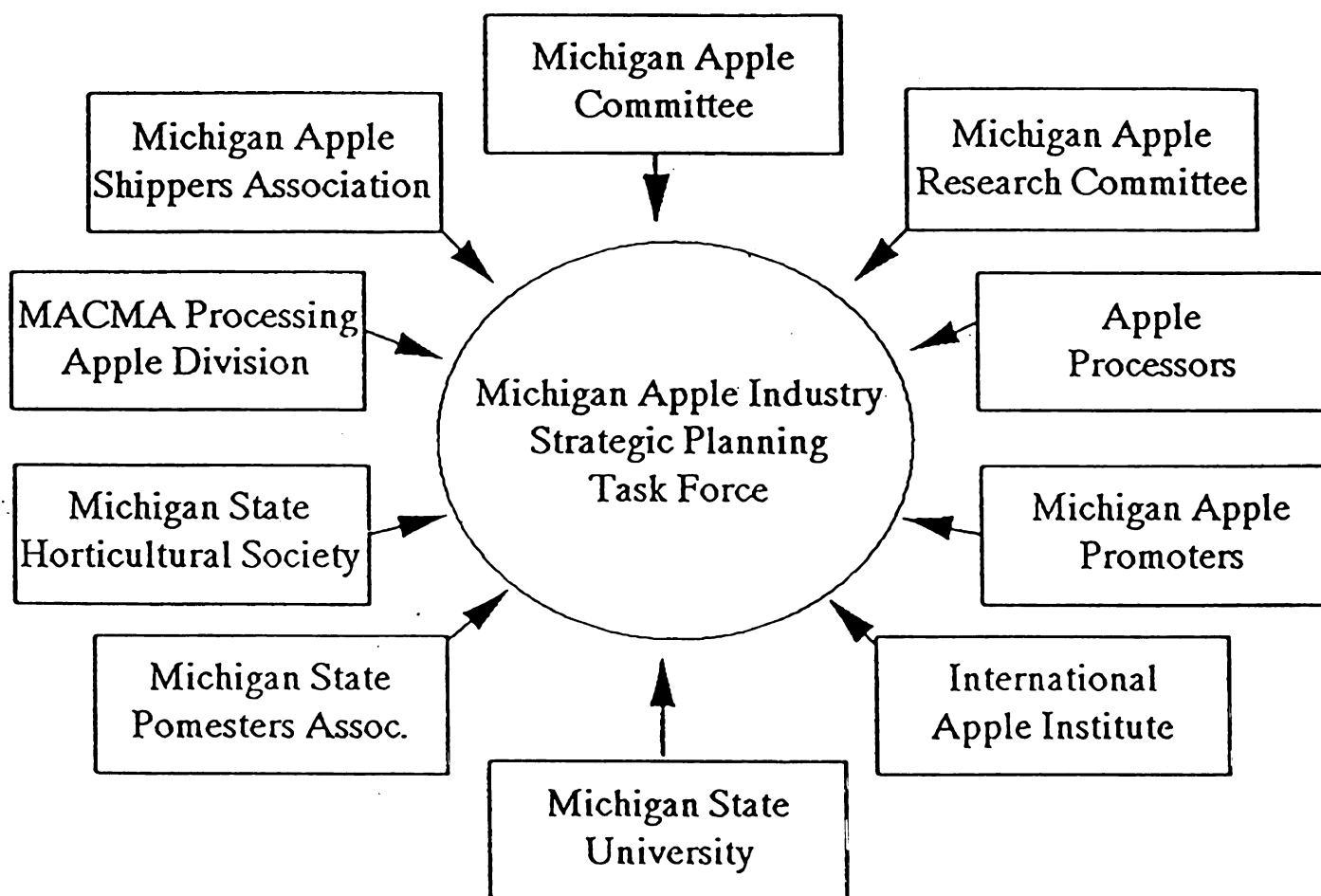
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**Figure 3.5 ORGANIZATIONS CONTRIBUTING TO THE MICHIGAN APPLE
INDUSTRY STRATEGIC PLANNING TASK FORCE**



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The Task Force has a broad base of industry representation including leadership from both fresh and processing market segments, over various stages of production, and over various activities undertaken by different industry organizations such as those that emphasize promotion, research, extension, and production.

The intent of this Task Force is not to replace or duplicate any organization's basic program, but rather to augment their capacity to operate more effectively as an organization through facilitating higher level interaction with other organizations, enabling broad-based issue identification and clarification, serving as a catalyst for more effective partnering initiatives between industry segments toward developing and implementing workable, mutually beneficial approaches to broad and difficult industry problems.

Furthermore, the Task Force seeks to develop greater and effective coordination and cooperation between industry segments and organizations with a view toward better coaligning goals and activities, or to at least minimizing the impact of intersectoral conflicts while working toward developing more effective overall industry strategies. It is the functional objective of the Task Force to serve as a catalyst stimulating effective long range planning and coordination between the various organizations already in existence in the Michigan apple industry, particularly where intersectoral or inter-organizational joint efforts can be improved.

Accomplishing the broad goals with a task force comprised of such varying, and in some cases, divergent interests poses considerable challenges. Issues of organizational equity and issue priority must be addressed. While represented firms and organizations have much in common that they can pursue together, they are often rivals and/or have conflicting interests. Different organizations often regard certain issues with different senses of urgency. A balanced agenda that keeps diverse industry interests actively engaged is a central challenge for progress with the Task Force.

An individual firm can make use of an authoritative structure of the firm's CEO or Board of Directors to prescribe the allocation of planning resources by department or division, as well as mandate individual and divisional commitments to strategic planning. They can dictate what issues will receive attention. By contrast, the voluntary participation of industry organizations to a

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strategic planning effort requires some type of non-hierarchical mechanism to maintain their commitment to the effort and to sort out key industry issues, balancing rival organization concerns with greater industry needs.

There has been strong continuing commitment to the strategic planning effort in the case of the Michigan Apple Industry Strategic Planning Task Force. This continuing commitment to the process by the attending organizations indicates that the anticipated benefits of cooperation by each of them exceeds the anticipated costs of involvement and/or pursuit of independent means of addressing the major threats impending upon the industry. Several industry organizations, including for example both the MAC and MARC, want significant voice in the Task Force but have agreed that administration of the collective effort can and should be facilitated outside the scope of their respective organizations in order to credibly and effectively emphasize broad industry ownership, an important factor necessary for broad-based industry involvement and to keep this collective approach attractive to other organizations.

Task Force objectives have emphasized inter-sectoral and inter-organizational consensus and partnership building as well as the active involvement of recognized industry leaders. It was decided by the various participating industry organizations to utilize certain Michigan State University extension persons in facilitative roles, since the MSU people are considered by industry leaders to be fairly neutral and objective in their position toward other Task Force organizations. The University, as a Land Grant institution, is committed to facilitating and pursuing strategic alternatives improving the production and marketing of Michigan apples. The MSU ex officio representative to the Michigan Apple Committee and the research and extension director of the MSU apple research facility in Clarksville, Michigan were appointed to co-facilitate the Task Force activities, including some administrative and communication responsibilities. It has been suggested that the Task Force may be well served to have an industry "president" perhaps on some sort of rotating basis. It is also being considered by some that eventually the industry will need to staff the administrative and facilitative duties of the Task Force.

The functional objectives of the Task Force as an information and idea gathering organization that is further seeking to facilitate the collective strategic planning process is reflected in the comments by Kenneth Arrow (1974):

"...the functional role of organizations is to take advantage of the superior productivity of joint actions. An organization can acquire more information than any one individual, for it can have each member performing different experiments. Thus, the limitations on an individual's capacity are overcome." (p.53)

The Michigan apple industry has endeavored to establish an institution that can serve as an effective vehicle for carrying out the strategic planning needs of the industry. Broad organizational representation, the involvement of key leaders, and establishing a forum such as this Task Force for synergistic discussion, analysis, plan development, and implementation strategies are central components to the approach utilized by the Michigan apple industry to direct the strategic planning process.

3.3.2 ISSUES OF COORDINATION AMONG MICHIGAN SEGMENTS

Coordination is a central objective of strategic planning. This is especially important in the context of strategic planning for the subsector. Coordination in the context of the activities within an industry involves coaligning interests and facilitating collaboration between key individuals, between firms, between trade organizations, and between supporting organizations. The Task Force, with its broad organizational and sectoral representation, is well positioned to facilitate actions leading to improved coordination and cooperation between many of the apple industry organizations. It has the capacity, through its broad base of industry support and representation, organization leadership representation, and synergy of diverse perspective, to facilitate and coordinate the addressing of issues through partnerships that might not otherwise emerge.

A certain amount of coordination and cooperation takes place at a more micro-level within the industry organizations represented on the Task Force. Individual organizations within the Task Force each have their own agenda that may or may not coincide with agendas of other industry organizations.

The Pomesters Organization, for example, represents a collection of apple growers seeking to coordinate and pursue action alternatives to advance grower interests. They meet periodically, exchange ideas on production, technology, and marketing in part to assist member growers can improve the way they do business. The Pomester agenda reflects broad industry issues, but perhaps in a different priority when compared to other organizations.

MACMA is another organization supported and directed by growers producing for processing with the purpose of bargaining for equitable raw product prices, and can, it is argued by those who are members, improve the bargaining process through collective action over that which could be obtained without such an organization. The agenda for MACMA includes broad industry issues that are of interest to the Pomesters, but may not be ordered in the same priority. A certain amount of coordination can be negotiated and facilitated between these organizations through the Task Force. A series of mutually desired industry actions requiring significant collective effort that may be difficult for either organization to affect individually can be mutually identified and more effectively pursued through the Task Force.

The Michigan Apple Committee, though broader in scope than several other organizations represented on the Task Force, must give substantial attention to the interests of the growers since the organization is financed and empowered exclusively through a PA 232 program, which mandates the collection and disbursement of a grower assessment. The need for coordinated actions with other non-grower segments in the industry, such as shippers, packers, and processors, results in a high level of interaction between the MAC and these other groups. The MAC serves as a logical springboard to industry strategic planning given its tradition of maintaining significant inter-sectoral linkages. The agenda of the MAC, however, has focused on issues of promotion and merchandising, and they have made a purposeful decision to stay focused in that way while being very supportive and involved with the Task Force and its broader goals.

There are occasionally issues between segments or organizations where conflicts of interest may lead to a credibility gap with respect to the true intentions behind recommended inter-sectoral actions. Progress toward industry action that leading to overall improvements in performance may, in such instances, be impeded by historical rivalry between segments. Growers, for example, share

a certain degree of rivalry with shippers and processors, positioning between them for the highest return possible. They may hesitate to modify their own business practices on request when they are suspicious of the shipper's or processor's intent. The shipper or processor may perceive possible approaches growers can take to improve returns to the industry in general, however, they may be more in implementing the needed changes if aided by a broad-based industry organizational effort.

The Task Force, with its concentrated representation of the larger Michigan industry, has a unique capacity to credibly solicit partnering or collaborative ventures to the benefit of its member organizations with other influential organizations outside of the Michigan industry. An illustration of this kind of "meta-partnership" currently under way is the Task Force cooperation with the International Apple Institute who is, in turn, cooperating with the Environmental Protection Agency to develop part of a national pest management initiative that will result in both a workable and effective programs favorable to (or at least considerate of) the climatic conditions, unique pest complex, and current management practices employed by Michigan growers. A comprehensive industry plan is being constructed with the support of selected University specialists through the forum of the Task Force in a manner that may be both timely with respect to certain policies and also satisfactory with respect to the regional industry's situation and needs. The development of a comprehensive and acceptable plan in a timely manner has been greatly facilitated by the mechanism of the Task Force.

There may be some opportunity for the Task Force to represent the interests of apple producers in broader cooperative ventures toward improving the pesticide management situation with other minor-use crops through a minor-use crop coalition. This has been discussed at several Task Force meetings.

The coordination of independent firms, organizations, and segments in the Michigan apple industry to cooperatively address industry-level issues has required a fair degree of facilitation. No individual, firm, or organization has been forced to come to the strategic planning table; all participation has been voluntary. Identifying where improved coordination is needed may not always be straightforward or predetermined when the industry organizations commit to the strategic

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planning process. Through interactive participation in the process, however, opportunities to improve coordination and information flows have emerged and the key industry segments are well positioned to craft and implement strategies for improvement.

3.4 INDUSTRY ISSUE INFORMATION GATHERING BY THE TASK FORCE

This section of the case examines the approaches used by the Michigan Apple Industry Strategic Planning Task Force to gather pertinent information toward prioritizing its actions. This section begins by presenting the agenda forming process as a modified strategic issue management (SIM) program suitable for this kind of organization of organizations. The information gathering approaches utilized by the Task Force are discussed as they relate to this agenda.

A shift-share analysis was employed by the Task Force to provide an overall analysis of the competitive market environment of the regional industry. This information is assembled and presented here with a view toward contributing to the larger and on-going competitive situation analysis. More detailed supporting information was pursued by the Task Force on an industry segment-by-segment basis through a series of surveys, seeking to compile perceptions and ideas for industry approaches to viable alternative strategies and actions along several fronts. The goals and approaches used by the Task Force in these segment surveys are presented in the final section.

3.4.1 MODIFYING STRATEGIC ISSUE MANAGEMENT FOR THE MICHIGAN APPLE INDUSTRY

How can or should an industry identify, sort out, and prioritize the most important or meaningful issues pertinent to its goals and objectives? Typically, at any given time there exist a myriad of issues, trends, data, and possible factors that may merit consideration. Those involved in the planning process often employ some kind of issue sorting mechanism. Ansoff and McDonnell (1990) propose a formal strategic issue management (SIM) system for individual firms that compartmentalizes issues into an impact-urgency matrix from which priorities for action alternative development and evaluation are derived. In a sense, a matrix of this sort can define the firm's agenda. The firm, in its strategic planning efforts, focuses primary attention on those issues

evaluated as having high impact-high urgency. SIM for an industry may use a similar impact-urgency matrix concept to filter, prioritize, and define an agenda for the industry but must focus more explicitly on inter-firm coordination. The problem of the provision and equitable distribution of public goods to the independent firms within the industry also needs more attention in the context of industry strategic planning.

Several filters served to help identify issues relevant for Task Force consideration. These included, somewhat similarly to Ansoff and McDonnell's criteria, the breadth of industry impact, the urgency of a particular issue, and whether or not there was a needed role to be played by the Task Force to facilitate action or change. Issues of coordination within the industry were considered, seeking to identify where opportunities to improve linkages and communication between different organizations as well as generate collective approaches to weaknesses or threats that may offer more promise than those attempted by an individual firm.

The identification of several impending and significant issues to the firms in the Michigan apple industry (i.e. very strong competition from Washington, low grower returns in Michigan, competition and constraining market rules governing international trade, and an increasingly unfavorable regulatory environment with respect to pesticide use), and the sensed need by representative organizations for coordinated and collective actions over the entire Michigan industry to counter these issues, provided the stimulus for the organization of an industry task force. The clarification of these threats remains, however, with the need to identify the manner by and extent to which each issue would influence the viability of firms in different segments of the industry. A clearer understanding of major trends and changing competitive position in Michigan's primary markets has been sought as well as a better understanding of the basis for Michigan firms' competitive advantage.

A competitive situation analysis has been recognized as a needed task to be undertaken by the industry as a means for clarifying common sources of competitive advantage and better identifying and understanding the implications of fundamental issues facing the Michigan apple industry.

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3.4.2 TOWARD A COMPETITIVE SITUATION ANALYSIS

Task Force meetings and analysis initially attempted to clarify the key issues and identify important trends holding significant implications for firms in the Michigan apple industry. Identifying and discussing key industry problems, threats, and opportunities was an important early activity. A market and competitive situation analysis was suggested by industry task force members and was pursued. This aided the Task Force in defining and understanding the position of the Michigan industry in the context of its competitive environment. This information facilitated the identification of a number of appropriate strategies important for Michigan to pursue.

One part of initial Task Force analysis focused on production trends in different supplier regions and market share shifts for apple sauce, juice, fresh, and frozen slices. Focus was primarily on shares of total U.S. production by supplier region as well as market growth from the early 1970s, including total production and crop utilization for each fresh and major processing market segment.

A number of useful patterns can be observed through such an analysis. Regions grow or decline at different rates and emphasize different markets. Patterns of U.S. industry growth can be observed in the apple industry generally and implications specifically for Michigan considered. The shift-share analysis by each major segment provides a quick overview of past and emerging growth opportunities and can illustrate a degree of importance of competition that may be expected from other supplier regions for certain markets.

An important trend that clearly emerges throughout the shift-share analysis is the strong growth that has been realized by the Washington apple industry relative to the rest of the U.S., particularly for the fresh market, for both domestic and export segments. Increases in share and volume are also evident from Washington for the major processing markets over the past 25 years.

The identification of trends occurring within the various fresh and processing segments was used to facilitate discussion of additional or more detailed prospective Task Force agenda items and to consider the implications of the major threats as they may impact each segment. Each production region has a different set of distinctive advantages that enable them to be more

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competitive than others in certain market segments. Each region allocates some portion of their crop to both fresh and processed markets.

There are a number of limitations with a market share evaluation of this type. Production regions, like firms, can compete across quite a wide range of market segments when a product such as fresh and processed apples can be differentiated. A declining market share, when measured in such broad terms as here, can still leave open opportunities for profitable and expanding niche markets. This preliminary evaluation was intended to assist the diverse organizational representatives on the Task Force to become informed about the basic trends occurring in the industry, including trends in other segments. The shift-share data for all U.S. production is presented in Table 3.4.

Table 3.4 U.S. APPLE PRODUCTION BY MAJOR STATES AND REGIONS⁸⁹

	1970-74	1975-79	1980-84	1985-89	1990-92
REGION	Average Production --million bushels-- (% of U.S.)	Average Production --million bushels-- (% of U.S.)	Average Production --million bushels-- (% of U.S.)	Average Production --million bushels-- (% of U.S.)	Average Production --million bushels-- (% of U.S.)
Michigan	15.7 (10.5)	16.1 (9.3)	19.3 (9.8)	21.1 (9.7)	21.5 (9.0)
Washington	36.5 (24.4)	54.2 (31.2)	68.2 (34.6)	91.0 (41.8)	110.3 (46.3)
New York	21.1 (14.1)	23.1 (13.3)	24.5 (12.5)	22.6 (10.4)	25.5 (10.7)
California	11.2 (7.5)	12.0 (6.9)	12.4 (6.3)	14.7 (6.8)	19.2 (8.1)
Appalachia ⁹⁰	28.9 (19.3)	27.4 (15.8)	30.5 (15.5)	28.0 (12.9)	24.7 (10.4)
N. Carolina	5.6 (3.8)	7.3 (4.2)	8.2 (4.2)	6.4 (3.0)	5.8 (2.4)
New England	7.3 (4.9)	7.9 (4.6)	7.8 (4.0)	7.4 (3.4)	7.0 (2.9)
Other U.S.	23.4 (15.6)	25.5 (14.7)	25.9 (13.2)	26.4 (12.1)	24.2 (10.1)
U.S.	149.6	173.5	196.9	217.6	238.1

Total apple production in the U.S. has increased from an average of around 150 million bushels in the early 1970s to nearly 240 million bushels in the early 1990s. A large part of total U.S. production growth (over 80%) is due to growth of production in Washington. Increases in share of production since the early 1970s are most noticeable for Washington. Every region, with the exception of California, lost share to Washington despite modest production increases in a few states. Total production in states other than Washington increased 14.6% (Michigan +33%) from the early 1970s. The share of U.S. apples produced in Washington increased from 24.4% in the early 1970s to 46.3% in the early 1990s.

There have been dramatic increases in export demand, particularly for fresh apples, that have been driving much of the overall expansion. This export market has been dominated by Washington and continues to grow. The other major apple producing regions in the U.S. (New

⁸⁹ Source: USDA, NASS, Noncitrus Fruits and Nuts, various issues.

⁹⁰ Appalachia includes Pennsylvania, Virginia, West Virginia, and Maryland.

York and California) increased in total production during this period, although not to the degree of Washington. Michigan has expanded total volume somewhat while its share of U.S. production has remained about the same.

The market share held by regions outside of the four principle regions, however, has been declining. Regions other than Washington, Michigan, New York and California have seen their share of the overall U.S. production shrink from 43.6% in the early 1970s to 25.8% in the 1990s.. Absolute production in these regions has fallen from 65.2 million bushels to 61.7 million bushels over that same period.

Different major market segments within each the fresh (domestic and export) and processing (canning, frozen, and juice) markets are influenced by different factors and are experiencing different rates of growth. Long term regional industry strategies should be chosen with a view toward these factors and trends. Some of trends within the specific market segments in each the fresh and processed markets are discussed below.

Fresh Apples

The total volume of apples produced in the U.S. for the fresh market has increased significantly since the early 1970s, up by nearly 60%. Part of the growth in fresh market has corresponded to a more general increase in demand for fresh fruits and vegetables. Growth in U.S. population and real disposable income has also paralleled growth in this segment during this period.

The market share situation for major states supplying fresh apples is presented in Table 3.5. Production for the fresh apple market has become considerably more concentrated with Washington realizing tremendous volume and share growth since the early 1970s with smaller growth from Michigan, California, and New York and decline from the other major regions. Production for the fresh market has remained at stable levels for non-Washington production regions when taken together, although eastern U.S. regions such as Appalachia, North Carolina, New England, and other eastern states have decreased in volume.

Much of Washington's growth in fresh sales have been to export markets. Table 3.6 summarizes the growth in Washington's fresh apple exports which reached record levels in the 1993-94 crop year. Over 20% of the fresh sales of this leading production state went to international customers between 1989 and 1992. Changing international trade conditions have been a key driving force behind the growth in fresh sales from Washington. A recent special report on global produce in The Packer (p.5, October 10, 1994) estimated that at the end of 1994 estimated Washington would export about 25 million of its 83 million boxes (30%) during CY 1994. Mexico, recently the largest U.S. export customer would import about 8 million boxes alone, up 25% from the previous calendar year.

The U.S. had a record net export of fresh apples in the crop year 1993-94 of 26.9 million bushels led by record fresh exports by Washington. The sum of exports in other U.S. regions reached record levels during the 1993-94 crop year as international trade opportunities expanded for other states as well.

Exports continue to expand. The rapid growth in the export market has been stimulated by significant expansion of sales to Mexico, new access to Asian markets, and increased imports by European countries, particularly England. U.S. exports in fresh apples are summarized in Table 3.6, both for Washington and for the total U.S..

International markets appear to be an important consideration with potential expansion opportunities for the fresh side of the Michigan industry as it considers strategic focus for the future. Michigan has heavily emphasized domestic markets in the past, and would therefore require a significant strategic reorientation to develop a significant international market presence. International customers may increasingly consider Michigan as an alternative U.S. supplier as these customers increasingly utilize U.S.-grown apples.

Table 3.5 PRODUCTION UTILIZED FOR FRESH APPLES BY MAJOR STATES AND REGIONS⁹¹

REGION	1970-74		1975-79		1980-84		1985-89		1990-92	
	Average Fresh Production	% of U.S.	Avg Fresh Prod.	% of U.S.	Avg Fresh Prod.	% of U.S.	Avg Fresh Prod.	% of U.S.	Avg Fresh Prod.	% of U.S.
Michigan	5.7	6.8	6.3	6.5	7.2	6.5	7.6	6.3	7.4	5.5
Washington	28.0	33.4	40.9	41.8	51.4	46.5	63.7	52.5	77.0	57.5
New York	7.6	9.1	9.0	9.2	9.6	8.6	9.4	7.7	11.6	8.7
California	2.9	3.5	2.7	2.7	3.7	3.4	5.7	4.7	8.2	6.1
Appalachia	11.9	14.2	10.0	10.3	11.1	10.0	10.1	8.3	6.9	5.2
N. Carolina	4.0	4.7	4.0	4.1	3.4	3.0	2.5	2.1	1.7	1.3
New England	6.0	7.2	6.5	6.7	6.0	5.4	5.3	4.4	4.8	3.6
Other U.S.	17.7	21.1	18.3	18.8	18.4	16.6	17.0	14.1	16.3	12.2
U.S. Total less Washington	55.8	66.6	56.9	58.2	59.3	53.6	57.6	47.5	56.9	42.5
Total U.S.	83.8	100.0	97.8	100.0	110.7	100.0	121.3	100.0	133.9	100.0

⁹¹ Production in million bushels; Source: USDA, NASS, Noncitrus Fruits and Nuts, various issues.

Table 3.6 WASHINGTON AND TOTAL U.S. TRADE OF FRESH APPLES

Year	Washington Exports ⁹²	Non-Washington U.S. Exports	Total U.S. Exports ⁹³	Total U.S. Imports ³⁴	Net U.S. Exports
---Million Bushels---					
1982-83	9.4	4.9	14.3	4.6	9.7
1983-84	8.5	3.2	11.7	5.5	6.2
1984-85	7.6	3.4	11.0	5.5	5.5
1985-86	4.4	3.6	8.0	7.7	0.3
1986-87	5.4	3.4	8.8	7.3	1.5
1987-88	12.2	3.2	15.4	6.3	9.1
1988-89	8.3	4.8	13.1	6.1	7.0
1989-90	14.4	3.1	17.5	5.6	11.9
1990-91	14.3	4.6	18.9	5.8	13.1
1991-92	19.5	7.4	26.9	7.1	19.8
1992-93	17.6	8.0	25.6	4.8	20.8
1993-94	25.2	6.7	31.9	5.0	26.9

Canning and Frozen Apples

A shift-share evaluation of apple production utilized for canning and frozen apple slices was also done at the request of the Task Force to provide a baseline analysis. Changes in share of production of canned apples are presented in Table 3.7 and frozen apples Table 3.8. Growth in demand by major sauce processors in Michigan have provided Michigan growers a strong demand for raw product for processing in recent years. Michigan has had one of the largest growths in canning apples and an increase in market share. Washington is not nearly as significant a player in these markets compared to fresh, although they have expanded their sales of canning apples at a faster rate than any other region since the early 1970s.

The overall production sold by U.S. growers to these processing outlets has not grown quite as dramatically as fresh apples. Processing for canning and freezing are also smaller volume markets than fresh, together using around 40 million bushels of U.S. apples compared to 134

⁹² Year beginning September 1; Source: Washington State Department of Agriculture, 1983-1991; Wenatchee Valley Traffic Association, 1992; as reported in Marshall and Andrews (1994). Washington data from the last two crop years was provided by Jim Thomas, communications director with the Washington State Apple Commission. Thomas indicated the 1991-92 estimate of 19.5 million bushels over-estimated exports that year, but he could not provide an exact number. Note: shipment traffic is lightest during July-August from Washington. This allows close, although not exact, comparison of these Washington to U.S. totals.

⁹³ Source: USDA-ERS, Agricultural Statistics, various issues. Year beginning July 1.

million bushels for fresh. Still, the canning and freezing markets have grown together by about 26% since the early 1970s. The fresh market, by comparison, has grown about 37% since that time. Michigan, with its production of relatively good processing varieties, is well positioned to continue as a major supplier to these markets.

Table 3.7 PROCESSED UTILIZATION FOR CANNING BY MAJOR STATES AND REGIONS⁹⁴

REGION	1970-74		1975-79		1980-84		1985-89		1990-92	
	Average Quantity Utilized	% of U.S.	Avg Quant Util	% of U.S.	Avg Quant Util	% of U.S.	Avg Quant Util	% of U.S.	Avg Quant Util	% of U.S.
Michigan	3.2	11.8	2.7	10.2	2.9	10.5	4.5	14.5	5.6	16.7
Washington	1.6	5.9	2.0	7.6	2.4	8.5	3.5	11.4	4.2	12.6
New York	6.2	23.0	5.8	21.7	5.8	20.6	6.7	21.7	6.7	20.2
California	2.8	10.2	2.5	9.2	2.3	8.1	1.6	5.2	1.1	3.3
Appalachia	10.7	39.5	10.3	38.7	11.1	39.9	11.0	35.8	11.1	33.4
N. Carolina	0.7	2.4	1.1	4.0	1.4	4.9	1.5	4.9	1.8	5.5
Other U.S.	1.9	7.1	2.2	8.4	2.0	7.3	2.0	6.5	2.4	8.3
U.S.	27.1	100.0	26.5	100.0	27.9	100.0	30.8	100.0	33.4	100.0

Table 3.8 PROCESSED UTILIZATION FOR FROZEN APPLE SLICES BY MAJOR STATE AND REGION

REGION	1970-74		1975-79		1980-84		1985-89		1990-1992	
	Average Quantity Utilized	% of U.S.	Average Quantity Utilized	% of U.S.	Average Quantity Utilized	% of U.S.	Average Quantity Utilized	% of U.S.	Average Quantity Utilized	% of U.S.
Michigan	2.0	40.9	2.0	44.9	2.1	49.1	2.9	46.8	2.5	35.1
New York	1.4	29.1	1.2	27.0	1.0	22.6	1.1	18.1	1.4	19.7
Appal.	0.3	5.4	0.4	9.1	0.5	12.4	0.7	12.1	0.5	7.3
Oth U.S.	1.2	24.6	0.8	19.0	0.7	15.9	1.4	23.0	2.7	38.0
U.S.	5.0	100.0	4.4	100.0	4.3	100.0	6.1	100.0	7.0	100.0

⁹⁴ There is some inter-regional sourcing of raw product for different processing outlets by some processors. Average utilization for processing uses of the raw product within each production region is reported here, recognizing that the primary source of raw product for processors comes from within their respective region. Utilization is reported in million bushels; Source: USDA, NASS, Noncitrus Fruits and Nuts, various issues.

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Apple Juice

The juice market segment was considered with respect to the changes in sales volume and share that have taken place within the U.S. since the early 1970s. The import of apple juice, as indicated earlier, has seen quite dramatic growth since the early 1970s, increasing by about 8.5 times to its current level. The proportion of juice imported increased from about 23% in the early 1970s to over 55% by the early 1990s. Essentially all imported juice has come in the form of juice concentrate.

Producing regions in the U.S. also expanded juice production substantially during this time, increasing the raw product utilized for juice by about 23% since the early 1970s. Michigan, after gaining slightly in volume for this market in the 1980s, has recently lost some ground in both volume and share.

The U.S. juice market has been a strong growth market with most of the growth being supplied by import sources and Washington. Much of the Washington juice product, like other production regions, has come as a by-product of their growing production for the fresh market. Juice prices in Washington often reflect salvage prices for product not meeting the quality demand for fresh, well below their costs of production. Michigan, capable of providing high quality juice, has faced, and will continue to face, challenges from low-cost suppliers both domestically and from abroad. Changes in regional shares of the U.S. production of apples for juice utilization and the volume of imported juice since 1970 is presented in Table 3.9.

Table 3.9 PROCESSING UTILIZATION FOR APPLE JUICE BY STATE AND MAJOR PRODUCTION REGION

	1970-74		1975-79		1980-84		1985-89		1990-92	
	Average Quantity Utilized	% of U.S.	Avg Quant Util	% of U.S.	Avg Quant Util	% of U.S.	Avg Quant Util	% of U.S.	Avg Quant Util	% of U.S.
Michigan	4.2	17.8	4.4	13.2	6.8	15.0	6.8	13.7	5.7	10.5
Washington	4.4	18.5	7.3	22.2	9.9	21.8	17.5	35.6	22.6	41.7
New York	4.0	16.8	5.3	16.0	7.2	15.8	4.8	9.9	5.2	9.6
California	3.0	12.9	4.1	12.6	5.7	12.5	6.3	12.8	7.6	14.0
Appalachia	4.3	18.3	5.3	16.2	6.9	15.2	5.1	10.4	3.9	7.2
N. Carolina	0.7	3.2	2.0	5.9	3.3	7.2	2.4	4.9	2.1	3.9
New England	0.6	2.4	0.6	1.7	0.6	1.4	0.7	1.4	0.3	0.6
Other U.S.	2.4	10.2	4.0	12.2	5.0	11.0	5.6	11.4	6.9	12.6
U.S.	23.6	100.0	33.0	100.0	45.3	100.0	49.2	105.3	54.3	100.0
Imports	7.1	23.2	11.1	25.2	32.1	41.5	62.9	56.1	67.5	55.4
Total U.S. Juice Market ⁹⁵	30.6		44.0		77.3		112.1		121.8	

Changes in Per Capita Utilization for U.S. Apple Markets

Table 3.10 illustrates the relative estimated changes in per capita demand for various apple products, including fresh, since the early 1970s. Per capita utilization of each major apple product usage is reported in fresh weight equivalents and used as a proxy for per capita consumption. These data are adjusted for net exports. These figures indicate strong increases in per capita demand for apple juice relative to other apple products since the early 1970s, moving from an average of 6.3 pounds per capita in the early 1970s to nearly equal that of fresh at over 19 pounds by the early 1990s. Much of this growth occurred by the late 1980s.

Fresh and juice products make up the major share of how U.S. consumers buy apples, increasing in their share of use compared to other forms. Fresh and juice utilization accounted for

⁹⁵ Until 1989 only a very small fraction of U.S. production of apple juice was exported. The Almanac of Canning, Freezing, Preserving Industries, 1992 reports 26.3 million liters of apple juice exports in 1989 valued at \$16.5 million, 56.7 million liters exported in 1990 valued at \$39.3 million, and 60.4 million liters exported in 1991 valued at \$42.9 million, primarily made up of single strength juice. The U.S. imported an average of 874.2 million liters of apple juice in single strength equivalents between 1989 and 1992 with an average value of \$235.8 million; USDA, Noncitrus Fruits and Nuts Mid-Year Supplement.

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75% of the consumers' use between 1973-78. This share has risen to 83% in recent years. Other per capita utilizations have increased slightly or stayed about the same for the past 20 years.

Table 3.10 AVERAGE PER CAPITA UTILIZATION FOR DIFFERENT APPLE PRODUCTS IN THE U.S.⁹⁶

Year ⁹⁷	Apple Product Utilization ⁹⁸						
	Fresh	Canned	Juice	Frozen	Dry	Other	Total
	----Pounds per Capita----						
1973-78	17.12	5.12	6.32	0.95	1.03	0.57	31.11
1978-83	17.73	5.28	11.86	0.77	0.92	0.60	37.11
1983-88	18.51	5.14	18.05	0.89	1.13	0.37	44.09
1988-93	19.70	5.53	19.06	1.14	1.03	0.37	46.82

Trends in supply and demand within different key markets that have been traditionally important for Michigan provided the Task Force with a baseline analysis of key market and competitive position factors that may be used for in a broad industry strategy planning. The situational analysis was derived, in part, by examining shift-share data. More detailed analysis of these and other data, with implications for Michigan, were discussed during the meetings of the Task Force at the early stages of assessing potential areas of joint action within the industry. Apple industry organization leaders provided important additional analysis of certain market trends providing Michigan opportunities, trends threatening the viability of the apple industry in Michigan, as well as contributing to broader understanding of the implications of these issues within the different segments.

The competitive situation analysis for the Michigan apple industry was carried out to provide a basis for identifying and understanding the key capabilities of the industry in the context of dynamic forces impacting the industry. The shift-share analysis draws primarily on secondary

⁹⁶ Source: Compiled from Fruit and Tree Nuts, Situation and Outlook Report Yearbook. Utilizations are adjusted for import and export data.

⁹⁷ Year beginning July 1.

⁹⁸ Fresh weight equivalent.

data to illustrate and enumerate a number of key trends with important implications for the strategic planning process being carried out by the Michigan industry. The analysis as presented to the Task Force has benefitted from the fact that knowledgeable industry leaders have been able to clarify and place a number of trends in proper context.

3.4.3 THE ROLE OF SEGMENT SURVEYS

A critical component of strategic planning for the Michigan apple industry is the need for broad input and participation in the process from all segments of the industry. This has been recognized by the Task Force representatives. One chosen mechanism to further prioritize and clarify the strategic planning issues was an industry segment by segment survey. One focus of the surveys was to get broad-based industry reaction and ideas on key issues, driving forces, and improvement actions which may be acceptable to the industry. A broad base of industry input into the agenda of the Task Force expands the base of knowledge and ideas, enables the Task Force to recognize actions that seem to have strong consensus support, and encourages those involved in the strategic planning process to be more cognizant of what are often multi-dimensional issues that influence different segments or individuals differently.

Input from the industry various segments was gathered in order to provide more detailed understanding of the industry perception with respect to its overall capabilities (strengths and weaknesses), the environment (opportunities and threats), and solicit input on workable actions that may best coalign Michigan's competencies with the current market and competitive condition.

It was agreed that the fresh shippers would be the initial segment to be surveyed. The shippers are a key industry segment, especially for issues dealing with the fresh segment. Shippers are also relatively small in number and relatively rapidly assessable. This permitted a more intensive information gathering procedure through in-depth personal interviews with each major shipper firm. The shippers were also enthusiastic to participate with the Task Force in a shipper survey.

Subsequent surveys were planned for growers, packers, processors, and perhaps others, such as buyers and industry supporting organizations and professionals. The data gathered were

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intended to assist the strategic planning of the industry Task Force and, perhaps secondarily, individual shippers, the shippers' organization, and other interdependent firms and organizations comprising the Michigan apple industry.

The favorable response by certain industry organizations, such as the MAC and the MARC, to the information gathered from the shipper survey suggest this to be a valuable linkage, aiding and facilitating the setting of priorities for planning within these organizations as well as the Task Force. The survey and results of the shipper survey and their implications for strategy formation for the Michigan apple industry are addressed in detail in Chapter 4. A copy of the survey instrument used for the shipper segment is presented in Appendix B.

The grower survey builds on information gathered through the shipper survey. This survey is similar in content to the shipper survey, but with particular focus on grower issues and actions that would largely involve the grower segment. Growers who are also packers were requested to participate in a short attached supplemental survey for packers. The survey and results of the grower-packer survey and the implications for strategic planning for the Michigan apple industry are the topic of Chapter 5. A copy of the survey instrument used for the grower segment is presented in Appendix C.

The specific information gathering and utilization approaches employed by the Task Force with regard to these segment surveys is discussed in greater detail within each of these later chapters. Part of the rationale for gathering information to evaluate issues in this way is that many of the issues, and potential actions that may be undertaken to address them, require a broad industry-wide base of recognition of the need to develop wide scale changes. Many proposals that involve implementing new policies or a new system-wide orientation (such as improving quality, gearing up for new export markets, etc.) require an industry-wide commitment to affect change. Issues can be sorted through this survey process according to the degree to which there is wide recognition of needed change and wide support for certain proposed actions or strategies to bring about change.

The segment surveys contribute valuable information to the Task Force as it formulates its agenda. The perceived urgency and impact of a number of issues are clarified. Workable, widely

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supported action alternatives are indicated. Actions suggested by leaders on the Task Force are evaluated and receive industry feedback. Some recommendations for industry action that are perhaps initially unrecognized by Task Force members can be offered that can receive further industry evaluation. In summary, an industry dialogue can be facilitated by this segment survey process. It will probably be desirable to eventually develop some manner of periodic industry segment survey over time. Issues and markets change, as well as capabilities to address them. Maintaining an industry dialogue in this way shows promise for facilitating an overall improved responsiveness to both industry-wide opportunities and threats.

Considerable time and attention has been given to engaging key leaders, obtaining broad industry support, and iteratively sorting out and clarifying issues and priorities in the Michigan apple industry. Consensus and coalition building have been on-going tasks of the Task Force throughout the issue identification, clarification, and prioritization process. These are discussed in the next section.

3.5 INDUSTRY STRATEGY: FROM SITUATION TO ACTION AND DIRECTION

The preceding section focused on industry competitive situation and issue information gathering and assessment procedures used by the Michigan apple industry through the Strategic Planning Task Force. This section discusses approaches used by the Task Force for identifying, evaluating, and developing consensus for a variety of action alternatives among the many participants within the Michigan apple industry.

A number of Task Force activities were important agenda items prior to and concurrent with the assimilation of the segment survey data. A summary and overview of many of the earlier Task Force activities is presented to illustrate the nature and evolution of the strategic planning issues on the agenda of the Task Force. While it is beyond the scope of this effort to provide detailed analysis of all the issues considered by the Task Force, such a summary provides an illustration of the scope of issues that have been sorted out in the Michigan apple industry strategic planning process.

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3.5.1 APPROACHES FOR DEVELOPING ACTION ALTERNATIVES

An important dimension to identifying appropriate industry action approaches perceived by the Task Force was broad industry acceptance and endorsement. The voluntary nature of participation, the traditional on-going rivalry within and across segments, and the need to cultivate an industry ownership of the collective strategy planning process, required that issue identification, planning, and implementation approaches be chosen with a sensitivity to these industry structure conditions. It is an administrative challenge to keep a high level of leadership participation with such diverse segment-specific objectives represented.

A sample of approaches or components to the planning process adopted by the Task Force are presented in Table 3.11, with examples of specific corresponding Task Force initiatives.

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Table 3.11 APPROACHES FOR OBTAINING BROAD INDUSTRY SUPPORT AND INVOLVEMENT

APPROACH	EXAMPLE OF CORRESPONDING TASK FORCE INITIATIVE
Conduct industry surveys	Conduct comprehensive surveys of each segment and organization (fresh shippers, processors, growers, packers, industry organization professionals) to compile assessment of competitive situation and alternative action plans.
Publish activities, issues, and selected survey results in industry publications	Publish articles periodically in <u>The Great Lakes Fruit Grower News</u> and other trade newsletters.
Develop linkages to the apple industry organizations	Encourage organizations to appoint their own representatives to the Task Force to serve as an organizational liaison. Organizations solicited for feedback on surveys of relevance to them.
Encourage continual feedback and input from the industry to the Task Force	Specific proposals developed in the Task Force (or by sub-committees), such as a pesticide management program, are requested to be discussed with industry organizations for member feedback.
Encourage broad industry ownership of the Task Force	Industry members on the Task Force provide direct feedback at meetings to represent the interests of their segment, can serve on special interest or issue sub-committees.
Invite special industry guests to attend meetings for which they may have a special interest	Key industry leaders and informants not on the Task Force, as well as University professionals were invited to attend and provide input for the development of a Michigan apple industry pesticide stewardship program. Apple processors were invited to attend and similarly provide input on this issue.
Conduct a large industry meeting	A presentation of the results of the shippers' survey initiated by the Task Force was delivered independently to the Michigan Apple Shippers Organization. A large, open meeting has been proposed in the Task Force following the completion of the segment surveys to discuss alternative industry actions and their implications.

Segment surveys provided opportunity for wide informational input and hence indirect participation in the planning process and focused attention on the segment-specific issues and concerns. Some of the action alternatives suggested in the survey process supported broad, inter-sectoral industry action. Other industry actions also required a certain amount of general cooperation but focused rather on cooperation within the segment (formation of a fresh apple traffic association, for example). The primary matter here is that as individuals were given opportunity to suggest actions, express concerns, and suggest opportunity areas, they would become more invested in the process.

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The Task Force sought to further engage industry interest in the planning process by publishing articles relating to the Task Force activities in widely read grower or trade publications. Progress reports, expansion or clarification of major industry issues being addressed in the Task Force, promotion of the industry surveys, and selected survey results as they became available, were utilized to inform the many industry participants and to further encourage coordinated action where it was deemed necessary.

Stronger inter-sectoral communication linkages were pursued by encouraging industry leadership to participate on the Task Force. Participants were encouraged to view themselves as organizational liaisons, providing continual feedback and input from their organizations on Task Force agenda items and proposed action approaches. Special sub-committees have been periodically formed to address specific issues either of a more narrow interest or that require a particular expertise. Special industry guests have been invited to selected Task Force meetings to either provide additional expertise or to represent their specific interests on a matter that may be on the planning agenda.

Side meetings with specific organizations or groups of organizations have been used in some cases to specifically discuss the workability of certain proposed industry action alternatives, refine segment surveys, and to present survey results and possible implications. These kinds of meetings have been well received thus far and further engage different segments of the industry in the Task Force activities and goals. A large open meeting has been proposed in the Task Force upon the completion of the segment surveys.

Specific themes or patterns have emerged in the shipper and grower surveys that suggest a generally needed strategic course for the Michigan industry. Many needed actions to address challenges and opportunities relate to improving fresh product quality performance and the reputation of the Michigan industry among trade and consumer buyers. Maintaining flexibility to a variety of buyer needs has been identified as an important source of advantage for Michigan fresh shippers. A series of specific industry actions have been identified to facilitate the further development of this advantage.

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3.5.2 A SUMMARY AND EVOLUTION OF EARLY TASK FORCE ACTIVITIES

A summary of the some of the early-stage activities of the Michigan Apple Industry Strategic Planning Task Force as identified in various meeting minutes is presented in Table 3.12. The complexity of issues addressed in terms of scope and degree of impact as well as the level of industry participation can be seen in the Task Force agenda as growing over time. The institutional reasons for existence were sorted out first with careful coalition building between industry organizations.

Earlier sessions focused on discussing and responding to different threats, the preliminary situational analysis, and the development of general goals for the Task Force. Several industry efforts, such as reformulating controlled atmosphere regulations and on-going research and promotion projects by the Michigan Apple Research Committee and Michigan Apple Committee, were already under way and being addressed primarily through other organizations but were also discussed by the Task Force.

Formulating and conducting the industry segment surveys emerged in later stages as the Task Force developed approaches to gathering more information, identifying and developing workable action plans to address certain issues. Segment participation and ownership of the Task Force's goals for industry improvement was also considered an important factor in choosing this survey approach.

The agenda items in the Table 3.12 are presented as some examples during the initial phases of the Task Force to provide a sense of the scope of Task Force activities. Individual Task Force meetings often have involved considerable discussion and an ambitious agenda. Typically 20-25 industry representatives have assembled and met for most of a day. The scope and importance of the issues addressed highlights the challenge of facilitating group decision making and moving the Task Force forward to provide leadership on certain issues, identify and analyze alternative actions, and develop workable plans to implement needed changes for the Michigan apple industry.

Table 3.12 EVOLUTION OF THE MICHIGAN APPLE INDUSTRY STRATEGIC PLANNING TASK FORCE AGENDA

Meeting	Topics Discussed by the Task Force Activity
4/93	<ul style="list-style-type: none"> • Justification for Industry Planning • Consideration of further industry representation • Fresh Apple Clearinghouse • Response to WAC Strategic Plan
5/93	<ul style="list-style-type: none"> • Data on MI competitive position for fresh, canned, sliced, juice • Marketing of varieties • Demand expansion • Mandatory grades & standards • MI and Task Force goals for sauce, slices, fresh
6/93	<ul style="list-style-type: none"> • Reactions to Task Force goals by market segment • Additional discussion on peeler market goals (Sauce & canning, slices, dried apples) • Report from the Fresh Market Committee • Ideas for an international trade component for the industry's strategic plan
7/93	<ul style="list-style-type: none"> • Continued analysis of market expansion in fresh and processed markets • Discussed approaches for obtaining broad industry support and involvement • Discussed the content and approach of proposed apple industry surveys • Washington Tree Fruit Industry Task Force as a parallel example
11/93	<ul style="list-style-type: none"> • Strategies for industry surveys; objectives, content, funding, and alternative approaches • MSU AES pest control activities; Task Force strategies to secure supplemental federal funding • Planning industry meetings to present Task Force progress and answer questions • CA regulations and changes needed
2/94	<ul style="list-style-type: none"> • Progress report on the Michigan apple shipper survey • Pesticide issues (a) preparing for MSU conference on pesticides and the environment, (b) Minor Crop Protection Act and possible minor crop coalitions, (c) prospects for participation in the IR-4 program, (d) pesticide research activities • Processor report on Michigan's competitive position • Research and extension needs for the industry, impending retirement of key individuals, replacement strategies
3/94	<ul style="list-style-type: none"> • IAI-EPA plan for pest management and reduced pesticides • MAC 5-Year strategic plan • Update on the shipper survey results • Discussed proposed processor survey
4/94	<ul style="list-style-type: none"> • IAI-EPA partnership plan on modern pest management • Results and highlights of the shipper survey • Preliminary plans for a grower survey
6/94	<ul style="list-style-type: none"> • Discussed MSU scientists' informational input for Michigan segment of IAI-EPA pest management plan. • Discuss next steps for pesticide stewardship project • Follow-up actions on the shipper survey • Review and modify grower survey as needed • Discuss Task Force membership • Discuss industry communication strategies of Task Force activities and thrusts

Specific alternative courses of action responding to the threat of unfavorable pesticide regulation emerged, were debated, and developed within the Task Force, including strategies by which Michigan may be able to secure, through the influence of the Task Force, additional federal funds to support pest management research. Rapidly emerging opportunities to influence government pesticide policies favorably to Michigan's production situation focused the Task Force

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agenda to identifying industry actions in support of this thrust. The IAI-EPA partnership emerged as a central agenda item for most meetings during early 1994.

3.6 SOME SUMMARY POINTS ON STRATEGIC PLANNING IN THE CONTEXT OF THE MICHIGAN APPLE INDUSTRY

Leaders in various organizations affiliated with the Michigan apple industry, in response to a series of concurrent problems, issues, and threats (and, to a lesser extent, opportunities) impacting the industry segments, decided after some deliberations to undertake an intensive industry strategic planning effort. One goal was to improve industry-wide coordination with respect to addressing certain major problem areas. Strong prospects for overall improvements in the general competitiveness of the Michigan apple industry through industry (or subsector) coordination of certain actions to better take advantage of selected emerging opportunities have also provided some additional motivation.

The subsector participants, though traditionally rivals who compete among themselves for customers in their own right, have considered together how they can collectively respond to problems and threats, improve the competitive position of Michigan as an apple supplier region, and develop effective industry strategies to help ensure the viability of their firms and the industry.

The development of an industry strategic planning task force, initially worked out conceptually with University staff and existing trade organizations, provided a major part of the institutional framework through which collective ideas and actions could be identified, analyzed, and discussed. Issue identification, clarification, and a corresponding set of action alternatives were generated by the Task Force which has representation from all major subsector segments and organizations. The organization and administration of the Task Force has been purposefully designed by industry leaders involved in the process toward identifying and developing the most workable and effective approaches to facilitating subsector action.

The Michigan Apple Industry Strategic Planning Task Force has engaged a wide spectrum of industry leadership and has marshalled feedback and support for its activities through highly interactive approaches to the industry strategic planning and implementation process. The strategy

identification, formulation, and implementation process is on-going, and in many respects is still in the relative early stages for the Michigan apple industry. The high quality of leadership participation in Task Force meetings, together with the enthusiastic support demonstrated in the industry segment survey work with the shippers and growers, indicate there is a high level of expectation as to the potential benefit of this process for the many diverse participants within the industry, despite their rivalry and often divergent goals and objectives.

There are a variety of advantages and limits to joint or collective strategic planning efforts in a commodity subsector such as apples in Michigan. There are many issues that are of such a nature that some aspect of the issue directly or indirectly challenges the viability of firms in much the same way. Commonality may pivot around shared markets, shared linkages in their respective value chains, or many other factors in common. Pooling resources of leadership capital, finances, and other assets can more effectively bring about needed changes and bring about new synergy, as well as possibly certain size economies that enable effective response to threatening issues. Coordination can often be improved between industry segments (and between the industry and other industry supporting organizations) through intensive and broadly participatory approaches to strategic planning such as employed by the Michigan apple industry.

Firms and organizations, however, are not always pre-disposed to working out problems together. It often takes a serious threat or group of threats to stir otherwise independent organizations to consider new strategic alternatives that may only be actionable through some sort of collective or coordinated effort. Alternatively, individuals may, through other means, come to a realization of the opportunities that may be more easily captured through working together.

There are many challenges to industry strategic planning illustrated in the case of Michigan apples. This industry (like almost all industries), unlike many individual firms, typically lacks any hierarchical structure through which central strategic planning and implementation can be achieved. There is often some opportunity for rival firms to work to some extent through existing trade organizations, but overcoming rivalrous tendencies, distrust, and inertia toward collective action present many significant challenges.

Firm and segment-level equity issues (who's preferences count, and according to what weight), workable subsector action development and implementation approaches, and in some cases legal conduct bounds (collusion), must all be addressed in an industry strategic planning process with much greater attention and effort in contrast to strategic management within an individual firm.

The favorable conditions intrinsic to successful industry strategic planning (recognized threats or opportunities, the existence and identification of effective plans, visionary leadership, etc.) are also necessary at the firm level. The industry planning, however, must more carefully develop dimensions of broad ownership in the process, consensus decision making, the implementation of meaningful actions, and the coalition building that emphasizes a shared environment. Positive collective action is encouraged and inertia overcome by developing (1) an agenda that includes a broad enough range of appropriate industry issues as is manageable to keep diverse industry leadership and segments engaged and (2) a means to resolve who is going to do what

The process for developing a successful industry strategic planning system, following the circumstances and experiences of the Michigan apple industry, needs to be aware of or emphasize the following:

- The process needs to emphasize the interactive; appeal to and involve actively effective industry leaders.
- The process must develop and sustain a sense of industry ownership; avoid the impression of imposing a plan developed from the outside.
- Success is also conditional on good consensus facilitating skills. This might include starting with a few key leaders of the primary industry segments most willing to become involved and expanding it as appropriate.
- Success is conditional on good coalition building skills of various industry segments.
- The process may be facilitated by starting with important, but doable (perhaps less complex) actions leading clearly to mutual benefit and proceed to more complex and difficult issues as sense of industry mission and process ownership emerge.
- The more complicated the subsector (differentiated products, politically sensitive history, frequency and degree of interdependencies, number and diversity of participants), perhaps more the need of an industry "task force". In some cases it may be advantageous for a task force of this nature to be kept distinct from a trade association with the task force representing multiple segments that may be vertically connected as well as ancillary subsector support organizations.

- Various approaches need to be employed to overcome the common tendency toward inertia with respect to planning and particularly implementation.
- There may often need to be a means to resolve who is going to do what, who will pay for what, and always maintaining a sense of equity or balance with respect to the agenda, keeping cognizant of the fact that momentum must be maintained in a variety of fronts to keep diverse segments effectively engaged.
- University participation and analysis, when engaged, should often be on interdisciplinary teams and should maintain a low profile support role initially to facilitate strong industry ownership of the process.

The facilitation and development of the strategic planning process as discussed here in the context of a regional industry is not oriented primarily as a centralization of market power. It is also not involved with an institution with autonomous control over subsector resources that arbitrarily sacrifices firms' freedoms in the market. Rather, it can be expected to ideally serve as a coordinating activity carried out by the voluntary cooperation of diverse but related organizations that is intended to improve subsector efficiency and performance. The participants may together pursue actions that enable them to improve the overall performance of their industry, such as perhaps to better serve current and potential customer needs, to improve quality and service, reduce the transaction costs within the industry, develop a less hostile regional business environment, to better coordinate long run supply and demand, or speed the dissemination of information relevant to firm-level decision-making that commits enterprises to invest in long term specific assets.

The next two chapters focus on Task Force strategic management activities as they relate to specific segments; fresh apple shippers and growers (including grower-packers). Many of the considerations proposed here for effective strategic planning are further illustrated in the following chapters in the context of the Michigan apple industry. They are more formally developed in Chapters 6 and 7.

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CHAPTER 4

RESULTS AND ANALYSIS OF THE APPLE SHIPPER SURVEY

4.0 INTRODUCTION⁹⁹

Fresh apple shippers are key participants in the fresh segment of the Michigan apple subsector. They are well positioned within the subsector to recognize and influence subsector-wide approaches to strategic planning and implementation and to initiate change to improve the competitiveness and performance of the fresh segment of the apple subsector. Some visionary shipper leaders recognize the potential from subsector strategic planning and are supportive of efforts beyond those which already takes place at the level of their individual firms or organizations. The position and role of shippers, with frequent association and transactions with packers, growers, other shippers, buyers, and the major trade organizations, places them in a unique position to evaluate the issues and the competitive conditions of the subsector - especially the fresh segment. Certain shipper leaders have also provided valuable input and perspective on the need and merits of alternative subsector strategies and actions tentatively put forward by the Michigan Apple Industry Strategic Planning Task Force.

Chapter 3 investigated the initial development and progress to date of subsector strategy building in the Michigan apple industry, primarily through the initiatives and related activities of

⁹⁹ Much of the material presented in this chapter draws on two major reports summarizing the results of the shipper survey and provided to the Michigan Apple Industry Strategic Planning Task Force, the Michigan Apple Shippers' Association, and many others in the Michigan apple industry. One report, Ricks, D. and T. Woods, "*Michigan Apple Shipper Survey - Industry Opportunities*", (1994a) emphasized industry opportunities as indicated by shipper responses. The other report, Ricks, D. and T. Woods, "*Michigan Apple Shipper Survey - Issues, Needs and Industry Strategies*", (1994b) focused on the broad industry strategy and action needs. These reports are referred to implicitly throughout this chapter.

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the Michigan Apple Industry Strategic Planning Task Force. This chapter focuses on a major information gathering activity carried out by university economists at the request of the Task Force: a comprehensive survey of Michigan fresh apple shippers. The survey approach, results and analysis, and follow-up activities taken in response to the survey are presented here to illustrate some of the major approaches to and components of subsector-level strategic management.

The objectives of the survey included summarizing shipper perceptions of Michigan's competitive situation as a supplier region as well as gathering their ideas and responses relating to some suggested alternative actions that might best support certain alternative strategic directions for subsector improvement. The shipper survey was also intended to serve as a mechanism for creating broad-based dialogue on industry needs and issues between and among shippers and the rest of the industry. The survey process was also intended to help broaden the base of a shipper input, involvement, and "ownership" of the subsector strategic planning process. Feedback from the shippers was intended to further clarify and prioritize the agenda of the Task Force. The shipper survey experiences also served as a basis or guideline for the Task Force surveys of other industry segments.

Section 1 of this chapter presents the context and background to the shipper's survey as well as the methodological approaches that were employed. Section 2 presents the shippers' assessment of the competitive situation of the subsector by summarizing their judgements about important strengths, weaknesses, opportunities, and threats. Section 3 considers the shippers' support and evaluation of alternative firm and subsector actions intended to support or enhance the competitive position of the fresh segment of the Michigan apple industry. Section 4 presents and discusses the results of shipper prioritization of industry support needs from university research and extension. Use of the shipper survey information gathered in setting Task Force priorities and evaluating actions is also discussed. The fifth section, by way of summary, discusses some emerging strategies and priority actions requiring a degree of industry coordination that have been drawn from the shipper survey.

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4.1 BACKGROUND AND APPROACH TO THE APPLE SHIPPER SURVEY

Information on perceptions of subsector strengths, weaknesses, opportunities, and threats are presented here from the perspective of the Michigan apple shippers to provide a basis for analysis of the competitive situation facing the fresh segment of the subsector. These data reflect a collective judgement of knowledgeable industry sources, including shipper managers, head salespersons, and other shipper leaders. The information compiled through this survey was intended to supplement and/or clarify other information compiled by the Task Force, such as the regional shift-share analyses as well as market trends and outlook for fresh and processed apple products presented in chapter 3.

The shipper perspectives are regarded here as an important piece, but only a fraction of the larger picture of the analysis of the subsector. The survey results reported here contribute in part to the broader situational composite analysis that can ultimately be more fully developed through a similar segment by segment survey process and with other types of information and analysis. One intent of presenting the results of the shippers' analysis on the subsector's situation is to provide an initial basis for a more broad compilation of subsector strengths, weaknesses, opportunities, and threats that can be enriched, clarified, and otherwise better developed as other subsector segments are surveyed for their perspectives.

This shipper segment was chosen as a starting point for a comprehensive subsector survey in part because shippers are in a key marketing position in the middle of the vertical value-generating system. A high level of initial interest by key shippers to participate with the Task Force in an information gathering process and strategic planning analysis was also an important choice factor.

There is a relatively small number of shipper firms in Michigan. This facilitated the survey and enabled the in-depth exploration of a number of key issues and analytical aspects relating to the subsector. Complex issues could be more easily and more thoroughly examined in contrast to the grower segment, with its larger number of growers. Considerable investigative dialogue was possible through in-depth personal interviews with each shipper organization to provide even further clarification when necessary.

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Views of the overall subsector may differ between and within segments with respect to the nature, existence, or importance of any particular aspect (strength, weakness, etc.). Nevertheless, an integrated overall analysis of the subsector's situation across and between segments provides an important foundation for conceptualizing and operationalizing a subsector strategic planning system. Key issues, significant production and marketing relationships, industry standard operating procedures, and barriers to possible alternative actions can be analyzed in a useful perspective at the industry level as the information from each segment is assembled and integrated.

The collective capability of the subsector as a supplier region and environment it faces is subject to a constant state of change, requiring constant re-evaluation. This implies that issue prioritization, the identification of action alternatives, and the eventual implementation of specific improvement actions or programs is best regarded as a process that should be on-going. Shippers, or other segments within the subsector, can provide up-to-date, insightful, and visionary perceptions with respect to driving forces, key issues, and apparent changes regarding the subsector's situation, even though the subsector's environment and capabilities can continue to change in unexpected ways within a relatively short period of time. It is necessary, therefore, to make appropriate use of the knowledge, analysis, and insight of the informed industry participants who are observing and analyzing (at least to some degree) the many rapidly changing factors that impact their subsector.

The subsector competitive situational analysis provided from the shippers' perspective here would ideally be reviewed and updated periodically to complement a system of effective information gathering in support of an on-going subsector strategic management system.

4.1.1 SURVEY CONTENT

The shipper survey was developed with considerable input from the Task Force, a shipper subcommittee, and the broader Michigan Apple Shippers' Association. In an overall sense, the SWOT approach was used as a way to organize the survey questions.

The main questions and basic structure of the survey were distributed to each shipper organization before each interview and used to guide the somewhat open-ended discussions on the

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major questions or themes of inquiry. The general order of inquiry laid out in the survey follows:¹⁰⁰

1. Strengths of the industry
2. Opportunities for the industry
 - a. General open-ended opportunities perceived by the shipper
 - b. Reactions to and evaluation of specific opportunities suggested by the Task Force
3. Issues, Challenges, Areas of Concern
 - a. General open-ended issues perceived by the shipper
 - b. Reactions to and evaluation of specific issues suggested by the Task Force
4. Support/Non-Support for specific actions areas suggested by the Task Force
5. Evaluation of priority needs for University Research and Extension

Although the SWOT approach was used as an overall framework for organizing the survey, some concern was expressed by some on the Task Force with respect to the explicit use of the terms “weakness” or “threat”, as commonly used in a firm SWOT analysis. Therefore, at industry suggestion and after Task Force discussion, weaknesses and threats were investigated under the combined category of “Issues, challenges, and areas of concern”, as well as in ancillary comments in response to questions raised in other parts of the survey. This modified choice of wording from the traditional SWOT framework was done because industry leaders recognized that to accomplish effective industry strategic planning, there are very important intra-industry political aspects that must be handled carefully in order to build and maintain a commitment of industry leaders to the industry strategic planning process. Sensitivity to unnecessarily alienating key participants was a major consideration in the choice of language and emphasis of the inquiry. The industry leaders were concerned the emphasis on the word “weaknesses” might be viewed sufficiently negative so as to cause a lack of participation by some.

4.1.2 THE SURVEY PROCESS

A survey involving a personal interview of the leadership within the 19 major apple shipper organizations was conducted to obtain information on the Michigan fresh apple shippers’ perceptions of the subsector’s situation and possible steps for subsector improvement. The survey was requested by the Michigan Apple Industry Strategic Planning Task Force with the assistance

¹⁰⁰ This questionnaire is presented in detail in Appendix A.

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of the fresh shipper representatives on the Task Force. Several informal pretests were made with shippers and other industry leaders. Several subsequent revisions were incorporated with respect to some questions before finally carrying out the survey. Both the Task Force and the Michigan Apple Shippers Association reviewed and offered suggestions regarding the most useful and urgent questions. These two organizations invested significantly in the development of the survey structure and content to obtain the most important information from the shippers with maximum firm-level participation.

All shipper organizations listed in the Michigan Apple Committee's Fresh Shipper and Processor Directory were contacted. All organizations participated in the survey with the exception of two brokers, one of whom had gone out of the apple shipping business and the other regarding themselves as out of the main stream of the Michigan apple industry.

The top management or lead sales person of each firm was interviewed. In some cases, the shipper organization preferred to include several of the firm's managers in the interview. Results, however, were compiled in such a way as to provide each organization one "vote". Differing responses by managers within an organization to specific closed-end questions were divided in proportion to the number of respondents participating for that firm and tallied accordingly. Open-ended comments offered by all interviewees were recorded during each interview. A total of 24 interviewees were involved representing the 19 shipper firms.

The responses provided a starting point for compiling an important data set upon which later issue importance and priority areas for developing alternative actions can be identified by the Task Force and other leaders involved in the subsector strategic planning process.

4.2 A SITUATIONAL ANALYSIS FOR THE MICHIGAN APPLE INDUSTRY: THE FRESH SHIPPER PERSPECTIVE

This section summarizes the situational analysis based upon information from the Michigan fresh apple shippers. This comprehensive survey of fresh shippers was undertaken, in part, to provide information from shippers toward improving industry understanding of the region's competitive strengths and the driving forces behind them, particularly those relating to the fresh

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segment of the Michigan apple industry. The material is presented in the standard SWOT (Strengths, Weaknesses, Opportunities, Threats) format, concentrating on perceptions of Michigan as a fresh apple supplier region with respect to the overall internal and external competitive situation. Weaknesses and threats are evaluated somewhat together, since they were investigated under the same question in the survey.

4.2.1 STRENGTHS OF THE FRESH SECTOR

On Subsector Strengths

A few comments on competitive strengths as they relate to a subsector may be useful to begin this section. Subsector strengths can be conceptualized as the collective competencies or advantages derived or generalized by the firms and organizations within the subsector. Subsector competitiveness is reflected by the magnitude of these strengths on an aggregated level in relation to other competing subsectors. The economic notion of comparative advantage, although often conceived as static, relates somewhat to the sense of advantage conceived here.

There is considerable benefit, however, when it comes to both conceptualizing and operationalizing a strategic planning and implementation system, in recognizing the dynamic character of competitive advantage, and that factors that sustain this advantage can be influenced, positively and negatively, through joint strategic action or the lack of it. The influence of factors leading to relative advantage need not be through the erection of artificial barriers to competition, in fact are unlikely to be that for a subsector, but can rather be toward improved subsector coordination leading to improved system performance in a broad sense.

Strengths of a subsector can and should be viewed in a dynamic context by regarding them not only by their relative magnitude, but by the extent to which they appear along a continuum of emerging or historic strengths relative to competing subsectors. To the extent relative strengths are eroding, they can be addressed within the framework of potential threats to the subsector. It should be recognized that subsector capabilities are constantly influenced by institutional and technological innovation internal to the subsector, as well as through changes in the environment exogenous to the subsector. Driving forces that influence overall capability need to be identified

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for the subsector. These may, however, be difficult to recognize or understand fully, especially when examining relatively narrow slices of the subsector such as the shipper segment.

A subsector strength can be identified and categorized to facilitate the analysis of industry opportunities and action alternatives. One approach is to designate a source of competitive advantage in terms an *historic strength* (an area or competency that has been important within the Michigan subsector for some time) or an *emerging strength* (one in which improved competency in a particular area is increasingly apparent). The relationship of subsector strengths to the opportunity dimension of the situational analysis is that these relative capabilities serve as a basis by which Michigan can take advantage of or develop current or emerging opportunity areas.

Both categories of strength (historic and emerging) are important for formulating effective action alternatives. Historic strengths or capabilities are often referred to in the strategy development process by those in the business academy. Strategies that are dependent on developing new capabilities are frequently recognized as being inherently more risky.¹⁰¹ Emerging strengths, however, illustrate the dynamic nature of the situational analysis and the potential for a changing choice set and agenda. Emerging strengths suggest a changing capability to compete in previously limited or previously non-existent opportunity areas.

Michigan Apple Shippers on Industry Strengths

The dynamic nature of competitiveness can be illustrated by the perceptions of the fresh segment of the Michigan apple industry as evaluated by the Michigan shippers during the survey. The means by which these collective or shared industry strengths can be influenced or built upon are discussed later in this chapter in the context of industry opportunities and needed actions.

A number of strengths of the Michigan apple subsector were identified by shippers as being particularly important for the economic viability of the fresh sector. Shippers were asked in an open-ended question: "*What are the most important strengths or favorable factors of the*

¹⁰¹ A common prescription in the business strategy field is for organizations to "stick to their knitting", that is, focus on doing what they have traditionally done best. This prescription was popularized by Peters and Waterman (1982). This would involve a devotion to maintaining and exploiting the organizational strengths.

Michigan apple industry that can be built upon for our industry's benefit in the future?"¹⁰². The open-ended nature of the question encouraged elaboration on how particular subsector strengths contributed to firm and/or regional advantage for specific opportunities.

Not all shippers identified the same list of strengths. Many of them also qualified strengths as also presenting inherent weaknesses or limitations for the Michigan industry. Areas of regional industry strength are summarized over the 19 shipper organizations interviewed in the following sections. Many of the categories of strength are closely related each other.

The classification of a strength as "historic" or "emerging" was made after all the responses were collected. This categorization was based on whether an area of capability was viewed by the shippers as a long-standing advantage or more recently developing.

Historic Strengths

Quite a number of regional strengths were identified by shippers that have historically served as a basis by which Michigan firms have maintained a competitive presence in the fresh apple market. A summary of responses is presented in Table 4.1. All responses are recorded, although the degree of elaboration on this question did vary from interview to interview. Responses are assembled and ordered by frequency of mention over the course of the 19 interviews.

¹⁰² Emphasis as it appeared on the written survey provided to the interviewee.

Table 4.1 SHIPPER PERSPECTIVES ON HISTORIC STRENGTHS OF THE MICHIGAN APPLE INDUSTRY

FREQUENCY	HISTORIC STRENGTHS¹⁰³
RANK	<i>Related Strength Area</i>
1.	Geographic Location (17) <ul style="list-style-type: none"> ● <i>Favorable climate for growing quality fresh apples</i> ● <i>Location close to large mid-west, southern, and eastern U.S. markets</i> ● <i>Responsive overnight service to most eastern and central U.S. markets</i> ● <i>Good road system, transportation linkages, freight advantages</i>
2.	Varieties (14) <ul style="list-style-type: none"> ● <i>Michigan can competitively grow many different varieties that are desirable for the fresh market</i> ● <i>Several superior varieties are grown in the state</i>
3.	Flavor (7) <ul style="list-style-type: none"> ● <i>Superior flavor of Michigan apples especially relative to Washington Red Delicious</i>
4.	Large and viable processing alternatives for growers and packers (6) <ul style="list-style-type: none"> ● <i>Apples with superior processing characteristics</i>
5.	Industry support organizations (3) <ul style="list-style-type: none"> ● <i>Strong marketing and promotion organizations</i> ● <i>Strong research and extension support from the University</i>
6.	Superior supplier of bagged apples (2)
7.	Healthy product (1)
7.	Long-term grower commitment and experience (1)
7.	Industry size supports an inspection program (1)
7.	Favorable tax laws and zoning (1)
7.	Availability of adequate labor compared to eastern producing regions (1)

The most frequently cited advantage, historic or emerging, was related to geographic location. Shippers at 17 of the 19 firms indicated the importance of geographic advantages for Michigan as a supplier region, relating either to the superior features of the climate for apple growing or market proximity. Shippers specifically identified a favorable climate as contributing to advantages with respect to the state's ability to successfully grow a wide variety of apples well suited for the fresh market.

Market proximity was also identified as a strength related to location. Proximity to large mid-west, southern, and eastern U.S. consumer markets relative to other supplier regions complements the climatic advantages. Washington and New York have locational disadvantages

¹⁰³ Frequency of response is indicated in parenthesis. Mention of an important caveat may be meaningful here. Not all shippers provided in-depth evaluation of industry strengths in response to this open-ended question per se. Many would likely agree that a number of the industry strengths suggested by other shippers would have merit. Frequency of mention patterns, however, are useful in providing some degree of relative perception of industry strength.

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to the Mid-West and opposite coasts. Generally good road systems and transportation linkages from Michigan to key nearby U.S. markets enables Michigan to make the most of their freight advantages.

The second most commonly cited strength for Michigan as a supplier region relates closely to the Michigan's advantages on varieties. Shippers from 14 firms identified Michigan's ability to competitively grow many different varieties for the fresh market as a major source of strength. The ability to grow a wide mix of varieties comes partly from Michigan's location.

Washington has historically tended to focus on the production and marketing of Red Delicious. Michigan growers and shippers have been able to piggyback Washington's promotion of Red Delicious with their own production of marketing of Reds.

Michigan shippers have sought, however, to differentiate themselves historically as a sourcing region capable of delivering a number of apple varieties to meet a broader range of customer needs. The Michigan Apple Committee has employed the promotional slogan *"More Than Just Delicious"* in keeping with Michigan's variety emphasis.

Related to climate is the distinction noted by shippers of a superior flavor of Michigan apples. This was noted as a particularly distinguishing and desirable advantage by the shippers, particularly differentiating them from Washington. Some trade customers have apparently designated superior flavor as a primary reason for sourcing from Michigan. A number of shippers noted this as being especially common for their export customers. A *Flavorbest* logo is widely used by many Michigan shippers and the Michigan Apple Committee in an attempt to draw the consumer's attention to this feature. Seven shippers indicated flavor advantages relative to Washington in a number of varieties, particularly in Red Delicious.

The combined presence of strong processing alternatives for canning, slices, and juice for growers and packers in Michigan is a strength widely perceived by shippers as being important for complementing a strong fresh market segment. It was explained that the presence of a sizable and competitive processing segment can provide an important floor market for the fresh market. It also permits marginal quality fruit, with inadequate color or condition for the fresh market, to be easily redirected, providing an economically viable market outlet for this fruit. Many of Michigan's

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varieties, however, have excellent processing characteristics, which fits well with the processing strength.

An interesting counter-argument was posed, stating that growers in Washington have a less profitable processing market and thus work harder to assure the delivery of a fresh quality product for pack to the packing house.

A sizable fraction of the crop in Michigan is directed to the processing markets. Growers commonly produce or maintain some orchard blocks exclusively for these markets. The processing segment in Michigan is not generally regarded by growers simply as a secondary market for product not meeting the standards necessary for fresh marketing, but rather is recognized as a profitable, primary outlet for growers in its own right. The strong processing alternatives relate closely to the other strengths of Michigan's location, many good fresh and processing varieties, and other strengths identified by the shippers. The ability to produce certain varieties with superior processing characteristics was among the related strengths cited.

A variety of strong industry support organizations were identified as subsector strengths that could be built upon for Michigan. Michigan's advantages with respect to industry support organizations were stated to be particularly significant in comparison to some east coast and southern apple regions, for example, in the area of promotion organizations. Strong university research and extension support as well as grower organizations were also specifically mentioned as historic strengths.

Michigan was noted by several shippers to be perceived by some of the trade as a superior supplier of bagged apples. This advantage is being challenged strongly by Washington as they have recently given more emphasis to aggressively marketing in the bag market. The Michigan shippers, however, in part because they are typically smaller than Washington shippers, and with close-to-market location, appear to be more prepared to work with specific needs of certain buyers with respect to delivery (partial loads, short notice, back-haul loads, etc.) and have used this advantage to develop a number of sometimes smaller but promising market niches.

Several other points were identified by at least one shipper as strengths for Michigan as a supplier region. One shipper noted that many Michigan fruit farms are long-established family

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businesses and suggested this was reflective of the growers' knowledge base for the complex modern management requirements, long term commitment, tradition, and experience. Another shipper noted Michigan's advantage of an adequate labor supply, particularly in comparison to eastern producing areas; a critical factor for a labor intensive operation such as apples for the fresh market. The size of the apple crop in Michigan justifies the presence of an inspection program that facilitates Michigan's participation in government purchases and export, an important source of advantage over many smaller apple producing states. Relatively favorable state tax laws and zoning regulations were also indicated.

The degree and validity of these competitive advantages historically held by the Michigan apple industry cannot be identified fully simply through these response frequencies. Several of those indicated may be true but may require further clarification.¹⁰⁴ The shipper responses indicate, however, by and large the Michigan fresh segment (from the perspective of the shippers) has relied primarily on advantages derived from its location, its ability to produce a number of fresh and processing varieties well, the presence of a strong processing sector relative to most other supplier regions, and a relatively superior flavor. Strategic planning for the Michigan apple industry can benefit from considering actions and strategies in the context of what Michigan's historic advantages have been.

Emerging Strengths

Shippers identified a number of improving capability areas with potential for improving the competitiveness of Michigan firms in key fresh markets. Areas of overall capability that have recently improved or are in the process of improving that were viewed as aiding Michigan's competitive position were classified as emerging strengths. These emerging strengths are summarized in Table 4.2.

¹⁰⁴ Are Michigan apples really differentiable according to flavor? Evidence from different shippers continues to point toward some advantage for Michigan. A recent consumer study by Ricks, Heinze, and Beggs indicated apple flavor to be the most important characteristic consumers consider when buying apples. However, regional distinction along flavor characteristics remains somewhat unclear.

Table 4.2 SHIPPER PERSPECTIVES ON EMERGING STRENGTHS OF THE MICHIGAN APPLE INDUSTRY

FREQUENCY RANK	EMERGING STRENGTH¹⁰⁵ <i>Related Strength Area</i>
1.	Increasing flexibility in packing, marketing, & merchandising (9)
2.	Improving technical capability with respect to packing quality (6)
2.	General quality improvement for color, size, and condition (6)
4.	Progressive growers (5)
	• <i>Improvements and modernization in production and harvest management</i>
5.	Growing volume of apples suitable for the fresh market (4)
	• <i>Moving toward becoming a year around supplier</i>
	• <i>Michigan fresh volumes growing relative to some eastern production regions</i>
6.	Improving attitudes toward change by those in the Michigan industry (3)
	• <i>Willingness to adopt technological changes; ie, labeling, new equipment</i>
	• <i>Increasing knowledge of the product and management-marketing sophistication by key industry leaders</i>
7.	Improving reputation for Michigan as a supplier region among buyers (1)

Strengths related to improved ability to respond quickly and flexibly to buyer needs were most frequently cited. Recent improvements and modernizations in packing house equipment were widely cited as presenting increased responsiveness for Michigan packer-shippers to changing product demands. An increased packing flexibility has emerged within the larger packing houses in Michigan with the adoption of new equipment and quality management. Michigan packing houses are now capable of supplying a wider range of pack offerings and have increased their packing house efficiency substantially. A new marketing and merchandising flexibility in the state has emerged following the wide adoption of new and sophisticated packing equipment.

Marketing flexibility as a result of an increasing volume of controlled atmosphere storage capacity was identified by some as a strength that continues to improve and a source of potential advantage. Advances in controlled atmosphere storage technology have contributed in part to Michigan's emerging capability to deliver high quality over a longer season more approaching a year around supplier. While this may provide Michigan with distinct advantages competing with some minor production regions, it was also noted by some shippers that this advantage may be eroding as CA capacity in some of these minor production states appears to be expanding.

¹⁰⁵ Responses ordered according to the frequency of response.

The willingness of Michigan packers and shippers to offer flexibility to certain buyers with respect to packing, packaging, and merchandising, particularly in comparison to Washington, was noted as a distinct source of advantage for Michigan. This was noted to be a particularly important capability necessary to compete for the business of smaller stores. Many buyers use Michigan sourced apples either as a supplement to Washington, or because they don't care to contend with the merchandising restrictions mandated by Washington suppliers.

Improvements in the overall quality and sophistication of packing equipment being more widely adopted in Michigan were widely cited as recent advancements with significant potential for improving the overall competitiveness of Michigan as a fresh apple supplier region. The technical improvements adopted by packing houses and the resulting flexibility in marketing were identified by almost all the shippers as key strengths that could be further built upon. Shippers widely indicated noticeable improvements in Michigan's ability to deliver quality apples in terms of color, size, and condition. One shipper indicated this by noting that the state has consistently lowered its proportion of "junk" apples in recent years. It was noted that one outcome of improved sorting capability in the packing house has been to reduce loss of quality product to lower priced outlets and at the same time improve the consistency of quality designated for higher quality packs, which leads ultimately to better buyer satisfaction and prices. Several shippers further indicated improvements in some packing houses with respect to waxing capability have been occurring.

A further survey of grower-packers in Michigan has been conducted by the Task Force following this shipper survey. Among the objectives of the packer survey was to chronicle technical changes that have been made and those that still need to be made to improve quality. Most shippers, many of whom are also packers, have indicated significant capital investments have been made. As one shipper indicated, the packing technology exists for incredible improvements to be realized by Michigan packers in the quality and consistency of product deliverable to potential buyers.

New packing equipment and an expanding volume of young fruit may reduce the frequency or delay buyer switching to other supplying regions. Washington, with much larger

collective supply, can effectively serve buyers with a year around volume. Michigan, apparently, has lost customers altogether as a result of this switching in the past.

All of the most frequently mentioned items are closely related to overall improvements in fruit quality. Generally improving size, color, and condition of apples packed in Michigan packing houses were noted explicitly by a number of shippers. Some distinction was made by some, however, between the potential or capability for delivering quality and the managerial intent to deliver it. Gains in the market resulting from gains in quality capabilities, it was stated, can only be fully capitalized by developing a strategic commitment to consistently delivering quality as an essential part of an overall marketing program.

Progressive growers in the state were cited as a strength for the Michigan industry. Related to this were noted recent improvements in orchard planting systems technology, production, and harvest management particularly favorable for competing in the fresh market.

Other emerging strengths identified by shippers related to the growing volume of quality apples available for the fresh market in Michigan. The importance of being recognized as a long-season or nearly year around supplier of fresh apples was noted by shippers as an important dimension of being a competitive supplier region. Buyers tend to shift their sourcing to other regions if Michigan supplies run out or quality is deteriorating.

Michigan growers have historically directed the greatest share of their apples to the processing market. Only 35% of Michigan's apples went to the fresh market between 1985 and 1989 compared to 56% of the crop going fresh over the entire U.S. during that time.

Shippers expressed optimism with respect to the large plantings of quality young fruit well suited for fresh market demands just beginning to come into bearing age in Michigan. The implication would appear to be there are greater prospects for Michigan to increase fresh sales and competitively supply more quality fresh apples than previously.

Generally improving attitudes toward change by those in the Michigan industry were cited by a number of shippers as an emerging strength. These are reflected in an increased willingness to adopt technological changes such as new packing and equipment, storage technology, and labeling capabilities. Positive attitudes toward change and innovation are apparent at the grower

level as well where improvements have recently been observed in advanced orchard systems, improved IPM, advanced sprayer technology, maturity information, multiple picking and other production and harvest management approaches. Several shippers summarized this strength as reflective of an increased knowledge of the product and management-marketing sophistication by key industry leaders

Many of the specific means by which these strengths can be built upon to the advantage of the Michigan apple subsector may be best understood and clarified in the context of opportunities and alternative action plans and will be addressed later in these sections. While not all shippers may agree upon, or accurately perceive, the most important historic and emerging strengths upon which the industry can build toward the future, their collective perspectives do indicate some of the key areas of subsector capability that should be considered in the development of future firm and industry strategies for the fresh segment.

4.2.2 WEAKNESSES OF AND THREATS TO THE FRESH SECTOR

On Subsector Weaknesses

Subsector weaknesses represent the relatively limiting aspects of the stream of production and value-generating activities of the subsector and the nature of the various products. Relative capability is defined not only by strengths, but by elements of the firm or subsector's collective capability to which there appears to be a competitive disadvantage or resource constraint in the competitive provision of goods and services consistent with customer demands. Weaknesses are here viewed as constraints or obstacles limiting Michigan firms seeking to take advantage of or develop current and emerging market opportunities.

Weaknesses, like strengths, are dynamic. They change in response to changing environmental conditions and individual firm and/or subsector efforts to address them. Firms can, in many cases, individually or collectively seek to minimize the extent to which these factors constrain the pursuit of otherwise attractive markets or cause them to be at a competitive disadvantage. Relative weakness can also change in correspondence to changes in the subsector's

environment. Changes in factors defining competitor's advantage, changes by regulating authorities with respect to how business may be carried out, or changes in market demand, including taste-preference changes on the part of consumers as end-users of the product can redefine the necessary bundle of relative capabilities necessary for competitiveness in different markets.

Weaknesses may be overcome in part by proactive firm or multi-firm initiatives. Weaknesses may also become increasingly important if they aren't adequately dealt with through strategic actions and adjustments.

Identifying weaknesses as accurately as possible facilitates the later identification of effective or workable action alternatives to either direct resources to strengthen capabilities in support of alternative strategic thrusts, or to de-emphasize certain strategic thrusts dependent on a certain lacking capability. Some weaknesses, such as the continuing active presence of outdated packing house equipment or the high cost and lack of labeling capabilities by some packing houses, given the size and equipment of most small-medium packing houses, may be most effectively addressed by individual firms as each considers its own firm-level strategy. Other subsector weaknesses, such as poor grower-packer-shipper-buyer coordination, may be addressed through certain more broadly based joint actions within the subsector. Still other weaknesses, such as climatic factors that challenge the production of top fruit color and size, or freight cost disadvantages to certain markets relative to New York and Washington may be beyond the scope of reasonable recourse and must therefore be accepted as constraining the opportunity choice set for Michigan firms and adjusted as best as possible.

Perceptions of Industry Weaknesses and Threats

Shippers were asked: "*What do you see are the most **important issues, challenges, or areas of concern for the Michigan apple industry?***".¹⁰⁶ They were also asked to identify why they thought these were important. Shipper responses to this question provide an important component

¹⁰⁶ Emphasis as it appeared on the written survey provided to the interviewee.

to the collective industry judgement and represent the perspectives of knowledgeable industry informants.

The shipper responses are divided here into two areas for the purpose of analysis: (1) those constraining issues that relate directly to or, in part, defined the internal capability of the Michigan subsector and its stream of production activities and (2) those that are constraining factors or issues exogenous to the subsector that could be viewed as elements of the subsector's environment. The former are categorized as weaknesses, the latter, as threats. Subsector threats, although also discussed by shippers at this point of the interview, are summarized in section 4.2.3 since they are grouped with opportunities as competitive situation parameters exogenous to the subsector.

A concentration on those issues deemed most important by each shipper organization was thought to be desirable during the survey process rather than attempting to have each respondent provide comprehensive analysis on all issues, enabling each shipper to offer a "short list" of constraining issues based on their subjective assessment of importance rather than complicating inquiry by requiring them to further sort out whether a particular issue was technically a threat or a weakness.

The distinction between "internal" weakness and "outside" threat is complicated when assessing a situation for an organization as loosely defined as a subsector, where organizational boundaries are blurred. How does the analyst classify vegetable shippers coming in to the apple business in the fall, shippers based outside of Michigan that utilize Michigan fruit, or Michigan shippers utilizing non-Michigan product for their pack? Another important classification problem relates to the relationship of the Michigan subsector to the newly formed Coalition of Northeastern Shippers - an institution designed to address broad issues facing eastern U.S. apple shippers.. Several major Michigan shippers are active in this group and pursue solutions to common problems with other shippers through collective action. Is this group outside the bounds of the subsector? Are state boundaries critical when pursuing strategic planning at this level? It depends on some subjectively pre-defined bounds deemed appropriate for analysis.

Industry weaknesses can be divided conceptually into historic and emerging much in the same manner as subsector strengths. This can, again, aid an understanding of the dynamic nature

of weaknesses and relative competitiveness as it relates to the subsector as a group of related firms. This distinction is not formally developed here, however, since this was not explicitly pursued during this line of questioning with the shippers.

A summary of those responses that could be categorized as weaknesses are presented in Table 4.2 in order of the frequency that they were mentioned during the 19 interviews.

Table 4.2 SHIPPER PERSPECTIVES ON WEAKNESSES AND LIMITATIONS OF THE MICHIGAN APPLE INDUSTRY

FREQUENCY RANK	WEAKNESS OR LIMITATION¹⁰⁷ <i>Related Weakness Area</i>
1.	Limited and inconsistent fresh volume and quality constrains growth into new markets (11) <ul style="list-style-type: none"> • <i>Limited volume to service high volume, quality customers</i> • <i>Limited assessment monies to promote existing Michigan volume and quality</i> • <i>Need volume to develop, maintain, and grow major markets</i> • <i>Michigan as a region has the ability to deliver poor quality in any given year</i> • <i>Variance in pack quality - particularly color</i> • <i>Michigan has been cast with an image of being a low-cost, low-quality, stop-gap supplier</i> • <i>Defaults on deliveries from Michigan too frequent to service high quality accounts</i>
2.	Too many varieties (5) <ul style="list-style-type: none"> • <i>Inadequate promotion monies to support the wide variety mix and exploit variety advantages</i> • <i>Buyers and consumers can become confused with too many varieties</i> • <i>Significant volume of older, less desirable varieties are marketed from Michigan</i>
2.	Limited capability to take advantage of export opportunities (5) <ul style="list-style-type: none"> • <i>Relatively high freight costs to Europe, Asia, and S. America</i> • <i>Export growth constrained by variable quality</i>
4.	Shipper-Packers focus on moving volume at the expense of quality (4) <ul style="list-style-type: none"> • <i>Decisions influenced by high fixed costs for new packing equipment</i> • <i>Many Michigan shippers competing on price rather than quality</i>
4.	Mis-information between growers, packers, and shippers (4) <ul style="list-style-type: none"> • <i>Shipper-brokers often don't know what varieties, volume, and quality they have to sell</i> • <i>Growers often over-react to new, unproven varieties</i>
6.	Some antiquated packing equipment produces a quality of pack that drags Michigan's regional reputation as a consistent quality supplier of fresh apples (3)
6.	Climatic limitations compared to some regions (3) <ul style="list-style-type: none"> • <i>Short growing season, hail, and freezing can produce relatively variable quality</i>
8.	Lack of meaningful, credible organization on the part of the shippers (2) <ul style="list-style-type: none"> • <i>Industry not particularly cohesive</i>
8.	Some growers have not made long-term capital improvements to modernize their orchards (2)
8.	Absence of professional quality standards; USDA standards regarded as "archaic" (2)
11.	Many packers pack their own fruit; culling standards may be low in these cases (1)
11.	Lack of nursery support to growers on how to manage new varieties sold to them (1)
11.	Quality of waxing in some packing houses inadequate to compete in bulk markets (1)

¹⁰⁷ Frequency of response is indicated in parentheses.

Weaknesses suggested by the shippers fall into a wide array of categories. The most frequently cited issue focused on concerns relating to the region's ability to deliver a consistent and adequate supply and quality of product for the fresh market. Limitations to new market growth resulting from limited and inconsistent fresh volume and quality were identified during eleven of the interviews. Michigan's relatively small volume of fresh apples, traditionally variable quality, and limited assessment monies for promotion were identified as historic weaknesses of shippers trying to keep competitive from within the region. The establishment of a spotty image among buyers has been crafted through variable year-to-year quality, and variable pack-to-pack quality within the region, and, according to some. Although those in the Michigan industry have made significant strides toward improving their collective capability to deliver greater volumes of quality fruit consistently over a longer marketing season, changing the mind-set of many buyers toward Michigan as a supplier region was described as being difficult. It was noted that a shabby reputation in quality is quickly obtained for the whole state, while a good reputation takes years of coordinated effort to build.

One shipper noted that one source of competitive disadvantage for the Michigan firms affiliated with the fresh segment versus Washington is their relative inability to monitor quality beyond the packing house. The Washington Apple Committee has many more sales representatives nationally that are authorized by Washington growers and shippers to pull inferior product and to provide appropriate retail compensation.

The marketing and promotional difficulties associated with the production of many apple varieties, particularly where differentiation between varieties was not obvious, was identified during several interviews as an area of weakness for Michigan. Several noted the breadth of varieties able to be successfully grown in Michigan to be both a source of advantage and disadvantage. Part of the difficulty relates to the lack of adequate promotional funds to support such a wide mix. These shippers indicated there were inadequate promotional monies relative to that needed to develop Michigan markets for current varieties in both domestic and export markets. It was suggested that buyers and consumers can also be overwhelmed when presented with 10-12 different apple varieties.

Finally, somewhat related to the encumbrances of a less than desired image held by buyers, it was noted that a significant volume of older, less desirable varieties are continuing to be marketed from Michigan.

Geographic location, while offering certain climatic and market access advantages, also can impede expansion of business into certain growing export markets. This limitation was mentioned during five of the interviews. Relatively high freight costs and variable quality were identified by shippers as barriers to expanding activity in otherwise promising export markets. Regions such as Washington, which are able to diversify among domestic and export markets, are better positioned to weather isolated economic downturns.

New and modernized packing equipment, efficiency, and capacity, while again widely identified as an emerging strength, was noted to have potential quality related drawbacks as well. The high fixed costs associated with the new equipment provide shipper-packers economic incentive to over-emphasize volume and throughput at the expense, it was alleged, of quality. The need to spread equipment costs over larger pack volumes in order to recover large capital outlays, together with the temptation to utilize as much new-found packing capacity as possible, can result in a preoccupation with lowest price as the main source for competition.

Shippers indicated many technical improvements remain to be made in Michigan packing houses. The continuing active presence of outdated packing facilities that deliver a sub-standard quality of fresh fruit to the market contributes to a negative image for the entire region. Shippers that identified this as a weakness, however, also indicated that market forces would probably lead to a fairly rapid consolidation of the packing activity in the state because of the economies of scale inherent in the new packing technologies.

Incomplete information circulating between growers, packers, and shippers was identified as another area of industry weakness. Shipper-brokers indicated they often don't know what is in storage with regard to condition, color, and size. Storage and sales reports are circulated that indicate only vaguely fresh quality supplies and returns. Growers, by way of another example, according to some interviewed, are prone to over-react to rumors on returns and make planting

decisions based on poor or short-term market information. Many growers, it was alleged, also had a tendency to over-plant newer varieties that were unproven in the field or on the market.

Concern for seriously low net returns to many growers over the last 4-5 years was expressed by most shippers. This concern was frequently raised while shippers were considering the prospects for increasing assessments to growers to expand resources geared toward improving their returns. Many shippers felt that many growers were too financially stressed to shoulder such increases. Some shippers expressed concern with the increasing level of debt carried by many young growers. Issues such as chronic low grower-shipper returns, for example, were widely designated as important, but shippers offered little in terms of specific action alternatives that would remedy the situation. In many cases, low returns were identified as mostly a function of competitive factors beyond the control of those within the Michigan subsector. Given this fact, the issue of prices is also taken up under the category of subsector threats.

Several other concerns were expressed by some of the shippers. Some shippers felt rather that either Michigan, or at least their individual firm, could benefit from the absence of "professional" quality standards, or were indifferent to the lack of serious organization on the part of the shippers. These particular shippers would need more compelling evidence that indeed these were important issues influencing the capability of their firm to compete effectively. Many of the issues raised were identified too generally and would require greater analysis to gather the detail necessary to formulate specific action alternatives.

4.2.3 THREATS TO THE FRESH SECTOR

Subsector threats were identified by shippers in the survey together with weaknesses under the more general category of "Issues, Challenges, and Areas of Concern". Elements in this category judged to be beyond the bounds of the Michigan subsector, that is, exogenous and more easily understood as part of the market environment evolving beyond the direct influence of those

within the subsector, were designated as “threats”. These factors can be viewed as obstacles to pursuing opportunities or maintaining the subsector’s current competitive position.¹⁰⁸

Threats were noted by shippers to come from a variety of sources. Increased and more effective competition, unfavorable changes in demand conditions, and restrictive regulations were among the most frequently identified categories of threatening issues. A summary of responses from different shippers is presented in Table 4.7.

¹⁰⁸ Responses to the open-ended question regarding “issues, challenges, and areas of concern” were not nearly as focused as was hoped. Shippers tended to become easily diverted onto issues of lesser importance. While many meaningful observations and thoughtful analysis was provided at this stage of the survey, patterns were difficult to draw when assembling the responses over all 19 organizations.

Table 4.7 SHIPPER PERSPECTIVES ON THREATS TO THE MICHIGAN APPLE INDUSTRY

FREQUENCY RANK	THREAT¹⁰⁹ <i>Related Strength Area</i>
1.	Competitive actions threatening from other supplier regions and products(7) <ul style="list-style-type: none"> • <i>Merchandising activities of the Washington Apple Committee, specifically (a) the promotion of Red Delicious and (b) aggressive control over retail shelf space through slotting allowances</i> • <i>Washington premium pack over-shadows Michigan's improving quality; Washington's non-premium pack purported to being sold at "dumping" prices</i> • <i>Washington expanding into bagged apple market</i> • <i>Larger retailer buyers demand high volumes of consistent product</i> • <i>Competition from other fruit; expansion of items carried in produce departments</i> • <i>Overseas competition from areas with cheap labor and longer growing seasons</i> • <i>Subsidized Canadian apples hurt U.S. in Canada</i>
1.	Poor grower returns (7) <ul style="list-style-type: none"> • <i>Total over-supply in the U.S. and world-wide; demand and supply imbalances</i> • <i>Currently there is a challenging buyer's market</i> • <i>Constant struggle to maintain a good price in keeping with the value offered</i> • <i>Chronic low returns to growers limits opportunities to increase assessment</i>
1.	Poor buyer attitudes toward Michigan quality (7) <ul style="list-style-type: none"> • <i>Buyer standard operating procedures, specifically with respect to perceptions of Michigan's quality, volume, and seasonality</i> • <i>Export markets requiring very high quality standards which are influenced by Washington</i> • <i>Retailer obsession with waste and shrinkage measures rather than per-unit profit</i>
4.	Declining availability of key chemicals (4) <ul style="list-style-type: none"> • <i>Declining availability of key chemical inputs due to (1) expensive re-registration processes for chemical companies and (2) legislative moratoriums threatened on certain compounds</i> • <i>Corollary issue is the potential for increased presence of pests, diseases, and blemishes in fruit, reducing salability</i>
4.	Decreasing flexibility and increased cost associated with stickering (4) <ul style="list-style-type: none"> • <i>Nutrition, variety, chemical use labeling are all expensive but increasingly being used</i>

Increased competition from Washington, New York, and other apple producing states was cited as a one of the leading threatening issues. Many of the issues relating to increasing competition related to strides made by Washington in the area of quality. The aggressive promotion and merchandising by Washington was widely noted as putting increased pressure on Michigan shippers. Concern was expressed that market segments traditionally held by Michigan, particularly bagged apples, would be threatened as other expanding production regions sought profitable segments for their product. All of the shippers designated the need to more effectively

¹⁰⁹ Frequency of response indicated in parentheses.

compete with Washington, New York, etc., for fresh market sales as either an important (16%) or very important (84%) issue in the follow-up closed-ended question. Several shippers expressed concern with increasing competition from other fruits adversely affecting Michigan.

One of the most frequently identified area of threat to the Michigan subsector was poor grower returns. A challenging buyers market has emerged from conditions of total over-supply world-wide, according to many shippers. Buyers are increasingly more demanding and able to fill their needs from a number of different supplier sources. A follow-up closed ended question asked shippers to evaluate several issues as "very important", "important", "minor importance", or "not important". Shipper responses to *"A need to raise prices received by Michigan shippers and growers"* confirmed the issue's high level of importance indicated in the earlier open-ended responses. Fifty percent indicated the issue to be "very important" and 42% indicating it to be "important". Those who qualified their responses indicated that it was not just prices but net returns that were low.

Poor buyer attitudes toward Michigan quality was also frequently mentioned during the open-ended dialogue as a major threat to Michigan suppliers. Michigan has often been cast as a stop-gap supplier of medium quality fresh apples, or sometimes a secondary source when Washington shippers have been unable to deliver at a reasonable price. Michigan has traditionally pursued the market segments where they have been able to deliver smaller fruit at lower prices. Many buyers have not come to recognize new capabilities by many Michigan shippers to more consistently deliver larger, quality fruit on a year around basis. Old buying habits and perceptions, it was often suggested, are difficult to shed.

The unwarranted persistence of artificially high phyto-sanitary barriers, particularly in Mexico, were mentioned as threatening Michigan's prospects for expanding into the export market.

Restrictive regulation that has led to the declining availability of key chemical inputs considered necessary for Michigan to remain competitive was among the most frequently cited threatening issues. Challenges posed by pesticide, food safety, and environmental regulations were designated as important (26%) or very important (68%) by the shippers. Concern was expressed with respect to the high cost of re-registration of key chemicals by private chemical companies.

Demands to increase the quality of fruit delivered from the state concurrent with the elimination of pesticide tools to grow that quality were widely noted as a dilemma facing Michigan as a supplier region.

One shipper suggested that the growth of produce sales in club stores could adversely affect Michigan to the extent that it required suppliers to provide very high volumes of product at cut rate prices. It was suggested that this could undermine opportunities resulting from expanded capability to deliver premium price-premium grade produce just now becoming attainable for Michigan.

A wide range of issues were raised by the shippers, each with potential implications for the economic viability of the Michigan apple industry. It is difficult to see definitive patterns in the threatening issues simply according to frequency of response. Based on the data reported here and a more detailed qualitative analysis and accounting of the shipper responses in Ricks and Woods (1994b), the primary threats to the Michigan apple industry according to the consensus of shipper opinion include the following:

- The growth and competitive actions by the Washington apple industry with respect to the fresh market present difficult and numerous challenges for the Michigan apple industry to compete, particularly in the areas of quality, promotion, and price.
- The declining availability of key chemicals to the Michigan apple industry through challenging regulatory processes and the economics of re-registration may present challenges for Michigan to produce a marketable quality of fresh apple at a remunerative price.
- Buyer power places greater demand on packaging, service, and quality with little opportunity for shippers, packers, and growers to raise prices. A trend toward fewer and larger buyers may well translate to even greater competition among supplying regions.
- Poor buyer attitudes persist toward Michigan as a supplier region.

There are many ways these threats are inter-related. All of them currently affect or have a potential for significantly affecting returns realized by the Michigan industry. Shippers widely recognize the importance of these issues and the need for the Michigan apple industry to develop workable plans to address each one, at least in part.

4.2.4 OPPORTUNITIES FOR THE FRESH SECTOR

On Subsector Opportunities

Individual firms or organizations strive independently and, to a lesser degree, collectively to position themselves with the capability to profitably take advantage of perceived market opportunities. The matching of the capabilities of the subsector to the subsector's environment is one of the fundamental tasks of strategic planning. The identification and implementation of appropriate strategies that can propel the organization in a desired direction is another matter, but is contingent on an understanding of the competitive advantage and context within which a subsector finds itself.

Michigan, as a fresh apple supplier region, faces uniquely a number of opportunities relative to other potential suppliers. Relative advantages critical to competitiveness and held in common by subsector firms may be developed and/or maintained to maximize returns in emerging growth markets. A certain degree of broad recognition and cooperation may be necessary, however, to mobilize the resources and activities of the participating firms within the subsector to take advantage of emerging opportunities that can be shared by many in the subsector. Following Porter's value system model (Porter, 1985), the identification or creation of new markets, together with the discovery of better means to service and establish these markets, are ways to increase the total value of the system and thus the returns to the participants generating the value.

Shipper Perspectives in Industry Opportunities

The Task Force, aware of the nature of many opportunities requiring a degree of subsector coordination, surveyed the Michigan shippers regarding the prospects and barriers to certain opportunities of this sort for Michigan. Specific opportunities were identified and discussed during the interviews in terms of (1) their general potential for benefitting Michigan firms and (2) needed industry actions that could lead to improving Michigan's position. The discussion relating to industry actions is taken up in a later section of this chapter.

Opportunities are organized in this section along two lines. The first task of this section is to present and evaluate the responses of the shippers to opportunity areas that were suggested

by the Task Force and explicitly specified in the shipper survey questionnaire. The second task of this section is to present and evaluate some open-ended survey responses with respect to opportunities for the Michigan fresh apple segment. All responses (open- and closed-end) are organized in a systematic way by bringing together other components of the situational analysis to identify Michigan's basis for advantage and obstacles constraining expansion along these various directions.

A market segmentation matrix is presented as a framework for organizing opportunities both for an individual firm and for the Michigan subsector as a whole. Customer functions and customer groups are outlined in this matrix according to shipper identification of prospective customers and functions as a proposed tool to facilitate future evaluation of firm and subsector marketing strategies.

On Opportunity Areas Suggested by the Task Force

Shippers were asked to (1) respond to the open-ended question: "*What do you see are some important opportunities that need to be more fully exploited by the Michigan apple industry?*" and (2) to respond to a list of opportunities indicated by the Task Force as perhaps emerging for the Michigan apple subsector, with particular emphasis on the fresh market. Shippers were asked to identify the extent to which each of the pre-specified opportunity area had "realistic potential as (an) attainable goal". They were then asked to suggest "actions that would help the industry achieve the favorable opportunities". They were also asked to classify an opportunity as "outstanding", "good", "fair", or "poor". Considerable additional information was typically offered by shippers in support of their closed-end responses, as shippers were encouraged to expand on or identify related opportunities, issues, and alternative approaches to industry action. Shipper responses to the Task Force list of opportunities are presented in Table 4.3.

Table 4.3 SHIPPER EVALUATION OF AREAS OF GENERAL INDUSTRY OPPORTUNITY PRE-SPECIFIED BY THE TASK FORCE

	Outstanding	Good	Fair	Poor
Area of General Industry Opportunity¹¹⁰	----Percent Responding---- (based on 19 shipper organizations)			
Improving efficiency and quality through more technically advanced packing houses	62	28	5	5
Marketing more tray and cell pack apples	55	32	13	0
Expanding export markets for fresh Michigan apples	53	36	8	3
Improving the quality of fresh Michigan apples	47	50	3	0
Expanding the sales volume for fresh Michigan apples	39	43	14	3
Improved communication and effective linkages between different segments of the industry	36	50	8	6
Expanding Michigan's market share for fresh apples	34	47	16	3
Improve industry education on how to grow and market top quality apples	24	63	5	8
Refine/develop the marketing-merchandising programs for Michigan apples	24	45	26	5
Obtaining higher prices for fresh Michigan apples	15	25	43	16
Expanding the varieties offered by Michigan	8	21	37	34
Expanding Michigan's type of pack offerings	5	45	24	26
Mechanical harvesting for processing apples	0	0	46	54

Opportunities closely related to taking advantage of the improving overall quality of fresh apples being packed in the state were viewed as the most promising by the shippers. There was a consensus that Michigan shippers have not fully exploited the quality control improvements that have been made and continue to be under way to the potential possible. As a part of this, the aspect of *"Improving efficiency and quality through more technically advanced packing houses"* received higher designation as an outstanding opportunity than any other category with 62%.

Shippers generally expressed optimism toward expanding Michigan participation in tray and cell pack markets as well as expanding fresh exports - both areas being very demanding in

¹¹⁰ Many shippers were inclined to respond to an area of industry opportunity as, for example, "good to outstanding", avoiding a categorical response. Responses are summarized in the table by splitting such responses equally between categories, recognizing the central tendencies toward the middle categories. Precision of ordinal ranking is not the critical objective, rather a more general identification of opportunity areas that may be fertile for more detailed later investigation and/or corresponding action alternative development. Opportunity areas are ordered here simply according to frequency of categorization as "outstanding". Some categories may not sum to 100 percent due to rounding.

terms of quality. Michigan, in their mind, seems poised as a supplying region to expand into markets previously mainly conceded to Washington by most shippers in the state, primarily as a result of the emerging capabilities within the subsector to deliver higher quality fresh apples and improved capabilities to pack tray packs.

Opportunities to improve certain industry capabilities, such as *"improved communication and effective linkages between different segments of the industry"* and *"improved industry education on how to grow and market top quality apples"* were noted generally to offer primarily "good" and "outstanding" opportunity for Michigan. Shipper perceptions and suggestions relating to these key areas were of particular interest to the Task Force inasmuch as they represented opportunities for broad industry effort to improve overall responsiveness to major issues and market opportunities.

Shippers indicated that historic patterns of industry cohesiveness have been improving, but there remains substantial opportunity for further improvement. These areas relate directly to the internal capability of the subsector, reflecting important patterns of strength or weakness in the subsector as a supplier region. Optimism expressed in this area generally was accompanied by indications of improving communications. Some noted, however, that current linkages and education was poor and therefore left considerable opportunity for improvement. Caution or reservations expressed tended to be accompanied by comments pointing to a long-standing conflict between shippers and growers that may be difficult to overcome.

There was a strong sentiment that industry actions and educational activities that genuinely encourage individual firms, such as growers and packers, to go out and observe how their apples are managed in other levels of the process can provide great ideas for improving business practices back at the individual firm level. These kinds of educational activities can stimulate an entrepreneurialism and spirit of cooperation that can lead to the benefit of all within the subsector. It was noted by one of the largest shippers that growers need to see a clear benefit to their cooperation with shippers and packers.

Improving the marketing-merchandising programs for Michigan was met with somewhat lesser enthusiasm relative to some other opportunity areas, largely due to the limitations imposed by fewer promotional dollars compared to Washington. Many identified means by which

improvements could be made if sufficient funds were available. Most felt, however, the Michigan Apple Committee already was getting nearly as much promotional leverage out of the monies they have to work with as they possibly can. Most shippers indicated there was little prospect for out-merchandising Washington on a head-to-head basis and Michigan fruit is easily displaced by Washington fruit, especially among the larger buyers. Some shippers suggested that many of the smaller buyers that currently make up the base of Michigan's business would prefer lower prices rather than glitzy merchandising incentives. Some shippers suggested more specialized merchandising could be done along the lines of the individual shipper organizations.

The summary of industry opportunity categories relating to prospects for improved performance reflects a cautious optimism on the part of the shippers taken as a whole regarding the overall outlook for the fresh segment of the Michigan apple industry. Improvements in quality seem to be expected to continue, contributing to an increase in the sales volume for fresh apples grown in the state. Prospects for expanding Michigan's sales volume and market share were regarded as generally "good" to "outstanding". Increased market share was anticipated to come primarily at the expense of minor producing states that were declining in production.

Prospects for higher prices for fresh Michigan apples were regarded primarily as "fair" to "good", with many shippers expressing concern with chronic (3-5 years and running) low prices generally realized by the grower. While many identified this area an important issue facing the industry, few were able to suggest quick and simple remedies. Improved returns, it was suggested, might be derived through improved and consistent overall quality, which, in turn, improved shipper access to growing and profitable markets.

Opportunities related to the expansion of varieties offered by Michigan and expanding the type of pack offerings were held in lesser regard, as the majority of shipper designated these areas as either "fair" or "poor". Further opportunities to build on these value-adding activities beyond what Michigan currently services was perceived to be limited. The continuing status as primarily a "bag" and "variety" state is likely to continue to a major degree and major industry growth opportunities were generally seen by the shippers to lie elsewhere.

Further Opportunities Identified by the Shippers

Many opportunities were identified by various shippers beyond those initially derived through the industry leaders on the Task Force. The responses were compiled and summarized for the purpose of comparison and analysis into three general categories: (1) opportunities for expanding into competitive existing markets (markets that are established but are currently minor for Michigan), (2) opportunities for improving products or services (value) to markets through technology, marketing, and coordination, and (3) opportunities for creating and developing new markets.¹¹¹ A summary of these opportunities are presented in Tables 4.4-4.6, together with a summary of Michigan's basis for advantage and obstacles corresponding to each area as summarized from the shipper interviews. Other sources of regional advantage or obstacles to expansion may exist. Discussion here, however, focuses on summarizing the perceptions communicated by the shippers during the survey.

¹¹¹ These different classes of opportunity are modified and adapted from Oster (1994). Which class of opportunities ought to be emphasized, or which opportunity areas within a given class present the greatest promise is a subject of some debate, not only among the shippers but throughout the apple subsector. Following Oster, *"A central strategic planning issue for any organization (such as related firms jointly planning within a subsector) is how much time and energy should be devoted to identifying and entering attractive existing markets, and how much should be spent in cultivating entrepreneurial ability and high performance in the organization as it is currently structured. This debate is played out in organizations throughout the U.S. economy."* (Oster, p.116, 1994)

Table 4.3 OPPORTUNITIES FOR EXPANDING INTO MARKETS THAT ARE CURRENTLY MINOR FOR MICHIGAN

Area of Opportunity	Basis for Michigan's Improving Advantage	Obstacles to Expansion
Tray Packs	Improving packing house technology facilitating improved quality necessary for trays; improving fruit quality and increasing fruit size at the grower-level; viable lower-cost alternative for many stores to Washington trays; increasing demand for trays in Michigan varieties in addition to Red Delicious.	Washington's presence as a strong first-mover, aggressive promotion and merchandising from Washington; limited Michigan volume of tray quality apples for larger clients and major markets; MI must overcome reputation as a "junk" fruit state; relatively high cost of labelling PLUs;
Premium Pack	Improving capabilities with respect to quality and consistency of pack; premium packs currently receiving relatively high prices.	Washington's presence as a strong first-mover with high performance on quality; Michigan must overcome reputation problems as a "junk" state; volume of high quality Michigan fruit acceptable for a premium pack increasing but often inadequate and traditionally variable year to year; difficult to derive and enforce effective state-wide standard for premium grade;
Export	Improving management of fruit condition and quality for export; packing house modernization; flavor; some MI varieties meet specific export preferences; lower costs of production and marketing compared to Washington in some markets; wider variety offerings; improving ability to pack trays.	Strong competition often from other producing regions; limited overseas promotional resources and declining MPP funds; phytosanitary trade restrictions; relatively small volume to serve larger export clients; locational disadvantage for freight compared to coastal areas;
Certain U.S. regions	Improving quality and potential volume; declining production in some competing regions; selected varieties can help market penetration; superior promotional and merchandising mechanisms compared to some minor producing regions;	Washington's presence as a strong first-mover with expanding production and high quality; more aggressive promotion also emerging from New York, and California; freight costs to more distant markets.
Schools	Michigan apples often preferred by Michigan schools and other mid-west states; improving MI quality and dependable volume; cost advantages helpful for USDA bid and open purchases; increased emphasis on fresh fruits and health by schools raising overall demand; Michigan prices can be competitive.	Most school accounts aggressively held by Washington.
Military	Changing standard purchasing procedures by military to favor more regional purchasing may be advantageous to Michigan.	Military cutbacks generally make this a shrinking market; volume and consistency of deliveries more important than competitive cost.
Gift Pack	Increasing fruit size, and improving color, and condition; packing house technologies increasingly able to differentiate and deliver highest quality fruit; Michigan can offer a wider variety for gift packs.	Washington's larger fruit primary competition; small but profitable niche; must overcome reputation as a "junk" fruit state; requires expensive sorting equipment.

Table 4.4 OPPORTUNITIES FOR IMPROVING VALUE THROUGH TECHNOLOGY, MARKETING, AND COORDINATION

Area of Opportunity	Basis for Michigan's Advantage	Obstacles to Developing or Improving Value
Consistency of High Product Quality	Improvements in quality sorting technology implemented in larger, progressive MI packing houses; orchard modernizations; improvements in harvest maturity, storage technology, and post-harvest management; packing house improvements appear to be well ahead of minor production states.	Condition (pressure, crispness of fruit) still a problem area to manage; persistence of older packing sheds with out-dated equipment; persistence of old orchards; some packers pack own fruit and may not cull rigorously; some larger packing houses emphasizing volume throughput rather than quality throughput.
Longer Marketing Season or Year Around Delivery of Product	Anticipated expansion of product from dwarf variety trees expected to be of a high quality suitable for the fresh market; improvements in post-harvest management and storage technology; more CA storage; increased grower orientation toward the fresh apple market;	Washington is established as really only U.S. region with year around supplies with high overall performance; mind set of some buyers continues to cast MI as a seasonal supplier; advantages from increases in production and CA capacity may not be unique to MI as other regions are also seeking to extend their marketing seasons.
Provision of PLU Labels	Amplifies Michigan's advantages with respect to varieties in tray markets; Larger packing houses have installed necessary equipment to provide retailers this service; smaller packing houses in minor U.S. production regions at a competitive disadvantage to service this market; capability may open distinctive advantages into certain export markets.	Very expensive process; some uncertainty with respect to the longevity of its demand; best equipment prohibitive to all but the largest packers; primarily a tray pack feature and Michigan currently minor in trays - viability involves size economies.
Improved Strains and New Variety Offerings	Michigan historically positioned and recognized by most buyers as a variety state; climatic conditions favorable for an array of varieties.	Competition from Washington, California, and New York; promotion and marketing of large number of varieties complicated and tedious especially for small-medium shippers; buyer and end-user confusion persists with respect to nature of the distinctive features of similar varieties; limited shelf space for individual retailer with respect to varieties.
Marketing and Merchandising Programs	On-going programs of the Michigan Apple Committee relative to some minor regions; Michigan can build on distinctiveness characteristics of flavor, varieties, and in some cases regional preferences; some larger shippers building strong buyer relationships.	Difficult to compete head-to-head with marketing and merchandising activities from the Washington Apple Committee; expect expanded promotional initiatives from New York and California; costly process largely dependent on grower assessments.
Industry Education and Communication Linkages	Strategic Planning Task Force initiatives geared to facilitate industry-wide coordination; vertical coordination interest and concern for industry-level performance improving in recent years; many trade and industry organizations continue to serve as coordinating and facilitating institutions in Michigan compared to minor producing states; gearing toward industry responsiveness to buyer needs as well as educating buyer on improvements in production processes.	Industry interests widely dispersed over fresh and processing segments; industry structure involves many small firms and several distinct vertical levels of subsector participants

Table 4.5 OPPORTUNITIES FOR CREATING AND DEVELOPING NEW MARKETS SUGGESTED BY MICHIGAN APPLE SHIPPERS

Area of Opportunity	Basis for Michigan's Advantage	Obstacles to Creating or Developing Market
Fresh Processed Apple Products	Cost advantage for raw product; flavor advantage over Washington Red Delicious; superior apple variety access to accommodate fruit characteristic demands of processed apple products.	Must solve oxidation problem; costly to carry out necessary research and development activities, as well as marketing and promotion; uncertain demand and other fruits are ahead of apples in these markets; may be some competition and/or substitutability from Michigan's processed apple products.
Specialty Packaging (tote bags, premium variety packs, mixed variety packs, etc.)	Already perceived as a flexible alternative packaging supplier by many buyers; wider variety assortment opens wider range of alternative packaging considerations.	Most packaging alternatives have been tried in some form - packaging that is costly, significantly departing from current packing methods may not have a large enough demand to justify it; most newly successful pack offerings are apt to be quickly duplicated in other regions, resulting in fairly short-term advantage.

Expansion Into Competitive Existing Markets Currently Minor for Michigan

Expansion into competitive existing markets is becoming increasingly possible for Michigan largely due to improving fresh fruit quality. Product offerings such as tray packs, gift packs, and premium packs have traditionally been sourced out of Michigan on a limited basis. These high quality-based products also tend to be potentially high profit items.

A major obstacle for Michigan to participate in premium-grade products is its reputation for being a low-cost, low-quality sourcing region. Expanding opportunity areas associated with higher quality standards suggest this should be a priority for the fresh segment of the industry to develop action plans that modify or transform Michigan's performance and hence this image. It was widely noted among the shippers that Michigan's image as a supplier region is influenced by all participants.

Michigan has developed and improved its capability, primarily through firm-level investments, to pack and market these products at a quality and price that is competitive with Washington. Shippers indicate there may be further advantages for Michigan to exploit its variety and flavor distinctions for these markets. Obstacles to expansion along these premium-grade product lines include the high cost of superior sorting and grading equipment, as well as labeling fruit with PLU codes. Only the largest packers currently own equipment to serve this market with any significant volume. Many shipper-packers surveyed, however, indicated plans to make significant investments to upgrade packing lines within the next few years.

Geographic areas in the U.S. not traditionally served by Michigan but that consume significant supplies of apples were identified by different shippers as having various degrees of expansion opportunity. Many different countries were identified as promising export markets within which Michigan could expand its presence, despite freight disadvantages compared to New York and Washington. Reduced trade barriers to Mexico and hopefully to other South and Latin American countries was identified as a factor that improves the advantage for Michigan, together with its improving fruit quality compatible for export demands. Again, Michigan's wider variety offerings may also prove advantageous in certain export markets, since a wider band of variety tastes and preferences are available from Michigan. Most shippers sell many varieties and can "get

their foot in the door" often with one or two varieties and expand service and sales of other varieties from there.

Many shippers also designated different regions of the U.S. as presenting various degrees of opportunity for Michigan-source apples. Many of these markets were those where Michigan firms had either been active at one time and then crowded out by Washington, or where competition from local production formerly constrained penetration by Michigan as an outside supplier. Shipper opinions were mixed on the extent to which opportunities were legitimate and sustainable and which regions offered promise. Michigan shippers expect increased promotional efforts to continue from Washington, New York, and California as competition for shelf space increases and new state promotional organizations become more aggressive in New York and California.

It appears that at this time California is expanding its commission to include all varieties grown in the state. According to the American Fruit Grower (June, 1994), they are attempting to differentiate their product as having superior flavor, much like the "*Flavorbest*" campaign of the Michigan Apple Committee. Increases in California's production will likely endow their commission with significant promotional funds.

New York has recently combined eastern and western New York grower organizations to form a state-wide commission to promote New York apples. As the second largest apple producing state, New York may become even tougher competition for Michigan in eastern and southern U.S. markets. Michigan thus will probably not be able to expand uncontested to fill openings in markets formerly served by these now declining production regions.

Food service markets have long been dominated in the U.S. by Washington. Military and school outlets, however, were suggested by several shippers as having greater promise for Michigan. The military was noted to be the single largest purchaser of apples, though it is a customer declining in size. Changing produce procurement practices by the military may favor increased utilization of Michigan product as more regional purchasing is taking place.

USDA and direct purchase opportunities for midwestern U.S. schools were identified by some shippers as likely to expand for Michigan in the future. Promotional thrusts are currently

underway in schools that encourage the purchase of state and regional apples. Health and nutrition features have been emphasized for apples generally and the industry has long been considering new ways to increase the exposure of apples to youth to develop early consumption habits.

One shipper suggested encouraging the increased use of processed apple products in school, such as cobbler, sauces, and other apple-based desserts could indirectly increase the consumption of fresh apples. Advances in fresh processed apple products was also noted as having promise for Michigan in school systems, enabling ½ apple or slices to be served. Improving quality and continuing strong demand for fresh and healthy produce makes this an increasingly attractive market for Michigan shippers.

Improving Value Through Technology, Marketing, and Coordination to Key Markets

There are many ways Michigan firms have improved and continue to improve the products and services provided from the state to keep competitive in currently emphasized markets. Overall capability improvement in such areas as growing and packing, while opening opportunities to better compete in markets not traditionally emphasized by Michigan, also allows for even greater competitiveness in established markets through better quality, better service, and/or lower cost.

Significant investments have been made in the industry by individual firms that reflect favorably on the overall quality potentially delivered from Michigan. These include improvements in packing house technology, improvements in storage and post-harvest management and technology, continued development of new sport strains particularly well suited for growing in Michigan's climate, increasing crop size and product availability, and new focused efforts to improve industry coordination, education, and communication. All of these areas represent means by which Michigan has been able to improve its product and service offerings. All of these factors have contributed to a greater consistency of product quality.

Many shippers remain cautiously optimistic about means within the state to consistently deliver higher quality. Michigan still is subject somewhat to highly variable climatic conditions that influence the quality of the fresh fruit. Many specifically identified quality inconsistency year-to-year as a weakness historically plaguing Michigan. Improving varieties, post-harvest

management improvements, and quality differentiating technologies have moved Michigan to become less vulnerable to climate than formerly.

A number of shippers emphasized emerging advantages that help improve Michigan's quality performance and hence support an improving image of the state as a competitive and dependable supplier of quality fresh apples over a longer marketing season. The ability to promote the state along these lines provides an important competitive distinction relative to minor producing regions.

Continuing marketing and merchandising efforts, funded by grower assessment monies, provide Michigan with momentum and exposure in promotion advertising and marketing. Although this promotional program is with a considerably smaller budget than Washington, it currently exceeds many of the promotional resources available to other more minor producing states.

It is noteworthy that 81% of the shippers supported increasing the grower assessment for promotion and advertising through the Michigan Apple Committee to further expand demand for Michigan apples. Shippers, while clearly benefitting directly from MAC increased promotion, are mostly involved directly in the technical end of packing and/or growing. Only 56% of the shippers supported increasing the assessment for expanding technical and market research projects, suggesting shippers regard increases in promotion as offering greater opportunities than continued technical production improvements.

Obstacles to continuing technical improvements in packing and shipping are apparent. Shippers routinely expressed concern for the high cost of improving packing capabilities, especially installing high volume PLU labeling equipment.

Expanding the number of varieties grown and marketed by Michigan was also met with widely divergent opinion, depending in part on the shipper size. Smaller shippers tended to emphasize negative aspects to this thrust. Buyer and consumer confusion with respect to the many variety names and characteristics, limited shelf space for varieties, and the lack of adequate promotion dollars for many varieties currently offered from Michigan were among the most commonly cited constraints for growth in this area. Larger shippers, however, indicated advantages

to marketing more varieties by Michigan to the extent that it could increase opportunities for cross-variety selling and permit inroads to certain markets that might otherwise remain closed to Michigan with a more limited variety offering.

Creating and developing new markets

A third class of industry opportunity areas includes creating and developing new markets that either don't exist or are considerably under-developed.¹¹² The number of specific opportunities mentioned by Michigan shippers with respect to new markets for fresh apples were limited. Fresh processed apple products and innovative specialty packaging are presented here as possible examples. Opportunities identified by shippers in this class include fresh processed apple products and innovative specialty packaging, some of which have been tried on a limited scale.

Identifying and exploiting these opportunities may require a certain vision for what can be done individually or through collaboration. A major limitation arises when firms constrain their pursuits to be in accordance with their own small development and promotional resources. Shippers, incidentally, have little incentive to divulge truly new market opportunities that they as an individual firm can exploit. It is conceivable, however, that similar firms with a common production domain, can benefit from the innovations developed by a nearby first-mover. A workable anti-oxidant for apples that made fresh processed products feasible, and marketed initially using varieties best produced in Michigan would benefit both apple growers and other Michigan shippers as the product base sourced from Michigan would expand and thereby making Michigan more attractive as a sourcing region to food service buyers.

Fresh processed apple products would appear to have significant promise for Michigan inasmuch as emphasis relating to demand for raw product is less on fruit size and color and more on flavor and condition (firmness, slicing characteristics, etc.). Food service markets (restaurants and other institutional buyers) may likely be among those with the strongest demand for such

¹¹² This class of market segments and differentiation is distinguished from opportunities to expand into existing competitive markets by the opportunity to gain first-mover advantages (following Chandler, 1990).

products. Shippers also indicated Michigan may have a cost advantage supplying raw product for this use, although they suggested that Michigan may not be able to supply all the product demanded for these products if this market grows rapidly. A major obstacle, commonly constraining these kinds of opportunities, is the high cost of research and development, particularly prohibitive for the smaller Michigan firms.

Specialty packaging was suggested as one possible area of opportunity by the Task Force and some shippers. It was generally considered a fairly narrow niche market that a few shippers may be able to service profitably. New ideas are constantly being presented and shippers expressed an openness to new suggestions. A wide variety of packages are already marketed from the state. Some retailers are receptive to innovative packaging to better serve their customers and in some cases differentiate their produce from competing retailers. Demand for creativity with respect to packaging apples appears to be significant among some buyers, although maintaining many alternative package types are also expensive.

Quality improvements throughout the production and marketing activities within the subsector were central to many of the discussions concerning industry opportunities. A useful delineation for the Task Force, while sorting this information out, might include two levels. The first level would be opportunities or strategies to improve the overall quality of production and service delivered by the region. The second level is a recognition of the growth potential for Michigan firms in different cells of the customer group-customer function matrix contingent on improving quality. This is discussed in more detail in the next section and in Figure 4.1 and Table 4.6. Firm and/or industry actions to improve quality should be driven both by changing demand factors that are increasingly requiring higher quality, as well as by changing supply factors that reflect the firms increasing capability to deliver better quality.

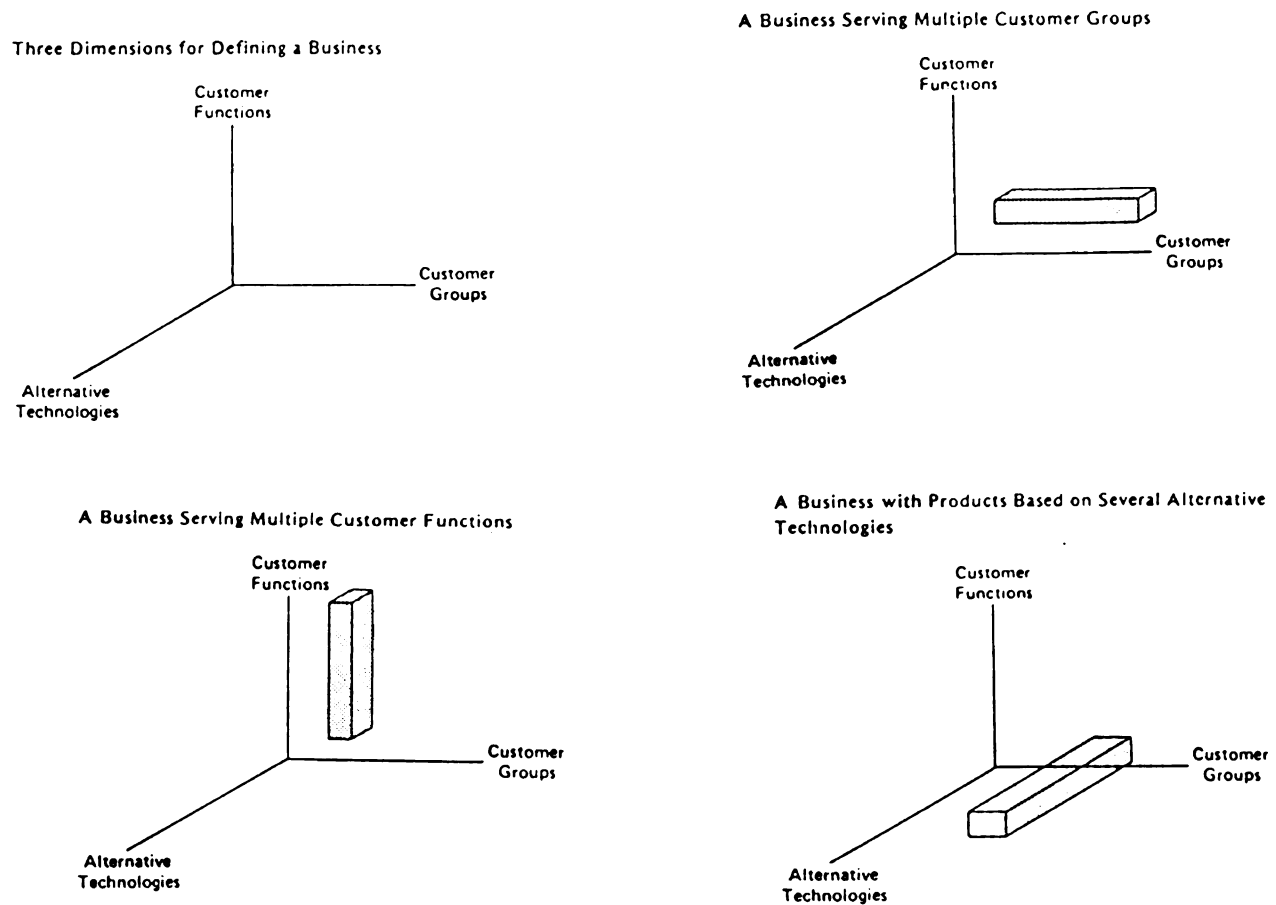
Concluding, although some follow-up inquiry more clearly defining opportunity areas suggested by various shippers may be desirable to help inform the Task Force, many different directions of growth seem feasible for Michigan to realistically pursue. Ideally, an opportunity outlook and analysis would be an on-going and iterative process back and forth between the Task Force and the individual shippers, evaluating, among other things, obstacles and possible firm-level

and joint subsector actions perceived by the shippers that may better open opportunities for Michigan. An opportunities analysis and information gathering process initiated through the Task Force or some similar organization, say every 2-3 years, would provide an on-going data source that could be valuable to shippers, growers, and supporting organizations as they each may be in the process of deriving their own longer-term planning.

A Market Segmentation Matrix

Derek Abell (1980) proposes developing a business definition matrix as a tool for setting the context for strategy evaluation. The this three-dimensional matrix includes customer functions, customer groups, and alternative technologies. This matrix can help an organization or a subsector map not only where they are in relation to where they may want to be, but also anticipate threats to certain courses from rival technologies, etc. The general conceptual approach is illustrated in Figure 4.1

Figure 4.1 THREE DIMENSIONS FOR DEFINING A BUSINESS



Source: Abell, Derek, Defining the Business: The Starting Point of Strategic Planning (1980)

Discussions with shippers revealed many opportunities for fresh apples with respect to different customer groups and functions. A market segmentation matrix is presented in Table 4.6 illustrating some of the prospective cells for different customer groups and customer functions. The presentation complexity of adding alternative technologies precludes detailed presentation here, but certainly technologies that are emerging relating to opportunities to improve products or services delivered to these cells should be considered in the opportunity mapping exercise.

Customer groups served by the apple industry can be evaluated along geographic, institutional, and socio-demographic classes. The apple shippers provide a wide array of customer functions for which shippers have indicated varying degrees of opportunity. Detailed firm or industry plans can target the development of certain of these segments. Certain customer functions may overlap, such as varieties and package type. The value of such an exercise for any organization, however, is to map out such segments with a view toward understanding both the current status of the organization with respect to key cells as well as trends indicating expanding or declining areas of opportunity.

Table 4.6 A MARKET SEGMENTATION MATRIX FOR MICHIGAN FRESH APPLES

CUSTOMER GROUPS	CUSTOMER FUNCTIONS								Special supporting services: Merchandising, warehousing	Product Uses: Fresh, Processed, baking, etc.	Summary for Group Category
	Package Type			Varieties		Quality Characteristics: Condition, size, flavor, color					
	Bags	Trays	Cells	Other	Red Delicious		Other Varieties				
Geographic											
Midwest U.S.											
East U.S.											
South U.S.											
West U.S.											
Export											
Institutional											
Large Supermarkets											
Small-medium Supermarkets											
Independent Grocers											
Foodservice											
Military											
Schools											
Farm Markets											
Socio-Demographic											
Youth											
Senior Citizen											
Other categories; income, family size											
Summary for Function Category											

4.3 SHIPPER EVALUATION AND SUPPORT OF INDUSTRY ACTION AREAS

On Industry Actions Suggested by the Task Force

An initial series of ideas for industry improvement action areas was discussed by the Task Force and through preliminary meetings with various industry leaders, including those from the Michigan Apple Shippers Association. In the survey, shippers were asked for their evaluation of appropriateness of various actions for the industry by responding to a list on the questionnaire of 20 prospective action areas, indicating their general support for these possible industry initiatives. They were also asked to provide their ideas relating to specific actions within those action areas where they indicated their support. Shipper responses were intended to provide the Task Force with some basis for initial prioritization for developing plans for industry action and strategies within these areas.

Shippers were asked, in addition to indicating their support for developing industry initiatives, to identify steps that could be taken to stimulate needed changes in each area. They were also asked to identify potential benefits, disadvantages, or obstacles to implementing actions. If an action area was not supported by a shipper in the survey, that shipper was encouraged during the interview to suggest specific programs relating to these more general action areas that they felt may be workable, both with a view toward other shippers and, where necessary, in cooperation with the grower community.

The Task Force was primarily collecting ideas on specific subsector action needs and alternatives during the shipper survey, as well as how such ideas might be implemented. One advantage of interviewing each shipper individually was that many different and perhaps controversial ideas could be suggested by the shipper without concern for managing immediate negative reaction from other shippers. Shippers could discuss their perspectives frankly without being identified. A summary indicating the frequency of support for the various action areas proposed by the Task Force and shipper leaders is presented in Table 4.10.

Table 4.7 SHIPPER SUPPORT FOR SELECTED AREAS OF INDUSTRY IMPROVEMENT ACTION

Industry Action Area ¹¹³	Support	Not Support
	---Percent Responding--- (19 organizations)	
Emphasize and explore special market niches for Michigan apples.	100	0
Further improvements in storage technology, equipment and storage management for Michigan varieties.	97	3
Continued improvements to reduce bruising in orchards by pickers and forklift operators and in packing houses through improved packing line equipment and design for less bruising as well as more widespread implementation of current know-how on bruise reduction.	97	3
Encourage more uniform sizing of Michigan fresh apples through improved cultural practices, modernized packing house equipment, and marketing practices.	97	3
Encourage growers to multiple pick for the needed color, size and maturity for fresh market.	95	5
Further improvements in maturity information programs, implementation and harvest management to get fruit picked at best times for good storage life and condition.	94	6
Increase the number of bins for expanding Michigan production.	89	11
Encourage growers to remove and rejuvenate poor varieties and strains and to plant only the best strains.	89	11
Continue expansion of CA storage capacity for Michigan's expected larger apple production in the future.	85	15
Monitor and analyze the progress and success of competing fresh market regions including Washington, New York, Chile, etc. in relation to Michigan	82	18
Increase efficiency, flexibility, and effectiveness in meeting buyer-customer needs of the average Michigan packing house through the adoption of top-notch equipment.	82	18
Increasing the grower assessment for promotion and advertising through the Michigan Apple Committee to further expand demand for Michigan apples.	81	19
Comprehensively evaluate new varieties and strains that are best suited for Michigan's fresh markets and growing conditions.	71	29
Develop and implement a system for non-destructive firmness testing in Michigan packing houses.	68	32

¹¹³ Action areas are ordered in terms of the frequency with which they were indicated as supported. Bolded emphasis is as it appeared on the written survey.

Table 4.7 SHIPPER SUPPORT FOR SELECTED AREAS OF INDUSTRY IMPROVEMENT ACTION (Cont.)

Action Area ¹¹⁴	Support	Not Support
	---Percent Responding--- (19 Organizations)	
Increasing the grower assessment for apple research to finance needed technical and market research projects.	56	44
Develop a new mandatory program for management of quality and grade standards , especially for firmness and maturity by the Michigan industry.	50	50
Expand total packing house capacity.	47	53
A Michigan apple marketing clinic similar to the IAI national marketing clinic in Chicago.	42	58
An association of apple exporters.	38	62
Develop a program to pay growers to eliminate poor quality blocks and strains.	0	100

Many of the action areas were defined in fairly broad terms without specific tactics identified or stating exactly how an action might be implemented. *"Increase the number of bins for expanding Michigan production"*, for example, designates an action area, but stops short of suggesting how this would be carried out or coordinated over the subsector.

Recognizing a need for action and supporting a specific program of cost sharing are clearly different matters in this case. A high level of support for some sort of action along a particular course would indicate, however, a sense of priority for developing a workable specific program that could fulfill, at least partially, the industry's needs.

Conversely, a low level of support for a particular action area need not imply the corresponding issue is perceived by the shippers as unimportant. Half of the shippers, for example, did not support a mandatory quality and grade standard, although the desire to identify mechanisms to continue to raise Michigan's reputation for delivering high quality apples, especially regarding condition, was nearly universal. Some specific programs by which this might be accomplished, however, remains a topic of considerable debate. Industry mandatory approaches can be highly controversial, particularly in the absence of details outlining specific features of a program.

¹¹⁴ Action areas are ordered in terms of the frequency with which they were indicated as supported. Bolded emphasis is at it appeared on the written survey.

Shippers would typically state their case during the survey interviews based on principle rather than with regard to a specific detail.

Certain action areas were defined more specifically in the survey questionnaire, such as *"Increasing the grower assessment for promotion and advertising through the Michigan Apple Committee to further expand demand for Michigan apples"*, or *"Develop a program to pay growers to eliminate poor quality blocks and strains"*. These were presented in the survey, however, as flexible with respect to the details of amount or suggesting a specific plan of implementation. Support for these more narrowly defined action areas also recognizes the need for further refinement and consensus building before these might be adopted. Shippers often stated explicitly that they recognize the growers, for example, pay the MAC assessment and therefore should be the ones ultimately to vote on it.

Shippers were unanimous in their support to emphasize and explore special market niches for Michigan apples.¹¹⁵ This is an aspect that most Michigan shippers said they currently pursue, at least to some degree. Shippers indicated that they currently pursue special niche market opportunities for their product and have been able to compete effectively in certain segments of the market ignored or poorly serviced by other supplier regions. Competitiveness for Michigan shippers in certain niches, such as Mid-West independents can be developed largely by individual firms. Certain other initiatives of a more joint nature may be required, however, in order to advance or maintain a competitive presence by Michigan shippers in other niches.

Washington, because of its large volume of fresh apples, services a very broad scope of market segments all over the world. Michigan generally finds itself pursuing relationships with buyers to either supplement supplies primarily sourced from Washington or service specialized demands in terms of delivery size, variety mix, packaging alternatives, or delivery schedule.

¹¹⁵ Michael Porter (1985) refers to the *focus* generic strategy that is often designated elsewhere as a niche strategy. This strategy differs from other generic strategies because it rests on the choice of a narrow competitive scope within an industry. Porter distinguishes between a *cost focus*, in which a firm seeks a cost advantage in its target segment, and a *differentiation focus*, where a firm seeks to differentiate its product within that segment. Broad market competitors may have either higher relative costs serving a particular segment or be unable (or unwilling) to meet the unique needs of a narrow segment of the market.

Action areas consistent with improvements in quality were highly supported by shippers. Most shippers indicated significant opportunities for Michigan corresponding to quality and quality image improvements and, in many cases, have been very active in this area at the firm level. Coordination with growers to facilitate quality improvements was generally recognized as a critical area of concern. Low quality fruit and/or poor varieties and strains severely constrained what shippers can do with that fruit. Further improvements in the production activities relating to storage, bruising, sizing, color, maturity, and general quality management were among the action areas receiving the greatest support.

Encouraging the removal or rejuvenation of poor varieties and strains was supported by 89% of the shippers. There was considerable debate, however, on how this could actually be accomplished. Shippers dissenting or qualifying their response indicated that the market would effectively eliminate growers consistently delivering poor quality fruit to the packing house and getting consistently low pack out.

One shipper who was instrumental in the questionnaire design suggested perhaps developing a program to pay growers to eliminate poor quality blocks and strains. This was met with unanimous opposition by the shippers, including even the shipper who suggested asking about it. Most shippers, however, recognized a need to provide growers some incentive to remove older blocks or provide them with better information to facilitate a better economic evaluation.

Capacity expansion for storage, packing, and bins to accommodate an expected surge in Michigan production was generally supported by shippers, but to a lesser extent than the quality improvement actions.

Shipper support for increasing the number of bins was high at 89%. Apple bins generally turn over between the packer and the grower several times during the season. Ownership, maintenance, and control of the bins varies according to individual circumstances. The supply of bins in circulation, although able to accommodate variable supplies to some extent, appears to be short for large crop years. How these additional bins are supplied remains an issue to be worked out between growers, packers, and shippers.

Expansion of CA storage capacity (85%) was quite high, however only 47% supported expanding total packing house capacity. Most shippers said that Michigan has adequate total packing house capacity. Several suggested that Michigan now has too much packing capacity and new problems are likely to emerge from this situation. The firm-level economic incentives for packers, many which have been stressing volume over quality, were mentioned frequently in connection with this issue.

One shipper, who is not a packer, expressed concern with the lack of commitment to pack quality, noting that expensive high-tech equipment does not ensure a quality pack. He indicated he would rather work with an older packing house that had a reputation for being conscientious with respect to quality rather than a newer one with more advanced equipment that was not committed to packing quality.

This may or may not persist as a problem in Michigan depending on the extent to which the total volume of production actually expands in the state, particularly as new production appears to be largely consisting of new, high quality orchard planting systems. The short run, however, appears to present some challenges for some packers and shippers with respect to the firm-level incentives to maintain high quality standards.

Increasing the efficiency, flexibility, and effectiveness in meeting buyer customer needs through the adoption of sophisticated packing house equipment was supported by 82% of the shippers. This was regarded as an important orientation by most shippers for Michigan to stay competitive. Continued modernization is regarded as a critical need for Michigan packing houses as buyers become more demanding in the area of quality and other services, such as PLU labels, etc. Shippers, citing retail trends toward reduced retail warehouse space, indicated flexibility and reliability in delivery would also be increasingly important services demanded by retail buyers.

Evaluating new varieties and strains received a fairly high level of support (71%), although the emphasis was on the need for more careful evaluation of a variety's suitability for Michigan growing conditions rather than the expansion of the number of varieties per se. Shippers indicated that there may be a tradeoff between devoting resources to improving current strains and expanding the variety mix even more; it is difficult to do both well.

Some indicated that economic evaluation of varieties must consider the mix for the subsector together rather than simply focusing on a variety-by-variety analysis. Buyers are inclined to prefer a supply source where they can fill a broad portion of their variety needs. Some varieties, though perhaps offering limited potential alone, may also serve to open the door for growth in certain markets for other varieties of which the buyer may have previously had only limited knowledge. The scope of varieties can potentially be presented as a menu for the buyer that communicates “choice” and selection alternatives of a scope that may not be available from other regions.

The strong quality performance of new varieties and strains contribute to much of the optimism shared by shippers with respect to the improving quality and suitability enhancing Michigan’s competitive position in certain segments. Economic and market outlook evaluation for growers that can help speed up the modernization of needed changes from older, less desirable varieties and strains exhibiting poor performance would be welcomed by the shippers.

Communication and coordination between shippers and growers with respect to variety demand and long-term planning came up frequently. It was suggested that an independent organization, such as the Task Force or Michigan Apple Committee, could facilitate the communication or compilation of some sort of comprehensive current shipper assessment of variety demand and outlook.

It appears there is an opportunity to improve subsector coordination between growers and shippers as shippers often have a knowledgeable perspective of demand conditions for fresh varieties that may not necessarily be adequately communicated in current prices received by growers. There may be some means for improved planning between shippers and growers related to this, perhaps targeting approximate desirable proportions of certain varieties.¹¹⁶ Some shippers, however, hesitate to appear as dictating what varieties growers ought to grow.

¹¹⁶ A survey of fruit plantings is currently conducted on a rotating basis by the Michigan Department of Agriculture compiling historic plantings by variety. While this data provides growers with useful information with respect to current bearing and non-bearing plantings, it provides little by way of variety demand outlook, and considers only information from the grower segment of the industry.

Shippers generally supported monitoring and analyzing the progress and success of competing fresh market regions (82%). On the other hand, this is an activity most shippers feel they involve themselves in anyway. Those dissenting expressed concern about committing additional scarce grower assessment monies in this area and questioned how much return actually may accrue to the grower as a result of additional effort here. One shipper noted that each marketer must ultimately take responsibility to gather their own competitor intelligence. This is an important action area, but shippers appear to be of a mind that it is already well addressed.

This opinion was not universally held. Some shippers expressed frustration toward both growers and other shippers, while suggesting that many rarely looked much beyond the state when it came to making fundamental business decisions. Return to investments in strategic intelligence systems is admittedly difficult to evaluate, especially for a stratified subsector where jointly gathered strategic intelligence is shared by many firms. How might one value an information system that may lead in part to choosing one series of actions over another, or more generally reduce uncertainty with respect to some future stream of choices?

Shippers were asked to indicate their support or non-support for increasing the grower assessment for apple promotion and research. Possible increases in assessment funds were divided into two areas, (1) for promotion and advertising, and (2) for technical and market research projects. Shipper support for increased assessments for promotion and advertising was considerably higher (81%) than for research (56%), as shippers consistently expressed a greater need for focusing expanded efforts on promotion.¹¹⁷ Not a single shipper supported increasing the assessment for research without increasing the assessment funding for promotion.

Expanded initiatives in both directions (promotion and technical research) should be carefully assessed, according to the shippers, in terms of their costs and benefits to the grower. Where support for an increase was not indicated, shippers cited either a financially strapped grower community, lack of clear benefit to the grower, or the vagueness of the survey question failing to

¹¹⁷ This difference probably would have been even greater given more clear and consistent wording of the question in the written survey instrument. "Needed" technical and market research projects was probably somewhat leading favoring their support and the term "needed" was not used for the promotion category.

indicate specifically enough programs that would receive new or expanded funding. It appeared that shippers felt that the technical dimension of growing (basic production research) and technology advances in the packing house had made considerable and sufficient advancement at this time relative to the needs for increased promotion of Michigan apples.

Several shippers felt that shippers should have the latitude to use a fraction of the assessment monies for their own firm-level promotion in support of the individual shipper promotions undertaken.

A number of action areas generated some controversy among the shippers with respect to the need for industry development strategies. One area included developing and implementing a system for non-destructive firmness testing in Michigan packing houses. There were 68% supporting the development of a non-destructive firmness testing system. Those favoring non-destructive firmness testing indicated poor, soft condition fruit is one of the greatest areas of concern for Michigan as the region seeks to improve its quality image. It was suggested that additional advances in field-level firmness testing could complement testing at the packing house.

Those opposing non-destructive firmness testing question the cost effectiveness of such a technology, especially since such testing focuses exclusively on firmness. Quality needs to be seen more broadly than fruit condition, it was suggested, and many further questioned the accuracy of pressure tests and their reliability as indicators of fruit condition.

Another action area that revealed divisions among the shipper community was developing a new mandatory program for management of quality and grade standards, especially for firmness and maturity. One half of those surveyed supported it, the other opposed supporting a mandatory quality grade standard. Opinions were strongly expressed behind both positions.

Those supporting a mandatory program for quality grades and standards cited an industry-wide need to recognize the broad impact of the sale of poor quality on the demand for Michigan

fresh apples. One bad apple purchase leads produce buyers and consumers to long-standing substitution of other fruits for apples or a switching of regions from which the apple are sourced.¹¹⁸

Most favoring a mandatory program recognized many in the industry would feel uncomfortable with this approach, but that if the industry would set its own standards and enforcing mechanism it would be well received by the trade. Further, if Michigan wants to focus on a strategy of serving quality, premium accounts, some manner of consistent, professional (widely recognized, credibly enforced) quality standards will need to be adopted. This will be somewhat complex with a variety mix such as that which is currently produced and marketed in the state as well as the variety of market segments serviced. Those in Michigan must decide what markets will ultimately be of highest priority to develop or maintain for their long term interests. The absence of meaningful quality standards limits growth in some of the better growing markets.

Shippers noted Michigan appears to be losing considerable ground to Washington over the quality issue and perhaps unnecessarily. Some suggested Michigan may want to use a recognized trade minimum standard, particularly for condition, by initially adopting that used by Washington. This would at least make a Michigan quality standard immediately understood and acceptable to retailers. One shipper noted that Washington has developed the industry standard whether Michigan shippers wanted to acknowledge it or not. Another noted that a program must be mandatory or it won't work.

Those opposing a mandatory standard cited a concern for unnecessarily infringing on the freedom for negotiation for quality between growers, packers, and shippers, and furthermore a perceived ineffectiveness of the standard in Washington. Competition was viewed as an effective driver of quality. Others noted that mandatory standards were not flexible enough with highly variable annual climatic conditions and that inability to credibly and consistently deliver such a standard might unwittingly compromise Michigan's stock of buyer goodwill. Setting and enforcing

¹¹⁸ This would be a meaningful consumer study to undertake on behalf of the Michigan fresh apple segment, testing and observing actual consumer switching patterns between fruits. The extent to which consumers do switch to another fruit after one or two bad experiences would have implications for the extent to which some sort of broad quality control incentives may be justifiable.

a meaningful standard would be difficult and perhaps compromise one of Michigan's unique advantages as a supplier region, namely its packing flexibility and responsive delivery.

Imposing such a standard on fresh apples would likely have further effects on the processing segment of the industry in Michigan and should be taken into consideration before being mandated.

Several indicated there would be too high a cost related to inspection and packing house slow down exceeding any benefit that may be realized. Imposing such a standard would result, some argued, in a consolidation of packing houses, given the expense of inspection and the need for high volume equipment.

Others indicated lower-end growers not committed to an increasing quality standard will be naturally weeded out by economic pressures without a mandatory minimum. Similarly, it was argued that lower quality product tends to be directed by some shippers toward lower quality accounts who don't tend to pay their bills. Shippers routinely shipping low quality therefore will also be weeded out.

Several shippers indicated that they market a "premium" product or pack and recognize a decent premium over conventional packs. A standard premium grade definition without imposing a mandatory minimum standard would be more acceptable to some shippers who indicated non-support.

It is apparent that developing a workable program, particularly for a mandatory minimum quality standard, would require quite a lot of industry discussion, consensus building, coordination, and evaluation before development and implementation of a program could be accomplished. The relatively low level of support compared to some of the other action areas should not necessarily signal to the subsector or Task Force that this is a low priority area within which to develop specific programs. Strong cases were made by shippers both in support and in opposition. There appears to have been some division on the matter according to the size of the shipper organization and whether or not a shipper was active in the export market. Larger shippers and those tending to emphasize more export tended to favor adopting a minimum standard while smaller shippers

tended to be in opposition.¹¹⁹ The adoption of such mandatory quality standards may not benefit all shippers equally, depending on the specific market segments emphasized by each firm.

A difficulty in subsector strategic planning is illustrated here as subsector strategies that are viewed by some firms as critical for the subsector and directly supporting their firm-level strategies may be viewed as running counter to the firm-level strategies of others. Pareto improvements through the adoption of mandatory industry-wide courses of action rarely follow on a firm by firm basis.

Several industry changes or initiatives were suggested and supported by a number of shippers, but received less than enthusiastic support from the shippers as a whole. Initiation of a Michigan apple marketing clinic was one proposal. It was not strongly opposed, but the marginal benefits of such a clinic were not widely apparent.

An association of apple exporters was met with similarly limited support. Only a fraction of the shipper organizations in Michigan are involved in the export market to a major degree at this time.

Shippers favoring such approaches indicated there may be opportunity to capture some economies of information gathering. Those opposing indicated there was plenty of information available and accessible for individual shipper organizations and another organization or meeting would be difficult for most organizations to support, particularly the smaller ones.

Most of the proposed industry actions were suggested in recognition that the success of the action is contingent on, or may be enhanced by, a coordinated, collaborative effort. The shipper that proposed a standard stickering charge over the industry, for example, stated that it could only work if there was strong solidarity among the Michigan shippers. It was recognized that even with such a unified position shipper standard operating procedures were typically established by Washington concerns given their sheer size.

¹¹⁹ Detailed demographic data with respect to shipper size, sales emphasis, technology, etc., were not gathered during this stage of the interview. The size and market emphasis relationship stated is based on an approximate assessment of shipper size and export emphasis derived through discussions with key industry persons as well as through the firm interviews.

Other actions proposed recognized the need for neutral leadership behind the initiative. Packer surveys, packing house TQM programs, and market outlook surveys and analysis for varieties all require effective leadership and facilitation with more of a supporting role provided by selected shippers. Increasing promotional content to buyers of apples to reflect the technical advances of the Michigan subsector, including packing houses, storage, orchards, etc., received broad support and was thought best achieved through the on-going promotion and merchandising programs of the Michigan Apple Committee.

Some actions proposed received broad support in principle, but required a fair amount of consensus development for any specific program. The variety and packer surveys fell in this category to some degree, but details were addressed through the shipper subcommittee within the Task Force.

The packing house TQM program and Michigan standard premium grade, however, have engendered much greater debate along the finer points of the proposals. The methods for advancing the development of these proposals include active debate and evaluation at Shipper Association and Task Force meetings, pursuing further feedback from packers and growers through surveys, active meeting of the shipper subcommittee, and information articles in industry publications relating the importance of and opportunities for improving quality in a general sense.

In summary, the increased level of commitment on the part of the shippers to support industry-level efforts beyond the immediate scope of their firms was widely demonstrated throughout this component of the survey. The survey permitted open proposal and discussion of a wide variety of industry actions to improve the competitive state of the region. Shipper responses provided direction to the Task Force and other supporting organizations with respect to priority action areas needing to be developed, as well as direction for pursuing supplemental information from other segments of the industry.

4.4 PRIORITIZING UNIVERSITY RESEARCH AND EXTENSION SUPPORT

An important component of strategic management for any organization is marshalling and allocating subsector resources into a unique and viable posture based on its internal competencies

and shortcomings. These activities should be done by those in the subsector with a view toward integrating the subsector's major goals and action sequences into a cohesive value-generating system.¹²⁰ The firm, with its hierarchy of management and administration, can mandate policies to coalign its internal departments or divisions with a broader organizational strategy. This is not so easily brought about in a subsector where such hierarchy is absent. Markets and prices don't always discipline all subsector organizations toward cohesive system-wide strategies.

The arguments laid out in chapter two suggest alternative coordinating mechanisms may be necessary to maximize a system's performance. This may be true with respect to supporting organizations that are not as responsive to markets or prices when setting their own agenda.

The research and extension activities supplied by Michigan State University, as the Land Grant University supporting the state's agriculture, provide important resources for the apple subsector. Support provided through the Land Grant institution for the benefit of the agricultural sector and also the consumer. An attempt was made during the interview to remind shippers of the limited resources available to the university to provide education and informational assistance to the industry. Shippers were encouraged to keep a sense of priority in mind as they responded to questions in this part of the survey.

It was apparent that shippers were very positive about the role of research and extension support coming out of Michigan State University. Shippers and growers both, in separate surveys, widely identified the research and extension support as a key regional strength for Michigan as a supplier region.

Research and extension provided through the public university may be considered valuable, but may not be economically feasible to undertake to any significant degree by any individual firm or private organization. This is the typical justification for public provision of these services. The individual firm, because its inability to capture adequate exclusive benefit or due to other

¹²⁰ See Quinn (p.7, 1980) for the corollary to the firm.

diseconomies, still is able to integrate certain key goods and services to complement assets committed by the private sector.¹²¹

Significant research and extension resources have been committed by Michigan State University to the support of the apple industry in Michigan. This is partly because the value of production generated by the apple sector is considerably greater than other individual fruit or vegetable produced in the state. A comparison of the average value of production of selected fruit and vegetable crops is presented in Table 4.8. The value of the apple crop made up nearly 50% of the value of all fruit crops in the state between 1988-92.

Table 4.8 AVERAGE VALUE OF ANNUAL PRODUCTION FOR SELECTED MICHIGAN FRUIT AND VEGETABLE CROPS: 1988-92

Fruit or Vegetable Commodity	Average Value of Annual Production¹²²
	----MILLION DOLLARS----
Apples	82.9
Tart Cherries	36.3
Blueberries ¹²³	27.1
Carrots	18.1
Onions	17.8
Asparagus	15.0
Celery	14.6
Sweet Cherries	12.6

The coalignment of research and extension efforts undertaken through the university with the needs and priorities for the provision of complementary public goods demanded by the apple industry is an important goal pursued with varying degrees of success by university personnel and by firms within the industry. It is often difficult to accurately gauge regional industry demand for the kinds of specific support provided through university research and extension, therefore additional means of demand signaling may well benefit the coalignment of University support with industry demand for the kinds of support that can be provided by such an institution.

¹²¹ On the problem of determining an equitable quantity and quality of publicly provided goods and services, see Schmid (1987, pp. 36-94).

¹²² Michigan Agricultural Statistics 1993, Michigan Agricultural Statistics Service.

¹²³ Value of production only recorded for 1992.

The Michigan Apple Research Committee is one organization that has allocated very limited grower assessment monies for supplemental support of selected apple research activities. They consider their perceptions of research needs for growers. By far the major source of funding, with considerably more research and extension support, is provided to the apple industry through staffing professionals in various departments within the MSU College of Agriculture who are financed through state and federal funding. Additional publicly provided resources support experimental research stations, extension agents and offices, etc.

The broad scope of public good-type supporting activities, many of which are of a fairly specialized nature, together with limited resources coming from a variety of sources, points to a need to develop a systematic means for coordinating and prioritizing areas of support for research and extension to the Michigan apple industry.

One of the more secondary objectives of the Michigan Apple Industry Strategic Planning Task Force has been, through a segment-by-segment survey, to develop a sense of priority need areas relating to research and extension support. A section of the shipper survey addressed this particular issue and was intended, in part, to serve as a facilitating or information mechanism to aid a compilation of shipper perceptions in this area. A list of 13 research and extension areas were discussed during each interview, asking shippers to indicate their rating of each area as being "very important", "moderately important", or of "low importance" to the Michigan apple industry. These areas were identified by the Task Force previously as activities or resource areas identified as particular areas of need in which the University has traditionally served the apple industry. The compilation of responses from the different shippers is presented in Table 4.9.

**Table 4.9 PRIORITY AREA NEEDS FOR RESEARCH AND EXTENSION
SUPPORT SUGGESTED BY MICHIGAN APPLE SHIPPERS**

	Very Important	Moderately Important	Low Importance
Research and Extension Area ¹²⁴	----Percent Responding---- (Based on 19 shipper organizations)		
Improving the overall quality of apples produced by Michigan growers	89	11	0
Improved, safe, and politically acceptable pest control methods, including IPM approaches	84	16	0
Improved maturity, storage, and post-harvest methods	82	18	0
Expanding domestic and export demand for Michigan apples	74	13	13
Economic and marketing aspects for Michigan apples	68	26	5
Improving grower efficiency through new orchard technology	67	25	8
Integration and strategic planning for the Michigan apple industry as a whole	50	42	8
Improved packing house technology, equipment, and methods	50	24	26
Labor issues, management, and regulations	45	47	8
Varieties that are well adapted to Michigan	39	39	21
Fruit farm business management	36	47	17
Improved processing technology and methods	20	53	27
Expanding grower production of Michigan apples	11	28	61

Some of the research and extension areas represent a fairly broad spectrum of related activities within which further prioritization would probably be desirable. Differences in designated relative importance across research and extension areas, however, provides an indication of priority along different streams of more specific, related activities.

Many shippers referred to the high standing of extension within the grower community and indicated that certain industry re-orienting or educational actions may be viewed as having more

¹²⁴ Ordered by frequency of response to "very important".

credibility coming from Michigan State than from the shipper organization, which can often be regarded with suspicion by the growers. This would include such activities as coordinating and facilitating joint subsector action where broad-based participation may be necessary to affect certain strategies or change.

"Improving the overall quality of apples produced by Michigan growers" was designated most frequently as a "very important" area (89%) through which research and extension can help the Michigan apple industry, with 100% indicating it to be moderately or very important. *"Improved maturity, storage, and post-harvest methods"* relates closely to research and extension efforts leading to overall quality improvements, and was designated as "very important" by 82% of the shipper organizations, with the remaining 18% ranking it as moderately important. These areas stood in contrast to research efforts that would lead to expanding production, as *"Expanding grower production of Michigan apples"* was the area most frequently designated as having "low importance" (with 61%) and was ranked "very important" by only 11% of the shippers.

Improved and politically acceptable pest control methods was regarded as an area of high importance for research and extension support. Eighty-four percent of the the shippers ranked this area as very important, and the other 16% as moderately important. Research on new and effective pest control alternatives is an expensive, time consuming activity that requires a high degree of specialized technical knowlegde and resources. The individual firms in Michigan are unable to accomplish much of these kinds of research initiatives independently. Given the strong demand for a variety of effective pest control techniques, together with the relatively high intensity of chemical applications involved in the production process for apples in Michigan, research on superior pest management systems is one of the areas of highest priority among shippers.

Marketing, demand expansion, economic analysis of key issues, and strategic planning for the industry were among those areas that could be regarded perhaps as being in the "next tier" of priority areas. These had, however, 87%-92% of the shippers who ranked them as moderately to very important.

"Improving grower efficiency through new orchard technology" and *"Improved packing house technology, equipment, and methods"*, both which to a limited extent could be regarded as

quality improvement areas, were also areas in this tier which were designated as "very important" as the modal response. Many shippers that designated these areas as having "low" or "moderate" importance indicated that either individual shippers or non-university organizations were able to provide needed support along these lines, or that currently, marginal improvements along these lines were important but other areas were more important. Over 50% of the shipper organizations, however, designated these categories as "very important" priority need areas for research and extension support.

Areas designated by shippers as having primarily "moderate" or "low" importance include University support programs aimed specifically at expanding grower production or improved processing technology. The research and extension activities directed primarily toward these groups were not apparently viewed as providing significant direct benefit to shippers and may have influenced their ranking accordingly. Labor regulation and management, fruit farm management, and improved processing technology and methods were perceived as areas more feasibly developed on an individual firm basis, and therefore of lesser priority for additional research and extension resources in comparison to resources and programs requiring a more industry-coordinated development effort.

The limited opportunities associated with expanding the varieties marketed by Michigan was again reflected in the shippers' indication of priority for "varieties that are well adapted to Michigan", where 60% designated this area as having "low" or "moderate" importance. Those that designated this area as being "very important" also tended to indicate emphasis should be on improved strains of current varieties.

These results should be considered in context. Many shippers expressed concern with declining University support for the industry. Prioritizing the research and extension goods and services may speak to realigning the mix of what supporting activities are provided, but some were concerned that by designating areas of relative importance, it would result in a further shrinking of the supporting resources provided.

This survey, interaction, and information gathering with the shipper segment has proven to be valuable to several organizations in addition to the university. The Michigan Apple

Committee, for example, has included a major emphasis in marketing as a part of their five year plan. Priorities for this plan were developed in part from these results as well as other elements of the shipper survey. Leaders from the MARC have also indicated they have used this information to reassess some of their priorities. In response to shipper comments, several research and extension areas were added or expanded for the grower survey in order to provide even greater clarity on priority within several areas.

4.5 INDUSTRY DIRECTIONS PROPOSED BY THE SHIPPERS

4.5.1 SUMMARIZING SEVERAL INDUSTRY DIRECTIONS

This section seeks to draw together the results of the apple shipper survey which was requested by the Task Force and carried out by MSU agricultural economists. Many useful insights and specific proposals were generated through this survey process that have been either incorporated into the agenda of specific organizations, or raised the need to develop means for addressing them. Others issues, needs, or approaches raised through this process have been widely debated by industry leaders with resulting further industry evaluation with regard to their objectives and workability, while some have been summarily dismissed. The survey project has, at the very least, placed shippers in a mind set to reflect on their broader competitive condition and the future of the Michigan subsector as a supplier region.

Several major themes of related needs for industry action emerged from the survey. Following the concept of strategy as a stream of decisions that indicate a certain directionality, it appears that at least three broad directions are emerging, each with a number of related actions that could be considered as supporting the broader thrusts or directions. Overall quality improvement appears to be one of these major directions. Developing improved information gathering and coordination mechanisms for industry responsiveness to opportunities and challenges is a second thrust. A third thrust, perhaps a specific application of the aforementioned areas, is the development of an effective pest and pesticide stewardship program for the Michigan industry.

Many factors in the competitive situation analysis indicated that improving quality was something Michigan producers are increasingly able to deliver, buyers are increasingly demanding,

and competing regions are increasingly providing. Many of the promising opportunities for Michigan shippers and growers are contingent on improved quality; quality product, quality service, overall quality performance, and quality image. Many of the industry strategies proposed by shippers related directly to means for improving overall performance in this area. Industry actions that require considerable changes and effort received high support and commitment by shippers because of the recognized importance for this key driving force seen as critical to the future success of the individual firms.

The responsiveness of the shippers to participate in an extensive and intensive set of strategic planning activities to examine and discuss alternative approaches to key industry issues is reflective of their recognition of the value of a responsive industry to changing conditions. Many of the industry issues and actions related directly to improving communication linkages. Support and input for further industry segment surveys was widely observed. A recognition of the interdependence of the welfare of the shipper community with that of the Michigan growers and packers was widely reflected in the interviews.

The development of a market demand analysis and outlook for varieties and strains was widely supported and identified in Shipper Association meetings as an action that should receive immediate priority. Industry coordination toward delivering the best product in the long run was of high concern to the shippers.

The other area consistently receiving high priority throughout the interviews related to the area of pest management. The challenges posed by pesticide, food safety, and environmental regulations was among the greatest areas of concern for shippers. Improved, safe, and politically acceptable pest control methods, including IPM approaches, were designated as the second highest area of priority for University research and extension. While few shippers offered detailed proposals on industry actions to address this area, many who were familiar with the concurrent "Pesticide Stewardship Program" being developed within the Task Force, were extremely supportive of this initiative.

This section also presents a summary of specific industry actions that were discussed by various shippers during the interviews, including a number that were not explicitly included on the

original survey questionnaire. Most of these additional or specific actions were offered in response to issues or actions that were explicitly included in the questionnaire. A number of these industry actions have been summarized and discussed as part of the results, at the Task Force meetings, at the Shipper Association meetings, and among those involved with the shipper subcommittee of the Task Force. The wide array of specific industry actions proposed by many different individuals indicates a strong orientation toward prospective collaborative effort on the part of the shippers as a group.

The industry actions proposed through the course of meetings in the Task Force, the Shipper Subcommittee, and the interviews with individual shippers are summarized in Table 4.10. The objective of each action is indicated as it was presented by those who proposed it. The consensus of shipper support for each action is also indicated, based on the result of debate along each area carried out at Shipper Association and Task Force meetings as well as from personal discussion with individual shippers. Primary barriers to each action are similarly identified. Further actions taken in accordance with each area are indicated to illustrate the different approaches taken to further evaluate or implement the different proposals at a broader level.

Table 4.10 INDUSTRY ACTIONS PROPOSED FROM THE SHIPPER SURVEY, TASK FORCE, AND SHIPPER SUBCOMMITTEE

Industry Action Proposed	Objective	Consensus Support for Action	Primary Barriers to Action	Further Actions Taken
Increase informational promotion to trade of technical advances in Michigan packing houses	Raise the image of Michigan to buyers and the trade, particularly with regard to quality capability and packing sophistication.	High	<ul style="list-style-type: none"> ● Difficult for individual shipper to accomplish 	<ul style="list-style-type: none"> ● Discussed at Shipper Association and Task Force meetings ● Promotion development currently underway through the MAC
Compose and administer a strategic issue survey of the packers	Provide confirming and supplementary response to the issues and strategies identified by the shippers.	High	<ul style="list-style-type: none"> ● Difficult for individual shipper to accomplish 	<ul style="list-style-type: none"> ● Proposed and discussed at the Task Force and Shipper Association meetings ● Survey constructed and carried out jointly with the grower survey
Organize a shipper market situation and demand outlook and analysis for current varieties and strains	Provide growers with additional long-term planning information to improve planting decisions, better respond to and serve the market, and realize profit potentials	High	<ul style="list-style-type: none"> ● Some shippers uncomfortable "recommending" varieties. ● Someone must coordinate and prepare the report ● Gathering the most meaningful information ● Projecting future demand very difficult 	<ul style="list-style-type: none"> ● Discussed at length by Shipper Subcommittee & Task Force ● Proposed at Shipper Association meetings ● Included as a possible action in the grower survey ● Variety survey developed and mailed to shippers
Develop a standard packing house Total Quality Management program or quality guidelines	Raise the quality management practices in Michigan with a view toward delivering a high, uniform quality consistently.	High	<ul style="list-style-type: none"> ● Some say leave this to individual decisions ● Difficult to identify which standards should be employed. ● Educational and extension approaches with so many different packing houses ● Who pays? 	<ul style="list-style-type: none"> ● Discussed at Shipper Association meeting ● Several proposals have been developed to the Task Force and shippers by the shipper subcommittee ● Responsibility for developing components of the project delegated to selected leaders on the Task Force
Develop a standard Michigan premium grade for varieties of fresh apples	Raise overall quality standards of fresh apples; move to take advantage of emerging, customer driven opportunities; provide an incentive for discipline throughout the production system with respect to quality.	Moderate-High	<ul style="list-style-type: none"> ● Premium may become the standard, reducing subsector income and fresh sales ● Very difficult to gain a consensus on details of grade ● Policing/enforcing compliance with grade ● Perceptions of variable quantity and quality of Michigan production 	<ul style="list-style-type: none"> ● Discussed at Shipper Association meetings ● Discussed at Task Force meetings ● Included as an action component in the grower survey ● Discussed at several shipper subcommittee meetings

Table 4.10 INDUSTRY ACTIONS PROPOSED FROM THE SHIPPER SURVEY, TASK FORCE, AND SHIPPER SUBCOMMITTEE

(Continued)

Industry Action Proposed	Objective	Consensus Support for Action	Primary Barriers to Action	Further Actions Taken
Increase use of percentage sales fee by shippers compared to fixed rate per box.	Provide greater incentive for shippers to strive for high, strong prices. Have grower and shipper incentives and results more consistent and coaligned.	Moderate	<ul style="list-style-type: none"> • Could be more costly to growers • Several shippers strongly prefer per box rates • More complicated to assure revenue-return linkages • May not stop price cutting 	<ul style="list-style-type: none"> • Proposed and discussed at Shipper Association meetings • Question included in the grower survey
Improve graphics on cartons and other packages	New high color and resolution capabilities in cartons, including tri-wall bins, offers promise for improving promotion effectiveness; high fixed costs may require some collaboration.	Limited	<ul style="list-style-type: none"> • Some advocate leaving this up to individual shippers • High cost of development • Evidence of adequate returns to additional packaging costs not compelling to all 	<ul style="list-style-type: none"> • Discussed at Shipper Association meeting • Individual shippers have proceeded with mock-ups and trial studies on their own
Evaluate an industry transition from wooden to plastic bins	Potential for improvements in bin and fruit quality and long-run reduction of total cost.	Limited	<ul style="list-style-type: none"> • High fixed costs make this transition difficult given current size of most shippers; • Evidence of benefit to industry from coordinated effort not compelling to all • Cost sharing and coordination of total effort require considerable attention 	<ul style="list-style-type: none"> • Discussed at Shipper Association & Task Force meeting • Included as an item in the grower survey to discern their interest • A cost-benefit study may be needed
Develop a new master container that will reduce bruising	Current containers can contribute to bruising, especially for some varieties. Market demand for bruising pushes this as a need suggested by some.	Limited	<ul style="list-style-type: none"> • Research and development is expensive • Transition to a new master container might be expensive • Must coordinate with container suppliers • Some shippers say leave it up to individual decisions. 	<ul style="list-style-type: none"> • Discussed at the Shipper Association meetings & Task Force

Table 4.10 **INDUSTRY ACTIONS PROPOSED FROM THE SHIPPER SURVEY, TASK FORCE, AND SHIPPER SUBCOMMITTEE**

(Continued)

Industry Action Proposed	Objective	Consensus Support for Action	Primary Barriers to Action	Further Actions Taken
Adopt an industry standard stickering charge above FOB rate	Minimize price squeezing on the service by buyers by passing on higher packing costs. Potential for higher returns to those who could do it more cheaply.	Limited	<ul style="list-style-type: none"> ● Buyer market power ● Not likely to be feasible with the market leadership of Washington ● Difficult to agree and enforce a standard rate ● Stickering commonly provided already by many packers with no extra charge 	<ul style="list-style-type: none"> ● Reported and discussed at Shipper Association, Task Force, and Shipper Subcommittee meetings

4.5.2 THE WAY AHEAD

The shippers have been actively engaged in the industry's strategy development process in the wake of the shipper survey. Several reports have been published summarizing the results of the survey and have been distributed to members of the Task Force, the shippers, and other leaders in the industry.¹²⁵ A series of related articles have also been published in industry publications, trade journals, and presented at industry meetings. The shippers continue to develop details of industry actions they have deemed of highest priority through the Shipper's Association and through their representatives to the Task Force. The variety survey, as indicated earlier, is underway as a supplemental shipper-wide information gathering process.

Information on certain industry priorities were further developed through a survey of the growers and packers. Many of these issues are taken up in the next chapter. An iterative approach to the development of certain industry strategies continues to be observed, as shippers respond to the direction and feedback proposed by other segments. Many of the results from the grower-packer survey have been presented and discussed among the shippers through subsequent Shipper Association meetings and other communications. Many of the actions that the shippers have encouraged the industry to move forward on have involved continuous discussion, analysis, and feedback from different segments and organizations.

¹²⁵ The two major reports circulated to the industry with a view toward their response and for their reference were those mentioned at the beginning of this chapter by Ricks and Woods (1994a, 1994b).

CHAPTER 5

RESULTS AND ANALYSIS OF THE APPLE GROWER AND PACKER SURVEY

5.1 OVERVIEW

A major information gathering initiative was compiled by the Michigan Apple Industry Strategic Planning Task Force, following the comprehensive survey of the fresh shipper segment. This stage of industry interaction involved soliciting and compiling grower perspectives on issues pertaining to the strategic planning initiatives being considered by the Task Force and other industry organizations.

Most packers in Michigan are also growers. Given the wide level of interest in the perspectives of Michigan packers on industry issues, a special supplementary segment was included within the grower survey that directly solicited packer responses to several key issues.

This chapter presents the approaches used in formulating the grower and packer survey as a key component to formulating strategic planning activity at this level. The results of this survey are presented to convey both grower and packer perspectives, and to link these responses back to information obtained through the shipper survey.

Perspectives on the competitive situation of the Michigan apple industry are presented. Industry strengths, industry issues and challenges, and industry opportunities are discussed in light of survey results. The implications of the competitive situation of the industry as perceived by growers and packers for formulating viable industry strategy is discussed.

Grower and packer responses reflecting their support for a variety of industry action alternatives are discussed in the next section of the chapter. These action alternatives were tentatively formulated through the deliberations of the Task Force, the shipper survey, and through

suggestions gathered from pre-survey meetings with each of the major grower organizations. Varied responses to these action alternatives either strengthen the case for pursuing a particular course, reveal a need for further consensus building, or strengthen the case for pursuing alternative approaches or other issues.

A section of the grower survey solicited responses relating to University research and extension priorities. This section corresponds to a similar section included in the shipper survey. The results and cross-segment comparisons are presented and discussed to illustrate the relationship of university research and extension with the broader emerging strategies of the industry. Discussion is expanded around the responses relating to the importance of the University's role in strategic planning and coordinating for the industry.

Industry actions to improve the overall quality of Michigan apples for the fresh market emerged as main needs to address a critical industry capability both in the grower and in the shipper surveys. Alternative approaches and variable response to these approaches are discussed to illustrate the need for consensus building toward a workable industry plan on a major issue. The role of the Task Force as a facilitating organization with respect to overall quality improvement is also considered.

5.2 THE APPLE GROWER AND PACKER SURVEY

A survey to investigate and gather broad-based Michigan apple grower and packer perspectives on strategic issues and actions for the Michigan apple industry was planned to follow the corresponding survey of the shippers. The information gathered from this survey was intended obtain broad-based grower and packer information on various industry aspects, including the evolving agenda developing for the Task Force and the Shippers Association. It was also intended to provide input from these key industry segments toward identifying the most important industry issues. Furthermore, the survey was intended to indicate grower and packer support for various industry actions proposed either by the Task Force, the Shippers Association, or the leadership within other major industry organizations in the state.

This section examines the information gathering process as a tool for facilitating broad industry discussion and encouraging consensus building with respect to strategic direction.. The content of the survey was chosen purposefully to parallel the content of the shipper survey to facilitate comparison between these segments. Certain actions or issues would need strong support or recognition among both groups in order to implement a workable industry improvement program.

5.2.1 THE SURVEY APPROACH

A mail survey was chosen to be the primary information gathering instrument. Detailed personal interviews with each grower and packer was not a feasible survey approach, given the size of these subsector segments. Focus groups using grower leaders or representative growers was considered, however the Task Force deemed it important for as many growers as possible to have an opportunity to offer their perspectives on these industry issues and industry action approaches. This would enable not only opportunity for wide grower participation and a diversity of perspective, but would serve the dual purpose of raising overall grower awareness of the Task Force activities and the need for growers to consider industry-level actions and strategy.

The formation of the survey approach and content began with a draft composed by the Michigan State University economists, with discussion and input by the Task Force, based in part on the forming agenda of the Task Force and the results of the shipper survey. The grower questionnaire draft was discussed with the leadership of the major grower organizations for their input, including the Michigan Apple Committee, MACMA, the Michigan Apple Research Committee, the Michigan Pomester's Association, and the Michigan Apple Promoters. The wide scope of industry organizations investing ideas and input in the construction of this survey was intended to raise their interest in the results and possible implications for their respective organizations.

The structure and format of the survey was designed in an attempt to permit the grower to quickly provide feedback over a wide scope of industry issues and proposed actions. A SWOT format similar to the shipper survey was used as an organization format. Growers were given

opportunity to provide expanded (open-ended) feedback within each section, but the major thrust of the survey focused on responding to closed end questions. These questions were developed with considerable input and pre-testing from the Task Force and various industry organizations such as the Michigan Apple Committee. The emphasis on specific closed-end questions facilitated the compilation and summary of a large amount of data from several hundred respondents.

The Task Force desired to have some type of survey of Michigan packers. The importance of surveying this segment was also reflected by the shippers when they were surveyed. Growers were asked to indicate whether they were also packers and, if so, were asked to complete the section for packers as well. Discussions among leadership at the Task Force resulted in a decision of adding a section to the grower survey specifically targeted to the grower-packer segment. Responses to each of the major sections of the survey could therefore be sorted to be reflective of packer-growers and non-packer-growers. The packer section included supplemental questions considered specific to their packing house operation.

The survey, once formulated to the satisfaction of those on the Task Force, was mailed to all growers. The mailing list of the Michigan Apple Committee was used. The Michigan Apple Committee maintains this grower address database for their own activities and agreed to send out the grower questionnaire as part of an important partnership effort. Industry partnering also included an agreement by MACMA to share in the cost of the survey, providing funds to cover a major portion of the mailing expenses.

All growers identified on the MAC mailing list were requested to respond to the survey questionnaire. The Michigan Apple Committee list was the best available representation of the entire population of apple growers in the state and, therefore, the survey can be considered to be circulated over a census.¹²⁶ The survey was mailed to 1250 growers throughout Michigan. A second mailing followed about six weeks later to those who had not yet responded. Leadership

¹²⁶ The survey process, as such, generated a non-random response. No statistical testing between sub-groups within the grower population is therefore appropriate. The response can, at best, be considered to represent growers who are likely to be involved or have an interest in industry-level concerns. Some bias toward larger growers appears to be evident among the respondents. Examination of responses by region indicated little differences in proportion of growers responding.

from various organizations within the Task Force also encouraged their member growers to participate. The final push to encourage grower participation in this process involved handing out surveys and promoting the activity at the fall Horticulture Show where many growers were attending.

The response rate was fairly good, especially considering the length and detail of the survey, and the fact that the timing of the mailing was during a particularly busy period for many apple growers. There were 254 usable surveys returned representing about 21,000 acres. The 1991 Michigan Rotational Survey - Fruit conducted by the Michigan Department of Agriculture, indicated there were 1,300 apple grower operations in the state producing on 58,000 acres. These figures may actually overstate current numbers. The number of current grower operations may well be closer to between 1,100 and 1,200 with approximately the same or somewhat less total acreage as in 1991.

A revised grower count indicates a usable response rate from the Task Force survey of about 22% (254 of about 1150 active growers). Growers were asked to indicate their acreage in the Task Force survey. Approximately 21,000 acres were reported to be grown by the respondents. This represents about 36% (21,000 of about 58,000 total acres) of the acreage in Michigan.

Forty-three of the growers indicated they either owned or operated a packing house. Current industry estimates indicate there are 100-125 packing houses of any significant size. Although many growers pack a few of their own apples for minor commercial accounts, most of the production is concentrated within about 50 packing houses. Thus it appears that the 43 respondents operating a packing house provides strong representation of the total population, although packers were not required to indicate the pack volume.

5.2.2 THE SURVEY CONTENT

The survey content focused on a broad industry level assessment within an overall strategic planning framework. A copy of the survey is presented in Appendix C. The major sections, differing only slightly from the shipper survey, were organized as follows:

- I. Strengths of the Michigan Apple Industry
- II. Challenges, Issues, and Limitations Facing the Michigan Apple Industry
- III. Opportunities for the Michigan Industry
 - A. Expansion of Michigan Fresh Apple Markets
 - B. Expansion of Michigan Processed Apple Markets
 - C. Development of Stronger Pricing Approaches for Processing Apples in Other States Similar to MACMA
 - D. Technical Improvements
- IV. Action Alternatives to Improve the Michigan Apple Industry
- V. Programs and Priorities for the Michigan Apple Committee and Michigan Apple Research Committee
- VI. MACMA
- VII. Research and Extension Needs for the Michigan Apple Industry
- VIII. Other Suggestions to Improve the Michigan Apple Industry
- IX. General Grower Information
- X. Supplemental Questions for Packing House Operators

Grower responses to questions within this survey were utilized to summarize grower perspectives on the competitive situation of the Michigan apple industry, grower response to prospective industry actions, and grower feedback on the programs of the major industry supporting organizations.

5.3 THE COMPETITIVE SITUATION OF THE MICHIGAN APPLE INDUSTRY

Successful subsector strategies are built on the relative and distinctive competencies of that subsector with a view toward emerging and continuing opportunities, problems, and threats. Identifying and understanding the nature of these competencies for a complex subsector is not always a straightforward issue. Traditional basis for competitive advantage for the subsector as a supplier region may be changing. Certain perceptions of regional subsector capability may not be well understood by individuals within the subsector due to their lack of exposure to the technical and institutional interplay between factors primarily taking place within other value-adding stages.

One approach of the Task Force has been to try to evaluate and bring together the collective judgement and knowledge from diverse perspectives of subsector participants regarding the competitive situation the Michigan apple industry and opportunities for improved competitiveness and performance of the subsector. It is intended that broad industry input and evaluation of the merit and workability of alternative industry strategies can be strengthened by

compiling as clear a picture of industry analysis as possible. This goal is pursued by gathering and evaluating information from a wide variety of sources.

A secondary goal of compiling an "industry" competitive situation is to explicitly encourage participants within the subsector to think in terms of broad subsector strategies and action possibilities that may be useful to address issues that face many of the individuals much in the same way. Some growers and other industry participants have limited perspectives on what kinds of coordinated industry actions might be feasible, how these might be practically implemented, and the potential benefits to the subsector and to individual firms within the subsector. A number of industry leaders, however, recognize the need for collaborative approaches to address certain kinds of issues and are active in grower groups like MAC, MACMA, Pomesters, MAP, etc.

The diverse evaluations, ideas, and indications of support for certain actions of the grower community are assembled in the following sections that deal with the apple industry's competitive situation as it is gathered segment by segment by the Task Force. Industry strengths are addressed followed by internal and external industry issues and challenges, and finally industry opportunities. These grower responses are summarized with the goal of increasing the understanding of the consensus perception of growers with respect to the industry's internal capabilities and its external environment.

The perspective of packers identified in the grower survey are discussed in each section. Further, a linkage of the results of the grower survey back to the results of the shipper survey is made with several objectives. One is to compare and contrast a sense of priorities among different industry segments. Another is to identify those issues and action alternatives where industry consensus may have implications for the Task Force or other organizations taking the lead in implementing certain collaborative action.

5.3.1 GROWERS ON INDUSTRY STRENGTHS

Twelve major areas of potential industry strength were designated on the survey. The areas of prospective industry strength included on the grower survey represented a collection derived

through the deliberations of those on the Task Force and other industry leaders involved in the survey formulation process. Growers were asked to designate their perception of each of these areas as either a major, moderate, or minor strength, or not a strength for the Michigan industry.¹²⁷

This section summarizes the grower responses to these various areas of strength or source of industry advantage traditionally perceived by many to be reflective of Michigan as a supplier region. The responses of packer-growers and non-packer-growers are also compared. A comparison to the results of the shipper survey is then presented.

These results may indicate either industry capabilities upon which the industry can build successful strategies or where particular relative advantages as a supplier region may have eroded. Goals or strategies contingent on certain capabilities may need to be carefully assessed by the industry, identifying what it will take to develop improved strategies or competencies where they may be absent or inadequate.

A Summary of the Grower Perspective

Growers provided their responses reflecting their perceptions of traditional strengths for the Michigan industry. Given the high interest in grower responses to the survey by acreage indicated by many industry organizations, the response results are presented in terms of grower numbers and also by acreage.¹²⁸

The results are presented here in a somewhat aggregated form to reflect an ordering of areas that were regarded to be at least moderate strengths for the industry. Detailed responses on

¹²⁷ Distinguishing between individual perspectives on what constitutes a "major", "moderate", or "minor" strength is clearly difficult given the ambiguity of the categories. The goal in aggregating grower perspectives is to provide some general impression of overall ranking for each area.

¹²⁸ Growers were asked to indicate their acreage in the survey. They also were asked to indicate their approximate production in bushels. In a few cases where growers did not indicate their acreage but indicated production, acreage was estimated by the mean acreage of all growers within that production class. Surveys which indicated neither acreage or production were not included in the responses according to acreage. Proportions indicated in each category reflect the percent of those which responded for which acreage was reported or could be estimated. Implicit in reporting results in this way is the notion of one acre representing one vote.

the area of industry strengths are referred to in the following discussion, but are presented in Appendix D.

Table 5.1 GROWER PERCEPTIONS OF INDUSTRY STRENGTHS

AREA OF INDUSTRY STRENGTH ¹	Major or Moderate Strength	----Grower Response----- (Percent)			Most Common Response	Major or Moderate Strength	Minor or Not a Strength	Most Common Response
1. Michigan's mix of apple varieties.	92	8		Major		95	5	Major
2. Michigan's location in proximity to many metropolitan population centers.	91	9		Major		94	6	Major
3. A combination of several major market outlets for fresh and processing apples.	90	10		Major		94	6	Major
4. The university support with extension and research for the apple industry.	84	16		Major		81	19	Moderate
5. Improvements in storage techniques and management within the last few years.	79	21		Moderate		80	20	Moderate
6. Improvements in packing house modernization within the last few years.	70	30		Moderate		71	28	Moderate
7. An increasing emphasis on market aspects rather than production by the Michigan industry.	68	32		Moderate		67	33	Moderate
8. A major supplier of bagged apples.	65	35		Moderate		61	39	Moderate
9. A substantial shift to modern orchard planting systems.	65	35		Moderate		68	32	Moderate
10. The various apple organizations serving the Michigan industry.	64	36		Moderate		67	33	Moderate
11. A price competitive industry that helps to increase or maintain sales volume.	59	41		Moderate		55	45	Moderate
12. A cost-efficient region for growing apples.	43	57		Minor		32	68	Minor

¹ Ranked according to the percent of growers indicating the area to be a "major or moderate strength".

Four main areas of major industry strength or advantage for Michigan as a supplier region that appear to be widely recognized by the growers include (1) location to key markets, (2) mix of apple varieties, (3) strong combination of major fresh and processing outlets, and (4) university support for the apple industry. These were regarded as major or moderate strengths for the Michigan apple industry by 85%-92% of the growers.

Michigan's proximity to major markets was identified most frequently as a major strength (60%). Freight cost advantages to mid-western cities and certain eastern U.S. markets relative to Washington provide significant cost savings for the Michigan industry. Although selected opportunities may commend themselves in more distant U.S. or export markets, this freight cost advantage has resulted in a substantial concentration of Michigan's customers within a day's delivery by truck, especially for fresh.

A diversity of major viable market outlets for both fresh and processing was also widely regarded as a major strength. Growers assign considerable importance to this capability. Most growers regularly supply a significant fraction of their product into both fresh and processing markets. Almost all growers participate in both markets at least to a limited degree. The extent or emphasis on a particular fresh or processing market may change for a grower from year to year, but over the economic life of an orchard growers typically direct significant production to both markets. Relatively strong fresh and processing markets allow for reduced exposure by growers to negative, market-specific forces influencing relative prices.

Another main advantage recognized for Michigan was the mix of apple varieties. The main aspect of this advantage relates to Michigan's ability to fill market demand for desirable varieties within both fresh and processing markets. This may be seen also by growers as a means by which they can somewhat reduce their own long-term risk. Where several varieties can be viably grown and marketed by the grower, there may be more market opportunities and somewhat less risk related to the vagaries of market demand for individual varieties.

The University support with extension and research was indicated most frequently by growers (43%) to be an area of "major" strength for the industry, with 84% indicating this to be a major or at least a "moderate" strength. The research and extension activities can potentially

make significant contributions to the value-generating system, enhancing the overall performance and competitiveness of the industry.

Technical and managerial improvements with respect to storage were indicated to be an area of moderate to major strength by most growers. Considerable improvements within the industry have been realized over the past 20 years in improved storage technology. While regarded as being somewhat less important sources of industry advantage as the four aforementioned categories, the storage improvement category was widely recognized as an important strength.¹²⁹

An increasing orientation toward marketing rather than production was regarded primarily as an area of moderate to major strength for the industry, with 68% ranking it in this fashion. With some increased market orientation in recent years in the subsector, most growers now view this as a moderate strength.

Recent packing house modernization in the state was identified by most shippers as a key emerging strength. Grower responses with respect to this category indicate a substantial recognition of these improvements as a strength. Most recognize this development as a "moderate" source of advantage. Many of the new technical advancements set in place in Michigan packing houses, however, were implemented within the last few years. The new capabilities emerging within Michigan relative to other producing regions, particularly regions outside of Washington, have been a major source of optimism among shippers.

The various organizations serving the industry were regarded by most growers to be areas of "moderate strength", with 64% ranking this as a moderate to major strength. It is difficult to know which organizations are perceived to provide greater or lesser support from this data. Individual organizations were indicated to be generally worthwhile in other sections of the survey.

Michigan as a major supplier of bagged fresh apples was primarily regarded as a "moderate" industry strength, with 65% of growers ranking it as either a moderate or major strength. Washington has demonstrated an ability to compete strongly in bagged markets,

¹²⁹ A somewhat related emerging capability for Michigan also recognized as significant by the shippers is the trend toward greater proportions of apples being held in controlled atmosphere storage. This is discussed in more detail later in this chapter.

penetrating to a greater extent a major customer market niche traditionally emphasized by Michigan shippers.

Modern orchard planting systems were similarly regarded as primarily moderate sources of industry strength, with 65% indicating this to be at least a moderate source of industry strength. Despite considerable recent advances in Michigan with extensive planting of modern orchard planting systems and new varieties, only 18% felt this was a source of “major” strength.

Most growers seem to indicate industry capabilities in the above areas are at or have been advancing to a level where they can be considered moderate sources of advantage. There appears to be a perception that there remains either opportunity for further overall capability improvement or a capability gap between Michigan and some other region.

The areas least regarded in this list as sources of industry strength were the price competitiveness of the industry and the cost-efficiency of the region. Price competitiveness was suggested to be a source of moderate or major strength by 59% of the growers, but a major strength by 16% of the respondents and only 10% when weighted by acreage. The most frequently designated categories relating to Michigan’s price competitiveness were moderate and minor sources of strength. Cost efficiency was regarded mostly as an area of minor strength both by frequency and weighted by acreage. Forty-three percent ranked this as either moderate or major, with 11% indicating this to be a major strength of the industry.

A subsector such as Michigan apple relies on many capabilities to maintain competitive. Many of these capabilities are regionally specific and represent broad generalizations of firms and/or organizations to perform certain activities. It is difficult to infer from this data the dynamics of some of these industry strengths (and, discussed later, weaknesses) in future approaches should attempt to bring this dimension into greater focus. Reversing negative trends or taking advantage of capability growth or momentum are important dimensions to strategic planning. Still, these responses and rankings provide a sense of perspective of where growers judge Michigan to stand on a number of traditionally important capabilities.

More detailed analysis and linkage to perceptions indicated by packers and shippers is provided in the next section.

A Summary of the Packer Perspective

The data was sorted into two categories to compare responses from growers who operate a packing house and those who do not. The responses of the packer versus non-packer-grower to the questions relating to industry strengths is presented in Table 5.2.

Table 5.2 PACKER AND NON-PACKER GROWER PERCEPTIONS OF INDUSTRY STRENGTH¹

AREA OF INDUSTRY STRENGTH ¹	Packer Growers		Non-Packer Growers	
	Major or Moderate Strength (Percent) ²	Modal Response Strength Category	Major or Moderate Strength (Percent) ³	Modal Response Strength Category
1. Michigan's location in proximity to many metropolitan population centers.	98	Major	89	Major
2. A combination of several major market outlets for fresh and processing apples.	91	Major	90	Major
3. Michigan's mix of apple varieties.	91	Major	93	Major
4. The university support with extension and research for the apple industry.	91	Moderate	83	Major
5. Improvements in storage techniques and management within the last few years.	79	Moderate	79	Moderate
6. A substantial shift to modern orchard planting systems.	76	Moderate	62	Moderate
7. Improvements in packing house modernization within the last few years.	74	Moderate	69	Moderate
8. A major supplier of bagged apples.	71	Moderate	63	Moderate
9. The various apple organizations serving the Michigan industry.	65	Moderate	65	Moderate
10. A price competitive industry that helps to increase or maintain sales volume.	58	Moderate	59	Moderate
11. An increasing emphasis on market aspects rather than production by the Michigan industry.	56	Minor	71	Moderate
12. A cost-efficient region for growing apples.	37	Minor	44	Minor

¹ Ranked according to percent of packer who indicated the area to be a *major or moderate strength*.

² Based on 206 non-packer grower responses.

³ Based on 43 packer responses with the exception of areas 1, 3, 7, 9, and 10 (42 responses)

Responses to and rankings of industry strengths differed little on most issues. The top three areas (location, combination of major fresh & processing markets, and variety mix) were slightly more frequently perceived as areas of “major” industry strength in contrast to growers not operating a packing house. The higher level of importance attached to shipping and a fresh product may reflect a part of this difference, since most packers presumably emphasize fresh apples.

Interestingly, packers indicate viable fresh and processing markets slightly more frequently as a major strength (63%) than do non-packer growers (52%) who more likely emphasize either processing in their mix of fresh and processing. Capability of the region to produce a mix of varieties was similarly indicated more frequently as a major strength by packers for the fresh market (62%) than by other growers (51%).

Packers differed somewhat from other growers (56% versus 71% at least “moderate”) on the perception of whether or not Michigan was indeed increasing its emphasis on market aspects rather than production. Packers appear to somewhat more frequently identify this as an area where improvements need to be made toward a greater overall market orientation.

Packers were slightly more supportive of packing house modernization improvements as a major source of industry strength (26%) than their non-packer counterparts (21%). Similarly, packers were somewhat more inclined to indicate the region’s status as a major supplier of bagged apples (24%) than their counterparts (19%).

Packers appear to hold a similar perception to other growers in the area of Michigan’s price competitiveness and cost efficiency for growing.

Linking Observations to the Shipper Survey

Shipper, packer, and grower perspectives on strengths of the Michigan apple industry were generally consistent. Location (both in terms of proximity to market and climate advantages) and the ability to viably market a wide mix of apple varieties were widely identified as significant sources of advantage for Michigan as a supplier region by all three subsector segments. Strong fresh and processing market alternatives were also ranked as key sources of strength across all segments of the industry. The consistency with which these advantages were rated among growers,

packers, and shippers indicates a general agreement on the industry's standing with respect to a number of important capabilities.

Some traditional sources of regional advantage were regarded as currently having lesser importance or perhaps are perceived as eroding in terms of relative advantage. Michigan's historic emphasis and leadership in the bagged fresh apple market was not widely cited by shippers as a current major source of competitive advantage for Michigan, and was generally only regarded as a moderate source of strength for the industry by growers and packers.

Michigan firms, particularly in the fresh market, have to some extent in the past penetrated markets on the basis of lower costs and therefore presenting low prices to buyers. Michigan was not perceived, however, to be a particularly cost-efficient region by growers. This may be reflected in their lesser regard of Michigan's ability to be competitive on prices as an important strength. Industry actions that may serve to improve the cost efficiency within the region may be identified. Certainly intersectoral coordinating mechanisms can be investigated that can address conditions where some costs remain unnecessarily high.

The major industry strengths, however, that are widely recognized serve as an important basis or reference point upon which subsequent industry-level strategy may be developed.

5.3.2 ISSUES AND CHALLENGES BOTH INTERNAL AND EXTERNAL TO THE SUBSECTOR

Weaknesses relating to certain overall performance capabilities of a regional industry can be exposed or made suddenly more urgent by emerging threats that challenge the viability of the industry in that region. Internal weaknesses of the Michigan apple industry were considered together with the external threats to the industry as an important dimension of the subsector's competitive situation. A series of industry issues or challenges were identified based upon discussion with industry leaders and were asked of growers in the survey, soliciting their perspectives on the relative importance of each. The issues chosen for the survey represented those deemed important for inclusion by the Task Force and the grower organizations, particularly as they may have bearing on priorities for the industry to develop action alternatives to address them.

Each grower was asked to classify an issue as "very important", "important", "minor importance", or "not important". This data contributes to the industry's strategic issue management program and the clarification of the agenda for the Task Force.

Given the manner in which issues were identified for inclusion to the survey, it is reasonable to expect that many of the issues would be identified as relatively important to most growers. The responses in many cases confirm to the Task Force and the industry the perceived importance of these areas by the grower community.

A Summary of the Grower Perspective

The grower responses to the importance of the eleven specified issues or challenges included in the survey are presented in Table 5.3. The responses are summarized according to the frequency by which growers indicated an area to be at least "important". Response weighted by acreage is also reported in this table, weighting perceived importance by the size of operation (one acre receives one "vote"). A table presenting the disaggregated responses is presented in Appendix D.

Nine of the eleven categories were identified as at least "important" by the majority of responses (ten according to acreage). Seven categories were identified by the majority as "very important".

Table 5.3 GROWER PERCEPTIONS ON INDUSTRY ISSUES AND CHALLENGES

INDUSTRY ISSUE OR CHALLENGE	Very Important and Important	Minor Importance and Not Important	Most Common Response	Very Important and Important	Minor Importance and Not Important	Most Common Response
	-----Grower Frequency----- (Percent)			---Response According to Acreage--- (Percent)		
1. A need to raise prices received by Michigan growers.	98	2	Very Important	99	1	Very Important
2. How to effectively expand demand for Michigan apples in highly competitive fresh and processing markets.	97	3	Very Important	99	1	Very Important
3. A need to improve the overall quality of Michigan fresh apples.	96	4	Very Important	97	3	Very Important
4. The problems imposed on growers by new labor regulations.	91	9	Very Important	94	6	Very Important
5. A need to more effectively compete with apples from Wash., N.Y., Calif., etc.	91	9	Very Important	95	5	Very Important
6. The identification of varieties which will be both profitable and grow well in Michigan.	91	9	Important	91	9	Important
7. The challenges posed by lack of re-registration of needed pest-control materials and obstacles to registration of new materials.	90	10	Very Important	96	5	Very Important
8. The challenges posed by increasing regulations on pesticides from food safety and environmental concerns.	90	10	Very Important	94	6	Very Important
9. A need to update the equipment and efficiency of some Michigan packing houses.	79	22	Important	77	23	Important
10. A need for more bins in the industry and the related marketing challenges.	53	47	Minor Importance	55	44	Important
11. A need for fewer shippers.	39	62	Minor Importance	43	57	Minor Importance

Almost all of the industry issues that were indicated to be important for the subsector by leaders on the Task Force, as well those with as the consensus opinion of the shippers, were regarded on the whole as important to the growers. Eight of the issues were ranked as "important" or "very important" by over 90% of the growers, including responses weighted by acreage. Seven of these were ranked most frequently as "very important" by a majority of response.

The most frequently identified "very important" industry challenge was how to effectively expand demand for Michigan apples in the highly competitive fresh and processing markets (69%). Closely related, and also frequently rated "very important", was a need to raise grower prices (66%). These responses are likely reflective of the current competitive pressures experienced by the grower community, the resulting low returns, and hence a frustration with the current status of grower profitability. The awareness of competitive pressures on Michigan's traditional markets is widely demonstrated from these responses. These responses underscore the importance of and likely positive receptivity to industry actions by growers to enhance the overall competitiveness of Michigan as a supplier region, expand demand, and increase grower prices.

A need to more effectively compete with apples from the major supplier regions was also identified by the majority of growers as a "very important" issue (57%), although it appears that the greater focus of concern is on expanding demand for Michigan apples more generally.

Threatening legislative positions, regulation, and economic pressures related to pesticides and pest management were widely identified as very important to the industry. These threats negatively influence research, development, and production decisions of those manufacturing pest control materials needed for apple production in Michigan. Manufacturers face difficult and costly procedures to register new materials and re-register those currently manufactured. Opportunities for manufacturers or others to develop alternatives to current pesticides are often further limited due to the relatively minor volume supplied to apple producers. This was discussed in some detail in Chapter 3.

This general area of increasing regulations on pesticides was identified frequently as "very important" by the growers (65%), particularly when weighted by acreage (76%). One might expect this to be an important issue for most growers. Similarly, the related challenges posed by

increasing regulations on pesticides from food safety and environmental concerns was widely recognized as “very important” (63%).

The importance of these issues to the viability of the Michigan apple industry has been quite apparent to most Task Force participants. The grower survey results provide a broad-based confirmation of grower’s perceptions of this as an important issue and could be viewed as a mandate from the grower community to place high priority on developing action plans to address these challenges.

The problems imposed on growers by new labor regulations were widely rated as very important by the majority of growers. Little difference was reflected in response when weighted by acreage, indicating that even smaller growers rank this industry challenge as important.

The challenge to improve the overall quality of Michigan fresh apples was also rated by the majority of growers as very important for the industry, and 96% ranked this area as either important or very important. These responses also provide a signal to the Task Force to give these areas high priority on the agenda for further analysis and industry action plan development. The issue of quality improvement is confirmed as a central theme and high priority in almost every section of the grower survey.

The identification of varieties that will both be profitable and grow well in Michigan was also regarded as an important industry need. A strong majority (91%) indicated it to be at least an “important” industry issue.

A need to update the equipment and efficiency of some Michigan packing houses was identified primarily as an “important” issue (57%). The message to the Task Force from these responses would seem to be that these are important industry issues or challenges that may well merit consideration of industry action alternatives to address them if reasonably workable plans can readily be developed.

The need for more bins, although considered more important by larger growers, was identified most frequently as an issue of minor importance to the industry. A need for fewer shippers was also most frequently designated as minor.

A Summary of the Packer Perspective

The growers were divided into non-packer and packer groups to evaluate possible differences between them in the perception of importance of the eleven specified industry issues. The ranking of issue importance by packer-growers and non-packer growers which were explored is presented in Table 5.4.

Packer perceptions of the importance of these industry issues follow closely with non-packers. The same eight issues, as discussed above, were ranked at least "important" by 88% of the 43 packers responding.

All packers ranked the issue of expanding demand as at least an "important" industry issue. The need to raise grower prices was the area most frequently identified by packers as a "very important" industry issue or challenge (72%), followed closely by the development and re-registration of needed pest-control materials (67%) and increasing regulations on pesticides (64%).

Packers were somewhat less inclined to indicate a need to update equipment and efficiency in some packing houses as at least "important" (69% versus 80% of non-packers). Only 26% of them indicated this to be a "very important" issue. Following the perspective of the shippers, tremendous improvements have recently been realized in many of the major Michigan packing facilities. While continued improvements may be recognized as needed and further innovation encouraged, this is not ranked as critical as some of the other specified issues by packer-growers

Table 5.4 PACKER AND NON-PACKER GROWER PERCEPTIONS ON INTERNAL AND EXTERNAL INDUSTRY ISSUES AND CHALLENGES

INDUSTRY ISSUE OR CHALLENGE ¹	Packer Grower		Non-Packer Grower	
	Very Important or Important --Percent--	Modal Response Importance Category	Very Important or Important --Percent--	Modal Response Importance Category
1. How to effectively expand demand for Michigan apples in highly competitive fresh and processing markets.	100	Very Important	97	Very Important
2. A need to improve the overall quality of Michigan fresh apples.	98	Important- Very Imp ²	96	Very Important
3. The problems imposed on growers by new labor regulations.	95	Very Important	91	Very Important
4. A need to more effectively compete with apples from Wash., N.Y., Calif., etc.	95	Very Important	90	Very Important
5. A need to raise prices received by Michigan growers.	91	Very Important	98	Very Important
6. The challenges posed by increasing regulations on pesticides from food safety and environmental concerns.	91	Very Important	90	Important
7. The identification of varieties which will be both profitable and grow well in Michigan.	91	Important	91	Very Important
8. The challenges posed by lack of re-registration of needed pest-control materials and obstacles to registration of new materials.	88	Very Important	90	Important
9. A need to update the equipment and efficiency of some Michigan packing houses.	69	Important	80	Minor Importance
10. A need for fewer shippers.	49	Important	39	Minor Importance
11. A need for more bins in the industry and the related marketing challenges.	37	Minor Importance	54	Minor Importance

¹ Ranked according to the percent of packer growers who indicated area to be *very important* or *important*.

² Equal percent indicated the area to be *important* and *very important*.

Linking Observations to the Shipper Survey

There were many similarities between the responses of the growers and packers to those of the shippers.¹³⁰ All segments recognize the importance of challenges posed to firms in the Michigan industry relating to expanding demand, raising quality, strengthening returns, meeting intensifying competition from other regions, addressing environmental and food safety regulations together with limitations on developing and registered pesticides, labor regulations, and evaluating apple varieties.

This consensus perspective provides a strong mandate to the Task Force to proceed with action development plans for the industry in these areas.

Shippers most frequently identified a need to compete more effectively with the other major U.S. production regions for fresh sales as “very important”. Not all growers emphasize the fresh market like the shippers, but again there was wide recognition of this area as a key industry challenge.

Improving overall quality was identified by 96% of the shippers as at least an important industry issue (79% indicating it to be “very important”), consistent with the strong importance indicated by the grower community. This emerged as one of the most critical industry issues to the shippers with wide, but somewhat lesser recognition among the packers.¹³¹

Demand expansion was also widely ranked as an important industry challenge. Seventy-one percent of shippers indicated expanding generic consumption for all apples was a very important industry issue with strong implications for the eventual demand for Michigan product. Current industry initiatives such as assessments targeted for marketing and promotion may need to be expanded in light of the wide recognition of the importance attached to this area. The

¹³⁰ See the discussion regarding shipper perspectives on industry weaknesses and threats in section 4.2.2 and 4.2.3.

¹³¹ Shippers would often quip that packers, many of whom pack their own fruit, held the quality of their own fruit in high regard simply because they grew it.

segment surveys each indicate the industry would be very supportive of expanded demand expansion programs.

5.3.3 INDUSTRY OPPORTUNITIES

The grower segment is uniquely positioned to provide valuable perspectives to the general industry regarding a variety of opportunities. Most growers are involved in some capacity in both fresh and processing markets. Although they are not typically relating directly with the retail buyer of the various fresh and processed apple products, they do relate with a variety of shippers and processors who relate directly with the retail buyers.

The broad identification of opportunities emerging for the industry plays a key role in evaluating suitable industry strategies. A broad identification and communication of these opportunities can serve as a driving mechanism behind initiating and sustaining needed industry action. It is toward this end that perspectives on relative industry opportunities by the grower segment are summarized.

Opportunities change and sometimes have a relatively narrow time period within which they remain viable. Early recognition of them is important, but not always adequate to maintain competitiveness; action to take advantage of them is also necessary. An objective of this survey activity, however, is to both facilitate the identification and industry-wide consensus on those opportunity areas most promising to the industry and then move toward developing industry action plans that would help the industry be appropriately responsive, particularly in those cases where certain kinds of collaboration may be necessary to best take advantage of them.

The opportunities were divided in the survey into three major sections. Opportunities were considered as those relating to emerging demand and competition conditions or those relating to technical improvements; the opportunity classifications were thus: (1) expansion of Michigan fresh apple markets, (2) expansion of Michigan processed apple markets, and (3) opportunity for technical improvements within the industry. The first two categories are consistent with Abell's business definition parameters, considering opportunities relating to various customer groups and customer functions within these broad categories of fresh and processed markets. The third class

of opportunities parallels the parameter of technical innovation - alternative or innovative means for improving the way the industry may be able to improve their product or service to new or existing customer groups or functions.

A major limitation of the written survey approach for this class of opportunities is that growers as a group have very limited opportunity to provide detail or to elaborate on other related industry opportunities. Given time and resource constraints, however, this approach offers some insight on the growers' view on a number of current promising prospects for the Michigan apple industry

Growers were asked to indicate whether a particular area represented an opportunity which may be more fully exploited in order to strengthen the Michigan apple industry. They were asked to rank each area along a scale of 1 to 5, where 1 represented "considerable opportunity" and 5 represented "limited opportunity". A summary of grower responses to the different areas of opportunity are presented in Table 5.5.

Responses are presented here, for the purposes of aiding positive industry discussion and providing an overview analysis, by combining ranking levels 1 and 2 to represent "considerable" opportunity. Similarly, 3 represents a "moderate" opportunity level; 4 and 5, "limited" opportunity. The detailed frequency and acreage figures are presented in Appendix D along with a ranking of the 24 specific opportunities aggregated over all categories.

Table 5.5 GROWER PERCEPTIONS OF INDUSTRY OPPORTUNITIES BY FREQUENCY AND ACREAGE

AREA OF INDUSTRY OPPORTUNITY ¹	Considerable Opportunity (1+2)	Moderate Opportunity (3)	Limited Opportunity (4+5)	Considerable Opportunity (1+2)	Moderate Opportunity (3)	Limited Opportunity (4+5)
	---Grower Response--- (Percent)			---Response According to Acreage--- (Percent)		
FRESH MARKET						
Improving the quality of Michigan fresh apples			3			6
Expansion of export markets for fresh apples			8			9
More fresh promotions by the MAC			12			19
Expansion of U.S. foodservice markets	83	14	5	79	15	8
Expanded geographic markets in the U.S.	81	12	8	82	9	13
Expansion of U.S. grocery store markets	74	14	9	65	16	8
Expansion of tray and cell pack markets	74	21	22	75	18	12
New premium packages or types of pack	69	23	14	66	21	16
More fresh promotions by individual shippers	69	23	14	68	22	24
Expansion of markets for apples in bags	67	21	27	62	20	31
	67	20		60	16	
	59	19		30	39	
	36	36				
PROCESSED MARKET						
More processed promotions by MAC	76	16	9	70	20	10
Expansion of markets for juice	76	18	6	81	16	3
Expansion of markets for slices	72	19	12	71	22	8
Expansion of export markets for processed apples	70	18	12	72	15	13
Expansion of markets for apple sauce	70	19	8	72	17	11
More processed promotions by individual processors	69	19	11	70	22	8
TECHNICAL IMPROVEMENTS						
Further advancements in IPM programs	77	19	4	76	18	5
Modernized orchard planting systems	73	20	8	70	22	8
Modernized fresh packing houses	71	21	7	70	22	8
Improved sprayer equipment	69	26	5	70	25	5
Modernized storage technology & management	67	25	9	67	24	9
Maturity information programs	65	27	8	60	32	7
Multiple picking for color, size, & maturity	53	26	21	30	39	31
STRONGER PRICING APPROACHES FOR PROCESSED APPLES IN OTHER STATES	78	13	10	80	12	8

¹ Opportunity areas are listed in the order by which they were indicated as having *considerable opportunity* (1 + 2).

Opportunities Relating to Fresh Markets

Growers generally indicated categories relating to the fresh market as having considerable opportunity for further industry development. Nine of the ten areas in this category were identified as presenting a considerable level of opportunity by at least 59% of the growers. Opportunities relating to improving quality and those tied to the export market were among the highest ranked in this category with over 80% indicating "considerable" associated opportunities.

Overall quality improvements may be necessary for the industry as the fresh market increasingly demands it. The wide recognition of this by growers as an area of opportunity upon which the industry can build or further exploit has important implications for the nature of strategic direction chosen by the industry. The strong prospects for improving quality, particularly relating to fresh apples, is consistent with that of the shippers, recognizing that there currently exists substantial opportunities for both improving the overall quality the industry provides as well as expanding market opportunities related to higher quality fruit.

Michigan has not historically been a major supplier to export customers, with the exception of expanding some supply to Europe. The export success of Washington, changing worldwide demand conditions, and improving capability for Michigan packing houses to deliver quality makes this an increasingly promising area. Washington has had success and provided considerable leadership in developing strong, new apple markets in Mexico and Asia. Michigan shippers may be well positioned to follow Washington into some of these areas and/or expand exports for Michigan varieties into alternative, unique export market niches.

Several other U.S. customer groups were ranked as presenting considerable developmental opportunity for the Michigan industry including U.S. food service, U.S. markets in geographic markets not traditionally served by Michigan, and the U.S. grocery store markets.

Opportunities relating to U.S. Food service markets were widely ranked as presenting considerable opportunity for Michigan by 74% of the growers. This was the category rated most frequently by packers (57%) as representing the highest(category "1") area of opportunity. Packers followed non-packers fairly closely in ranking every area of opportunity with respect to the fresh

market with the exception of this. No packer surveyed, however, classified food service markets with either of the lower two opportunity levels.

Growers also widely perceived strong opportunities for developing new customers through expanding Michigan's presence as a supplier to other geographic regions of the U.S.. Many shippers expressed a similar sentiment, particularly within those areas where local supplies are declining. Growers, in light of these responses, are likely to be supportive of industry promotional efforts that are targeted to U.S. market regions that have in the past been given less emphasis.

A very important customer group identified with strong prospects for further development was the U.S. grocery store market. This is already the major customer groups for fresh Michigan apples. Packaging, merchandising, various quality levels, point-of-purchase materials, etc., are all functions for which Michigan firms can continue to develop industry plans toward enhancing their competitive position with grocery stores.

A number of customer functions (see Table 4.6 for selected customer functions specific to the fresh apple industry) relating to the fresh market were considered. Among those most frequently ranked by growers as presenting considerable opportunity included increased promotion for fresh apples. More promotions by the Michigan Apple Committee was mentioned by 74% of the growers as having "considerable" opportunity. Opportunity relating to more promotions by individual shippers was ranked somewhat less; 59% indicating this to be "considerable". Growers apparently perceive that additional promotional programs would result in expanded demand and strong returns to the industry, particularly those led by the MAC.

Opportunities relating to higher quality pack offerings for customers, such as trays, cells, or premium packs, were generally in the higher level categories, but still were indicated to be somewhat less than the most of the other fresh market areas. Modal response for each area fell in the level-2 category.

Packers designated trays frequently with the highest (level-1) opportunity level (39%), reflecting slightly stronger perceptions about the opportunities associated with this customer function than their non-packer counterparts (30%). As noted in Chapter 4, over half of the shippers ranked marketing more tray and cell packs as presenting an "outstanding" opportunity for

the industry, ranking the area the second highest out of 13. Packers, however, ranked it sixth out of the ten fresh market opportunity areas in their survey as having the highest area of industry development potential.

Packers assigned premium packs to the highest opportunity level (level-1) less frequently (23%) than non-packers (34%). The packing and marketing logistics of such a pack may be of greater concern to those packing it. The costs of monitoring, enforcing, marketing, etc may be perceived by packers to be larger relative to potential industry benefits than their non-packer counterparts.

The perceived opportunities for the industry to build on customer functions related to bagged apples fell off sharply compared to the other areas considered for the fresh market. This category was by far the lowest ranking. Only 36% of the growers designated bagged apples to present "considerable opportunity" for the industry, with 15% ranking it with level-1.

One reason behind the more pessimistic outlook relating to Michigan's growth in bagged apples may be the expanding presence of Washington in marketing this product. Shippers, however, despite strong competition from other regions for this market traditionally dominated by Michigan firms, see opportunities for large volume sales of bagged apples as a continued major portion of Michigan's marketing emphasis, particularly if Michigan can perform as a superior supplier of bagged apples. With over 80% of Michigan's fresh product being sold in bags, industry strategies developed for the Michigan region cannot ignore the importance of the role played by bagged apples.

Opportunities Relating to Processing Markets

Opportunities and strategies for growth within the processing segment of the apple industry are of major interest to those involved with the industry's strategic planning process. Growers generally were optimistic with regard to the areas specified in the survey relating to the processing segment. The modal response for 5 of the 6 areas presented indicated general outlook for these areas to reflect the highest level of opportunity (level-1). Perceived differences in the processing

opportunities specified were slight as percentages ranking each area as a "considerable" opportunity ranged from 69%-76%

Expanded promotion for processed apple products was identified as presenting "considerable opportunity" for further industry development by growers, highest through the Michigan Apple Committee (76%) and somewhat lower through individual processors (69%).

Juice markets were seen by growers to present primarily considerable opportunity for future industry growth. This category ranked among the highest opportunity areas for the industry when weighted by acreage; 81% ranked Michigan processing for juice as presenting "considerable" opportunity. Products such as apple slices and apple sauce were also regarded with some optimism, but to a somewhat lesser degree than juice.

Export prospects for processed products were perceived to offer considerable opportunity for industry growth by most, but to a somewhat lesser extent than fresh exports. The development of processing opportunities has been largely left up to the individual processors. Some organizations, such as MACMA, have provided industry support by compiling and communicating important international trade and production data.

The overall perception of processed markets, much like that of fresh markets, was an expectation of considerable opportunity for further market development. The potential for strong and growing demand conditions for a wide variety of fresh and processed apple products, as well as emerging opportunities related to new customer groups, are apparently perceived by most growers. The means by which individual firms are able to best exploit these market opportunities, however, is not always immediately apparent. The premise here is that it requires some combination of firm and industry-level strategy.

Opportunities Relating to Technological Advances

Opportunities in the previous categories emphasized growth or penetration prospects for a variety of customer groups or functions within each of the two broad markets of fresh and processing apples. A third category of opportunities focused on the resource or capability base of

the industry, considering the growers' perspectives on opportunities relating to further technical innovation or industry progress in several key capability areas.

Seven areas of potential industry opportunity relating to technical improvements were specified on the survey.

The technical production opportunity areas considered, as a group, were generally considered by growers to offer somewhat less potential for industry growth or development when compared to demand growth opportunities which focus on fresh or processed customer groups and functions. Only one area (further advancements in IPM programs) was identified most frequently as presenting the highest level of opportunity (mode of level-1) for the industry to further build upon. The other areas, while not summarily dismissed as presenting real prospects for industry growth, were most frequently identified with the second highest level of prospect (level-2) for development.¹³²

The technical opportunity area identified most frequently as presenting the highest opportunity for the industry was further advancements in IPM programs 77%. This ranks the fourth highest of all the specified opportunities considered in the survey. The need for industry improvements relating to pest management programs and strong prospects for implementing positive changes emerged as a central message throughout the survey. The high level of importance of pest management programs as an industry issue¹³³, representing the highest priority for University research and extension support¹³⁴, and receiving one of the strongest levels of grower support for continued expansion¹³⁵ all reflect the sentiment that this remains an area for which

¹³² Differences between general opportunity categories is more easily seen on the full table in Appendix D. The significance of these differences may be slight enough, however, to provide limited implications for the industry strategic planning activities. There is a tendency, however, for individuals to magnify the potential of opportunities perceived in other areas (growers on marketing, for example), while diminishing the prospects for improvement in their own area.

¹³³ See Section 5.3.2.

¹³⁴ See Section 5.5.

¹³⁵ See Section 5.4.

further industry actions would receive strong grower support and is perceived to yield potentially significant dividends.

Technical improvements or modernization in such areas as sprayer equipment, orchard planting systems, packing houses, and storage were all viewed with approximately equal sentiment with regard to presenting further opportunity for the industry to enhance its value and competitiveness.

Maturity information programs have been developed in an attempt to improve the condition of fruit quality through improved timing of picking. Research and extension efforts have been directed to develop such programs for growers to facilitate the development of superior harvest timing that reduce the amount of over-mature fruit delivered to storages and packing houses as well as providing a supplemental tool growers can draw on to better anticipate their harvest schedule. Sixty-five percent of the growers indicated this as presenting considerable opportunity upon which the industry could build.

Shippers hold a somewhat divergent perspective from the growers on the potential contribution of programs such as multiple picking, a harvesting technique considered to lead to improved packout quality initiated at the field level. Many shippers indicated considerably more could be done in these areas, and even among growers there is wide debate on the usefulness and cost-effectiveness of multiple picking. The divergence of grower response to opportunities for multiple picking was more than in most areas. There was not a strong consensus on its overall merit as a cost effective harvesting method. The widely ranging perceptions on the usefulness of such programs may be indicative of a need for further educational or extension programs for growers in these areas. Benefit-Cost research that would consider the grower's harvesting logistics program, marketing scheme, and marginal revenue returned to investment in multiple picking programs that were properly implemented appears to be an area of particular need.

Linking Observations to the Shipper Survey

The areas of opportunity most widely designated as most promising for the Michigan apple industry by growers included those relating to improved quality (particularly for fresh) and market

expansion for both fresh and processing. Continued high prospects for further development were indicated for several key markets (fresh and processed export, food service, grocery) and products (juice, and to a lesser extent - slices, sauce, and higher quality fresh products).

Shippers generally concurred with grower perceptions of areas and ranking of industry opportunities, particularly in the areas of prospects for improving quality and growth with key customers categories. Shippers were slightly more optimistic with respect to industry growth opportunities building on the technical improvements emerging within Michigan, particularly with respect to modernized orchards, packing houses, and storage facilities. Shipper perception of prospects for expanded opportunity for growers to contribute to quality improvements through a variety of technical production and harvest innovations also seems to somewhat exceed that of growers.

The implications of these results for industry action and strategy development would include some of the following. Specific actions and strategies should be formulated, tested, and implemented in an effort to facilitate the industry's ability to take advantage of widely perceived opportunity areas. Building coordinating linkages between segments, formulating explicit industry programs for such areas as marketing or quality, and facilitating the refinement of the agendas of key supporting organizations may all be a part of developing or fine tuning the overall capability of the industry to be competitive toward penetrating or maintaining certain perceived market opportunities.

Many of these areas of opportunity are readily pursued by individual firms. Others may require more coordinated industry action. Industry action alternatives are taken up in detail in section 5.4.

Opportunities that correspond to either changing market conditions or innovations for improved quality or productivity are important to recognize in a strategic planning process. Evaluation here has been primarily confined to engaging knowledgeable industry leaders and consensus of major subsector segments. There is a need, however, for the planning process to be supported by independent market and production possibilities analysis to further evaluate and rank opportunities for the industry. The patterns observed in the Task Force discussions, shift-share

analysis, and segment surveys provide important points of departure for further analysis, but will not by themselves typically provide the full or adequate analysis that is ultimately needed.

5.4 INDUSTRY ACTION ALTERNATIVES

The viability of alternative industry strategies is often dependent on broad recognition and support for certain industry directions and reasonable prospects for developing workable actions where subsector coordination may be needed. In many cases a general direction may be widely supported, but the specific appropriate means for propelling the industry toward accomplishing certain goals may be strongly debated between individuals.

Strong opposition or lukewarm support for a particular initiative held by the majority of growers or even among a key sub-group may doom the initiative to gaining adequate support needed for effective subsector action. Widely recognized need for change, including recognized benefit to the individual, is much more frequently a necessary condition for successful implementation by a subsector in contrast to strategic planning within a firm. Administration within a firm can impose certain directions, objectives, or mandate cooperation among individual persons or divisions in order to implement strategic plans, independent of whether these sub-units recognize a need or purpose. Alternative actions may be recognized as needful, but individuals or related individuals within the value-generating system of a subsector may lack the economic incentive to initiate or collaborate on them.

The process of developing viable action alternatives best supporting broader strategies is a critical component to industry strategic planning and differs notably from effective approaches employed at the firm-level. The subsector almost always lacks the inter-firm hierarchy of authority to immediately affect changes seen as needed. Marshalling the necessary resources and needed collective responsiveness to implement particular plans is a process requiring considerable discussion, consensus building, diplomacy, negotiation, and diligence on the part of those facilitating the process.

This section of the chapter examines the means for identifying possible subsector improvement actions, developing support for these actions among the grower community, and a sense of priority for further action development or analysis. The survey approach initiated here is presented as a tool for facilitating the viable action development process for subsector improvement as part of a subsector strategic planning framework.

A series of questions were included in the grower survey that sought to assess grower support for a variety of industry improvement actions. Areas of industry action have been proposed by many individuals by Task Force members and other industry leaders, including those which have been debated regarding their merit by many within the Michigan industry for some time. The industry actions included in the survey represented, in part, those particularly needing indication of grower support in order to further pursue them. A tentative list of specific actions was formulated within the Task Force, with subsequent refinements and additions being generated during meetings with grower organizations and pre-testing. A number of these possible actions emerged during the course of the shipper interviews.

A list of 26 industry action areas were specified in the survey questionnaire for which the growers were asked to indicate their degree of support for each by checking one of four levels; "strongly support", "support moderately", "not a necessary action", and "strongly oppose".¹³⁶ Related actions were grouped somewhat together. A division of specific action areas into broader classes is done here, however, to facilitate comparison and to maintain a coherency of presentation. The general classes for industry action include:

- Demand Expansion
- Pest Management
- Overall Quality Enhancement Through Improved Production Practices
- Toward Industry Quality Standards
- Varieties
- Improving Industry Transactions and Records
- Other Industry Actions

¹³⁶ A support class of "moderately oppose" would have provided a symmetry to the question. Since prioritization for further developing an action area would be determined according to the higher level of support, ambiguity among the opposing action classes was not deemed to be a critical concern.

Grower responses to the specific actions are presented in Table 5.6 and 5.7 according to these general classes. Percentages are reported by grower frequency and weighted by acreage. Responses are aggregated in Table 5.6, providing a general overview of support by indicating the percent that "strongly or moderately" supported an action and those that regarded an action as "not a necessary action or strongly opposed". Table 5.7 essentially provides the same data, but provides results of responses according to the more specific support category. The modal response for each action is identified and actions are ordered within each general class according to the frequency with which they were strongly supported.

Table 5.6 GROWER SUPPORT FOR INDUSTRY ACTION AREAS BY FREQUENCY AND ACREAGE

INDUSTRY ACTION AREA	Strongly or Moderately Support	Not a Necessary Action or Strongly Oppose	Strongly or Moderately Support	Not a Necessary Action or Strongly Oppose
	-----Grower Frequency----- (Percent)	-----Response According to Acreage--- (Percent)		
DEMAND EXPANSION Expand programs to increase exports of Michigan apples.	96	4	96	4
Expand programs to increase demand in the U.S. for Michigan apples.	95	5	94	6
PEST MANAGEMENT Efforts through LAI and other organizations to work with government agencies for realistic approaches on pest management and pesticide policies.	98	2	99	1
Continue to expand the use of IPM programs, including scouting, pheromone traps, weather monitoring, etc.	96	4	95	5
Develop a state-wide "reduced pesticide" standard and certification program for: (a) voluntary participation by growers	67	33	61	39
(b) a mandatory program for all Michigan growers	26	74	30	70

Table 5.6 GROWER SUPPORT FOR INDUSTRY ACTION AREAS BY FREQUENCY AND ACREAGE
(Continued)

INDUSTRY ACTION AREA	Strongly or Moderately Support	Not a Necessary Action or Strongly Oppose	Strongly or Moderately Support	Not a Necessary Action or Strongly Oppose
	-----Grower Frequency----- (Percent)	---Response According to Acreage--- (Percent)		
QUALITY ENHANCEMENT THROUGH IMPROVED PRODUCTION PRACTICES Expand educational efforts for grocery stores on how to handle, refrigerate, rotate, etc. Michigan apples to maintain high quality.	93	7	95	5
Continued improvements to reduce bruising in orchards by pickers, forklift operators, and packing houses.	92	8	88	12
Further improvements in maturity information programs and harvest management.	88	12	86	14
Encourage improved fruit size of Michigan apples through improved cultural practices.	86	14	79	21
Further improvements in storage technology and storage management for Michigan varieties.	85	15	85	15
Continue modernization of Michigan packing houses through the adoption of top-notch equipment.	80	20	77	23
Continue expansion of CA storage capacity for Michigan.	78	22	82	18
Encourage growers to multiple pick for the needed color, size, and maturity for fresh market.	60	40	56	44

Table 5.6 GROWER SUPPORT FOR INDUSTRY ACTION AREAS BY FREQUENCY AND ACREAGE
(Continued)

INDUSTRY ACTION AREA	Strongly or Moderately Support	Not a Necessary Action or Strongly Oppose	Strongly or Moderately Support	Not a Necessary Action or Strongly Oppose
	-----Grower Frequency----- (Percent)	---Response According to Acreage--- (Percent)		
TOWARD INDUSTRY QUALITY STANDARDS Develop a state-wide premium grade for fresh Michigan apples	81	19	70	30
Develop a state-wide mandatory program for management of quality and grade standards, especially for firmness and maturity	81	19	78	22
Develop a mandatory program with minimum firmness standards to ship fresh Michigan apples	79	21	72	28
Develop a program with earliest permissible harvest dates by variety as part of maturity standards	76	24	67	33
VARIETIES Comprehensively evaluate new varieties and strains that are best suited for Michigan's fresh markets and growing conditions.	92	8	90	10
Develop more new apple varieties for Michigan	62	38	53	37
IMPROVING INDUSTRY TRANSACTIONS AND RECORDS Encourage shippers to charge a percentage sales fee rather than a fixed price per box.	68	32	58	42
Encourage packers and shippers to provide detailed packout and return information by blocks to growers to assist in removal and planting decisions.	62	38	53	47

Table 5.6 GROWER SUPPORT FOR INDUSTRY ACTION AREAS BY FREQUENCY AND ACREAGE
(Continued)

INDUSTRY ACTION AREA	Strongly or Moderately Support	Not a Necessary Action or Strongly Oppose	Strongly or Moderately Support	Not a Necessary Action or Strongly Oppose
	-----Grower Frequency----- (Percent)		---Response According to Acreage--- (Percent)	
INDUSTRY ACTION AREA				
OTHER INDUSTRY ACTIONS				
Develop government cost-sharing or tax incentives for migrant housing investments.	78	22	87	13
An expanded, state-wide apple grower group, such as the Michigan Association of Pomesters, to deal with a number of important issues from the grower perspective.	71	29	66	34
Growers invest in more bins for the expected expanding Michigan production.	69	31	69	31
Explore a shipper-packer-grower initiative to make a transition to plastic bins.	54	46	54	46

Table 5.7 GROWER SUPPORT FOR INDUSTRY ACTION AREAS BY FREQUENCY AND ACREAGE

	Strongly Support	----Grower Frequency----- (Percent)			---Response According to Acreage--- (Percent)		
		Support Moderately	Not a Necessary Action	Strongly Oppose	Strongly Support	Support Moderately	Not a Necessary Action
INDUSTRY ACTION AREA¹							
DEMAND EXPANSION							
Expand programs to increase demand in the U.S. for Michigan apples.	150 (61)	84 (34)	11 (5)	2 (1)	12580 (60)	7008 (34)	957 (5)
Expand programs to increase exports of Michigan apples.	146 (60)	87 (36)	8 (3)	2 (1)	12363 (60)	7534 (36)	548 (3)
PEST MANAGEMENT							
Efforts through IAI and other organizations to work with government agencies for realistic approaches on pest management and pesticide policies.	175 (73)	59 (25)	4 (2)	3 (1)	15311 (74)	5234 (25)	104 (0)
Continue to expand the use of IPM programs, including scouting, pheromone traps, weather monitoring, etc.	140 (57)	97 (39)	9 (4)	0 (0)	12381 (59)	7519 (36)	995 (5)
Develop a state-wide "reduced pesticide" standard and certification program for:							
(a) voluntary participation by growers	84 (37)	69 (30)	48 (21)	26 (12)	5866 (31)	5737 (30)	4994 (26)
(b) a mandatory program for all Michigan growers	30 (14)	26 (12)	73 (34)	85 (40)	4143 (22)	1496 (6)	5008 (27)
							7970 (45)

¹ Areas are listed according to the frequency with which they were identified as *strongly supported*. The modal categorical response for each area is shaded.

Table 5.7 GROWER SUPPORT FOR INDUSTRY ACTION AREAS BY FREQUENCY AND ACREAGE

(Continued)

INDUSTRY ACTION AREA	-----Grower Frequency----- (Percent)					---Response According to Acreage--- (Percent)				
	Strongly Support	Support Moderately	Not a Necessary Action	Strongly Oppose		Strongly Support	Support Moderately	Not a Necessary Action	Strongly Oppose	
QUALITY ENHANCEMENT THROUGH IMPROVED PRODUCTION PRACTICES Expand educational efforts for grocery stores on how to handle, refrigerate, rotate, etc. Michigan apples to maintain high quality.	151 (62)	76 (31)	17 (7)	1 (0)		13237 (64)	6377 (31)	1151 (6)	7 (0)	
Continued improvements to reduce bruising in orchards by pickers, forklift operators, and packing houses.	122 (50)	103 (42)	19 (8)	1 (0)		8744 (42)	9525 (46)	2180 (11)	220 (1)	
Encourage improved fruit size of Michigan apples through improved cultural practices.	110 (45)	100 (41)	33 (14)	2 (1)		8583 (41)	7934 (38)	4099 (20)	280 (1)	
Further improvements in maturity information programs and harvest management.	94 (39)	119 (49)	31 (13)	0 (0)		7334 (36)	10247 (50)	2868 (14)	0 (0)	
Further improvements in storage technology and storage management for Michigan varieties.	61 (25)	147 (60)	34 (14)	3 (1)		3650 (18)	13926 (67)	2880 (14)	285 (1)	
Continue modernization of Michigan packing houses through the adoption of top-notch equipment.	59 (25)	131 (55)	44 (19)	4 (2)		4377 (22)	10752 (55)	3878 (20)	560 (5)	
Continue expansion of CA storage capacity for Michigan.	53 (22)	137 (56)	50 (21)	3 (1)		4678 (23)	12163 (59)	3617 (17)	224 (1)	
Encourage growers to multiple pick for the needed color, size, and maturity for fresh market.	41 (17)	103 (43)	78 (33)	16 (7)		2774 (14)	8635 (42)	7910 (39)	1057 (5)	

Table 5.7 GROWER SUPPORT FOR INDUSTRY ACTION AREAS BY FREQUENCY AND ACREAGE

(Continued)

INDUSTRY ACTION AREA	-----Grower Frequency----- (Percent)				---Response According to Acreage--- (Percent)			
	Strongly Support	Support Moderately	Not a Necessary Action	Strongly Oppose	Strongly Support	Support Moderately	Not a Necessary Action	Strongly Oppose
INDUSTRY ACTION AREA								
TOWARD INDUSTRY QUALITY STANDARDS								
Develop a state-wide premium grade for fresh Michigan apples	114 (47)	83 (34)	34 (14)	12 (5)	7559 (37)	6772 (33)	4959 (24)	1340 (6)
Develop a state-wide mandatory program for management of quality and grade standards, especially for firmness and maturity	93 (39)	101 (42)	32 (13)	15 (6)	7297 (36)	8521 (42)	3749 (18)	969 (5)
Develop a mandatory program with minimum firmness standards to ship fresh Michigan apples	86 (36)	102 (43)	35 (15)	17 (7)	6015 (29)	8762 (43)	4015 (20)	1662 (8)
Develop a program with earliest permissible harvest dates by variety as part of maturity standards	80 (33)	101 (42)	49 (20)	12 (5)	5221 (25)	8644 (42)	5303 (26)	1522 (7)
VARIETIES								
Comprehensively evaluate new varieties and strains that are best suited for Michigan's fresh markets and growing conditions.	117 (48)	108 (44)	18 (7)	2 (1)	7502 (36)	11344 (54)	1792 (9)	226 (1)
Develop more new apple varieties for Michigan	43 (18)	109 (44)	79 (32)	15 (6)	2309 (11)	8869 (42)	8103 (39)	1620 (8)
IMPROVING INDUSTRY TRANSACTIONS AND RECORDS								
Encourage shippers to charge a percentage sales fee rather than a fixed price per box.	86 (37)	72 (31)	62 (27)	10 (4)	7231 (37)	4176 (21)	7382 (37)	1030 (5)
Encourage packers and shippers to provide detailed packout and return information by blocks to growers to assist in removal and planting decisions.	61 (25)	88 (37)	82 (34)	10 (4)	3784 (18)	7192 (35)	8869 (43)	673 (3)

Table 5.7 GROWER SUPPORT FOR INDUSTRY ACTION AREAS BY FREQUENCY AND ACREAGE

(Continued)

INDUSTRY ACTION AREA	Strongly Support	Support Moderately	Not a Necessary Action	Strongly Oppose	Strongly Support	Support Moderately	Not a Necessary Action	Strongly Oppose
	----Grower Frequency----- (Percent)				---Response According to Acreage--- (Percent)			
OTHER INDUSTRY ACTIONS								
Develop government cost-sharing or tax incentives for migrant housing investments.	105 (44)	81 (34)	33 (14)	21 (9)	10728 (52)	7220 (35)	1850 (9)	660 (3)
An expanded, state-wide apple grower group, such as the Michigan Association of Pomesters, to deal with a number of important issues from the grower perspective.	59 (25)	111 (46)	62 (26)	9 (6)	5092 (25)	8462 (41)	6000 (29)	1089 (5)
Growers invest in more bins for the expected expanding Michigan production.	39 (16)	128 (53)	65 (27)	10 (4)	3364 (16)	10902 (53)	6055 (29)	412 (2)
Explore a shipper-packer-grower initiative to make a transition to plastic bins.	38 (17)	86 (37)	88 (38)	19 (8)	1808 (9)	8626 (43)	7400 (37)	2119 (11)

5.4.1 INDUSTRY ACTION ON DEMAND EXPANSION

Industry approaches facilitating demand expansion programs were among the most strongly supported actions as a group among growers. These included programs to increase the export of Michigan apples and programs to increase demand domestically.

Sixty-one percent of the growers strongly supported expanding industry export programs, with 96% in at least moderate support. The specific means by which this objectives might be accomplished were not raised in the survey.

Stronger linkages have been developed recently between the MAC and the U.S. Apple Export Council. Shippers involved in the export market, as noted in the previous chapter, seem to emphasize independent shipper approaches for many aspects of doing business internationally. Increasing opportunities in a number of international markets, however, continue to develop favorably for Michigan apples. Expanded programs within the industry to support Michigan's participation in these markets may become a higher priority in the future.

Expanding programs to increase domestic demand received similarly strong support among the growers. The activities of the MAC are currently primarily geared to stimulate demand for Michigan apples domestically. The grower responses indicate the sense of need and strong support among growers for continued development of demand expansion programs. Industry effort and collaborative approaches that can facilitate further activity and success in this area are perceived as very high priority areas for growers relative to most other actions proposed in the survey.

5.4.2 INDUSTRY ACTION ON PEST MANAGEMENT

Four of the specific industry actions included in the survey related directly to pest management. Industry action to address pest management issues was one of the areas of highest focus and a priority for developing industry action as indicated by the grower responses. The grower survey results were consistent with earlier discussions within the Task Force identifying this as a critical issue. The Task Force, recognizing this as a central issue and that there are some opportunities to develop industry initiative on policies and direction through key national

organizations, already had under way a major initiative with the International Apple Institute (IAI) regarding pest management at the time of the grower survey. The level of grower support for these kinds of initiatives was asked through the survey.

Efforts through IAI and other organizations to work with government agencies for realistic approaches on pest management and pesticide policies was the action item most frequently indicated as "strongly supported" of any of the 26 industry actions specified in the grower survey. Seventy three percent of the growers strongly supported these kinds of initiatives, with 98% at least moderately supporting. This high level of ranking provides a strong indication to the Task Force and other supporting institutions regarding the willingness of growers to support further such initiatives.

Issues of pesticide registration, re-registration, reduction measures, alternative control measures, food and worker safety, etc., and related incumbent or emerging policies all represent major forces that growers recognize as having direct and important implications for their operations. They often feel, however, that they have little recourse or limited ability to effectively respond to these threats. The opportunity for collective response or action that represents some measure of rational, realistic workability from the subsector perspective regarding policy positions and interests that growers view as extreme is widely supported throughout the apple industry.

Another related industry effort also was widely designated as having moderate to strong support was the *continued expansion of IPM programs* (96%). The development of pest management systems that are cost effective and provide adequate control are very important to growers, especially with the increasingly costly pesticides that they must use with current technology and market quality requirements. Growers further recognize a need to be committed to responsible pest management programs as well as a need to develop expanded capabilities toward viable alternatives to certain chemical control programs.

One idea that has been tried to a limited extent in Washington state and in Europe was discussed. This action involved one possible approach: expanding the use of pest management in Michigan by developing a *state-wide "reduced pesticide" standard and certification program*. Some shippers in Washington use a label on their fruit that reads "responsible choice". It was

suggested that perhaps a similar program might be successful in Michigan using some agreed to standard for what represented "reduced" pesticide use. The potential merits and dangers of this approach were strongly debated among shippers and those in the Task Force. It was agreed, however, to elicit grower opinion on this possibility through the grower survey. Both voluntary and mandatory versions of a program were queried in the survey.

Interestingly, the most common response to the voluntary program was "strongly support", although only 37% of the growers ranked this approach with strong support. There were 67% of surveyed growers who at least moderately supporting such a program. Opinions varied widely, however. Such an approach would require considerable further analysis before being ready for implementation in Michigan.

The mandatory program drew more strong opposition than any among the 26 specified industry actions included in the survey. Support for the mandatory program was quite limited; the modal category was "strongly oppose" with 40%, while only 14% strongly supporting this initiative.¹³⁷

Limited support for this concept over the grower segment implies little prospect for a successful industry initiative to be developed. The difference in support between a voluntary and mandatory program, however, illustrates the preferred orientation among individuals toward participation in programs involving voluntary individual commitments. Several written comments by growers supporting the mandatory approach indicated voluntary approaches are unlikely to be sustainable or would adversely affect growers choosing not to participate.

¹³⁷ A mandatory program, although not presented in detail in the survey, could involve a variety of approaches. Some sort of state-wide change in pesticide use would possibly be involved. The thrust generally implies differentiating all of Michigan's product as somehow involving "reduced pesticide" use.

5.4.3 QUALITY ENHANCEMENT THROUGH IMPROVED PRODUCTION PRACTICES

A series of specified action possibilities were included in the survey that primarily addressed industry approaches to improving quality through improved production practices. A related series of actions involved efforts toward establishing some manner of industry quality standard policies intended to help induce certain overall improvements. These approaches are considered in the next section.

Eight specified actions related to encouraging overall quality improvements through improving production practices. Support for these actions as a group was relatively strong among the surveyed growers. With the exception of encouraging growers to multiple pick, these action were at least moderately supported by 78% to 93% of the growers.

One of the proposed quality improvement initiatives was among the highest supported of all actions in the survey; expand *educational efforts for grocery stores on how to handle, refrigerate, and rotate Michigan apples to maintain high quality*. Ninety-three percent of the growers at least moderately supported this approach and 62% of the growers strongly supported such an initiative. Educational efforts toward grocery stores may be difficult to accomplish. Expanding efforts through organizations such as the Michigan Apple Committee, which already works closely with grocery stores in the areas of promotion and merchandising, may be workable but is still difficult.

Several actions, while not indicating the specific means by which certain objectives would be pursued, do indicate relatively specific areas for which industry action may be meaningful to pursue inasmuch as needed improvements are widely recognized. These include improvements with respect to reducing bruising, improving fruit size, improving maturity information programs, and improving storage technology.

A question on continued improvements to *reduce bruising in orchards by pickers, forklift operators, and in packing houses* was widely designated with at least moderate support for developing industry actions (92%). Most growers, packers, and other industry people, particularly those associated with the fresh market, recognize that marketing apples with minimum bruising is

important for competitive, high performance in fresh markets. This is, in some respects, especially challenging for Michigan since some of Michigan's production involves relatively soft or easily bruised varieties, such as McIntosh and Golden Delicious, requiring special handling. Some minor bruising is difficult to detect immediately after it occurs, but can be as a significant diminishing quality characteristic later if seen at retail.

Industry actions addressing bruising and *fruit size*, and to a somewhat lesser degree, *improved maturity information and harvest management*, were among the most widely supported action areas in the category of quality enhancement, as over 86% of growers at least moderately supported industry efforts to address these areas.. Facilitating the implementation of packing house TQM programs and expanding grower educational programs were related specific actions that have also received wide support among others in the industry. The successful implementation of such actions would likely drive further industry reforms in the areas of management for fruit size and maturity.

Industry efforts toward further *improvements in storage technology and storage management for Michigan varieties* were moderately supported by most growers. Strong advances by individual operators have led wider industry advances in adopting technology in this area recently. Broader collective actions may not be as pressing with regard to overall improvements in this area compared to some other dimensions of production and value-adding activities within the subsector.¹³⁸

CA storage capacity has been expanding, more than doubling in the past 20 years in Michigan, and greater proportions of fruit are being held in CA rather than in cold storage.¹³⁹ Data from various issues of the Michigan Apple Storage Reports indicates that between 1975-79 40% of apples in storage on November 1 were in CA rooms with average CA storage at 2.8 million bushel in Michigan during that period. These figures rose to an average of 5.6 million bushel

¹³⁸ The Shippers Association, however, in collaboration with the Michigan Apple Committee, has accomplished reforms in CA storage regulations as a priority agenda item. They had pushed for regulatory reforms primarily on the basis of their consensus opinion.

¹³⁹ Michigan Apple Storage Reports, various issues.

during 1988-92, representing 57% of all apples in storage during that period. Prospects and support for continuing improvements with respect to storage technology, capacity, and quality are fairly strong within the Michigan apple industry and can be an important component to supporting broader quality improvement efforts.

Growers were less supportive of industry initiatives that would involve *encouraging growers to multiple pick for needed color, size, and maturity for the fresh market*, although the modal response was still to "support moderately" (43%).¹⁴⁰ Specific means suggesting how growers would be encouraged to multiple pick were not indicated in the survey, and most growers who discussed the issue on the Task Force or with other organizations indicated a willingness to consider more multiple picking if it can be demonstrated to them that such effort results in returns exceeding the additional marginal cost to the grower.

5.4.5 TOWARD INDUSTRY QUALITY STANDARDS

A series of actions programs were queried in the survey that had been discussed by industry leaders as possibilities which could potentially contribute to moving the industry toward higher quality standards. Each of these approaches would presumably involve some sort of implicit component that required some degree of credible, traceable commitment to the delivery of higher quality by individual firms that could somehow be enforced. While not receiving the strongest support as a class of actions, at least 76% of the growers moderately supported at least one of these four ideas. The appropriate specific means for ensuring higher quality of apples in Michigan is widely debated among those throughout the industry, but a substantial majority of growers seem generally willing to consider some sort of enforceable industry commitment.

¹⁴⁰ Some varieties do not ripen evenly on the tree. Ideally, these trees would be picked several times to ensure desired fruit maturity. Many growers do this already to a limited extent, particularly on early maturing varieties. Labor constraints and intense peak harvest schedules limit this practice for many growers, who wind up picking all the fruit from a tree at once and leave the maturity sorting to the packer.

The most widely supported action ideas toward an industry quality standard was the development of a *state-wide premium grade for fresh apples*. Forty-seven percent of the growers strongly supported developing such a premium and 70% at least moderately supported this. Support lessened when weighted by acreage (37%), but the modal category remained "strongly support". The relatively high level of grower support shown in the survey indicates that a substantial majority of growers support the idea, but final evaluation would likely depend on the specifics of the program. The Shippers Association and the Task Force are continuing to consider this action as a high priority area with potential for aiding the development of an industry quality improvement program.

State-wide mandatory programs for some defined level of minimum quality were supported either strongly or moderately by 79% of the growers. The explicit use of minimum firmness as a part of this standard appears to result in little change in how growers perceive the merit of such an action relative to a more generally specified mandatory quality management program.

A program that would involve developing *earliest permissible harvest dates by variety* as part of an industry maturity standard was discussed by the Task Force and by some grower leaders. Quality, when considered in terms of flavor of apples, is influenced by when fruit is picked. The logistics of developing and enforcing such a standard (earliest permissible harvest date) with a diversity of varieties and varying climatic conditions in the state makes the workability of such a program difficult according to some. Thirty-three percent of the growers, however, strongly supported effort to develop such a program, with 75% at least moderately supporting it.

Strong grower support for these kinds of initiatives, while an important component and perhaps a necessary condition, is not itself sufficient to imply a workable program could be developed. Industry leadership, representing packers, shippers, and buyers, also need to develop strong commitment to develop appropriate incentives and demonstrate a commitment to support such programs.

5.4.5 INDUSTRY ACTION ON VARIETIES

Growers were asked about several industry actions relating to further developing Michigan's capabilities with respect to apple varieties, including broader industry action relating to both variety evaluation and development of more varieties. Industry action involving the *comprehensive evaluation of new varieties and strains that are best suited for Michigan's fresh markets and growing conditions* was strongly or moderately supported by 92% of the growers and strongly supported by 48%.

The modal response shifted somewhat when responses were weighted by acreage, where 36% "strongly supported" this action, indicating a small difference in support for this action between sizes of operation. A simple comparison of responses between growers with smaller and larger acreages indeed supports this. Smaller growers, those with less than 30 acres, were significantly more supportive with regard to industry initiative toward comprehensively evaluating new strains and varieties (57% strongly support) in contrast to larger growers with 30 acres or more (43% strongly support).¹⁴¹ Improved industry information on varieties, particularly with many smaller operations in Michigan, can theoretically lead to greater overall responsiveness to emerging market signals, particularly with respect to newer varieties.

A market demand analysis and future outlook for varieties and strains, new or otherwise, that could be developed by the shippers to raise the quality of information available to growers was widely supported by the shippers. This specific initiative was supported by 71% of the shippers during their survey. The issue emerged during subsequent Shipper Association meetings as one of the top several actions shippers felt needed to be moved upon immediately.¹⁴² Growers, particularly the smaller operators, also recognized this as an important industry need. The need

¹⁴¹ The MDA survey in 1991 estimated 61% of growers had less than 30 acres and 50% with less than 20. The continuing attrition apparent among the smaller growers led to this division of 30 acres to designate "smaller" and "larger" growers. Forty-eight of 85 smaller growers strongly supported this industry action with 67 of 155 larger growers strongly supporting. The difference in proportions responding in this way is statistically significant at the 95% confidence level.

¹⁴² As stated earlier in Chapter 4, several shippers expressed specific concern that growers too frequently overreact to positive reports about newer varieties that may not be fully substantiated.

to facilitate such a program remained, however, since (a) individual shippers did not want to be individually exposed for making "wrong" projections, and (b) a certain amount of coordination and effort was required to gather the information from other shippers and assemble it in an "independent" report.

This activity is representative of the usefulness of an organization like the Task Force that facilitates the development of industry initiatives. Such initiatives are widely seen as needed and there is broad support for change, but industry reform lies beyond the scope of implementing by any individual firm. The Task Force has moved on this perceived need by requesting that a survey on varieties in demand be done by the University. A report is planned to be prepared through the cooperation of the shippers projecting demand trends of Michigan varieties and strains. Individual shipper perspectives will be summarized to provide growers and others in the industry the collective vision of the shippers with respect to these important trends indicating future demand.

The participation and quality of information generated through this process may well be of a degree that would merit systematic updates of this data. A situation and demand outlook on varieties and strains could be developed in cooperation with the shippers and combined with updated data on existing acreage by variety according to the latest MDA orchard survey. This additional data would ideally improve the basis upon which growers make their long-term planting decisions in regard to varieties in demand in the market.

One other industry action related directly to varieties, specifically, a question was asked on , *developing more new apple varieties for Michigan*. Only 18% of the growers strongly supported this proposal, with only 11% of the responses by acreage. The sentiment appears to be consistent with that expressed by many shippers, that there is a lesser need for expanding the number of varieties grown in the state and a greater need for demand analysis and marketing well the currently available varieties.

5.4.6 IMPROVING INDUSTRY TRANSACTIONS AND RECORDS

Grower opinions varied widely with regard to two industry actions included with a view toward improving industry transactions and records.

An action receiving strong support in this category was to *encourage shippers to charge a percentage sales fee rather than a fixed price per box*.¹⁴³ A proposal to encourage change in this area was discussed during the shipper survey. The merits of percentage versus fixed price per box were debated among shippers. Growers similarly failed to indicate a strong preference for industry change in this regard. Grower support was relatively strong when considering the frequency of response (68% with at least moderate support), but this support diminished somewhat when weighted by acreage (58%). Shippers were similarly divided on the merits of both approaches. This would appear, given the diversity of grower opinion, to be an action best left sorted out by individual shippers. Further analysis may benefit future consideration of pricing mechanisms most appropriate for the Michigan situation.

An initiative to encourage packers and shippers to *provide growers detailed packout and return information by blocks* to assist removal and planting decisions was viewed with either moderate support or unnecessary, particularly when weighted by acreage. Growers appear to feel that generally communication of this information is adequate and/or concerted industry initiative toward change would return little. Most shippers similarly indicated they provide access to more performance data by lot or otherwise than growers seem to be interested in. Industry educational programs, however, that emphasize the usefulness of packout data in economic analysis of blocks may well further raise the importance of strong informational linkages between packers and growers.

5.4.7 OTHER INDUSTRY ACTIONS

Developing *government cost-sharing or tax incentives for migrant housing investments* was discussed at some grower meetings during the survey pre-testing. This action received mostly strong support (44%), particularly among responses weighted by acreage (52%). Larger growers particularly apparently feel the cost squeeze of tighter housing regulations and support industry

143

About one-third of the shippers currently charge growers for sales and promotion services based on a percentage of sales fee. The rest charge a flat rate per box.

effort to pursue government support to provide aid for the associated costs. A specific plan or proposal has not yet been developed to date regarding this proposal. A significant degree of collective effort would be required to develop the needed lobby strength for such an idea. Some manner of partnership with other labor-intensive commodity groups might be considered by organizations like the Task Force in order to affect new policy in this area. Continued pursuit of this action would benefit from a more detailed economic analysis.

Another action proposed related to *strengthening grower organization to deal with important industry issues and representing a grower perspective*. The Michigan Association of Pomesters is one such group that is trying to address this need. There was generally moderate support for expanding such an institution.

Industry effort that would facilitate *growers investing in more bins* in anticipation of expanding Michigan production was also met with mostly moderate support (53%).

Another action was suggested by several shippers and several on the Task Force as a possible means by which the industry could improve its overall production practice; *explore a shipper-packer-grower initiative to make a transition to plastic bins*. Improved overall quality of fruit and reduced long-run production costs were key objectives behind this proposal. The high cost of new molds and the cost of industry transition were considered as key factors addressed. Growers, however, generally regarded this action as not necessary (38%), with only 17% strongly supporting (9% when weighted by acreage).

5.4.8 AN OVERVIEW OF RESPONSES TO PROPOSED INDUSTRY ACTIONS

By way of summary, the specific industry action areas receiving strong support most frequently among those listed in the survey included:

- Efforts through IAI and other organizations to work with government agencies for realistic approaches on pest management and pesticide policies.
- Expand educational efforts for grocery stores on how to handle, refrigerate, rotate, etc. Michigan apples to maintain high quality.
- Expand programs to increase demand in the U.S. for Michigan apples.

- Expand programs to increase exports of Michigan apples.
- Continue to expand the use of IPM programs, including scouting, pheromone traps, weather monitoring, etc.
- Continued improvements to reduce bruising in orchards by pickers, forklift operators, and packing houses.

Each of these specific proposed industry action areas were indicated as having “strong support” by more than 50% of the growers in the survey, and by over 92% indicating at least moderate support.¹⁴⁴

Many actions proposed in this process are related. Synergies between certain actions alternatives may exist or actions may have implications for the viability of other actions. Still other actions may indirectly induce unintended firm-level responses that may or may not be favorable to others in the industry. Many actions represent only a single element of a broader set or stream of related actions intended to support a general strategy, such as an overall set of actions to serve certain customers demanding particularly high quality.

One shipper, strongly supporting industry movement toward a standard premium grade, suggested that such a program, once implemented, would be successful because industry people would find creative ways to make the individual firm adjustments necessary to participate in the program. New incentives would be in place to change conventional management and production practices (packing house modernization, storage management, multiple picking, etc.) throughout the industry. Greater commitment to and increased supplies of higher quality fruit may propel Michigan as a competitive supplier into a number of other related customer groups or functions. Whether this would indeed follow as a result of a fresh premium grade program remains to be seen. This illustrates, however, the interdependence that may be resident between some of these action alternatives being discussed by the industry.

The objective of this section of the survey, again, was to gather data indicating grower support for alternative approaches to address areas of expressed need within the industry and also to identify or confirm the growers’ sense of issue importance and need for industry action. Support

¹⁴⁴ Developing some manner of government cost sharing on migrant housing investment received 52% “strong support” among growers when weighted by acreage.

for different action areas may indicate, to some degree, the workability of an industry-wide approach and the prospects for successful implementation. Furthermore, the process was designed to encourage growers to consider with the Task Force in analyzing industry-level approaches to address areas of widely felt need that were beyond the effective influence of individual firms.

5.5 RESEARCH AND EXTENSION PRIORITIES

The importance of university research and extension as a part of the emerging strategies of the subsector was discussed in the context of the shipper survey in section 4.4. This issue is taken up again here in the context of the grower and packer survey to achieve several objectives.

Supplemental information on perceived priority needs for the University support is developed by including the broad-based grower perspective. This data provides further information on the relative priorities for University research and extension programs as perceived by the industry. Perceptions of the University's role and the relative perceived need for its participation in the strategic planning and coordination processes for the industry is also examined among several sub-interests within the industry.

5.5.1 RESULTS FROM THE GROWER SURVEY ON UNIVERSITY RESEARCH AND EXTENSION

One major component of the grower survey included an inquiry relating to the priority needs for research and extension toward helping the Michigan apple industry. A series of 18 areas were included on the survey questionnaire for which growers were asked to rank as an industry need that which was "very important", "moderately important", or of "low importance".

The areas selected for the survey represented a modified or expanded version of the list of areas presented to the shippers in their respective survey. Most of the areas represented areas of expertise either deemed important by those on the Task Force and for which information was desired on their importance from the grower community. Most are areas of information and

expertise traditionally supported by the university. A summary of responses both in terms of frequency and weighted by acreage is presented in Table 5.8.

Table 5.8 GROWER SURVEY RESULTS ON THE IMPORTANCE OF INDUSTRY SUPPORT AREAS FOR UNIVERSITY RESEARCH AND EXTENSION

	Very Important	Moderately Important	Low Importance	---Response According to Acreage---		
				----Grower Frequency----- (Percent)		
RESEARCH AND EXTENSION AREA¹						
1. Improved pest control methods, including IPM approaches, that are economical safe and politically-acceptable .	117 (72)	44 (27)	2 (1)	9596 (68)	4546 (32)	37 (0)
(a) On major apple diseases such as fire blight, apple scab, etc.	194 (82)	41 (17)	1 (0)	15165 (78)	4263 (22)	37 (0)
(b) On insect pests	160 (68)	73 (31)	2 (1)	12604 (65)	6604 (34)	137 (1)
(c) On other apple pests	138 (60)	87 (38)	5 (2)	11335 (60)	7430 (39)	240 (1)
2. Improving the overall quality of apples produced by Michigan growers.	177 (72)	63 (26)	7 (3)	14330 (70)	5994 (29)	292 (1)
3. Expanding domestic demand for Michigan apples.	168 (70)	58 (24)	15 (6)	15119 (74)	4371 (21)	973 (5)
4. Expanding export demand for Michigan apples.	162 (67)	61 (25)	19 (8)	14975 (73)	4252 (21)	1291 (6)
5. Economics and marketing aspects for Michigan apples.	148 (62)	82 (34)	10 (4)	13529 (67)	6065 (30)	564 (3)
6. Labor issues, management and regulations.	129 (54)	94 (40)	15 (6)	13261 (66)	6219 (31)	711 (4)
7. Strategic planning and coordination for the Michigan apple industry as a whole.	122 (52)	93 (40)	19 (8)	10695 (54)	7787 (40)	1256 (8)
8. Varieties that are well-adapted for Michigan.	119 (49)	113 (47)	11 (5)	7374 (36)	11688 (57)	1368 (7)

¹ Research and extension areas are ordered according to the frequency with which they were indicated to be *very important*.

Table 5.8 GROWER SURVEY RESULTS ON THE IMPORTANCE OF INDUSTRY SUPPORT AREAS FOR UNIVERSITY RESEARCH AND EXTENSION
(CONTINUED)

RESEARCH AND EXTENSION AREA ¹	Very Important	Moderately Important	Low Importance	Very Important	Moderately Important	Low Importance
	-----Grower Frequency----- (Percent)			---Response According to Acreage--- (Percent)		
9. Improved maturity, storage and post-harvest methods.	101 (42)	125 (52)	15 (6)	8169 (40)	10840 (53)	1464 (7)
10. Improving grower efficiency through new orchard technology.	96 (40)	129 (54)	16 (7)	6336 (32)	12532 (62)	1219 (6)
11. Fruit farm business management.	89 (37)	128 (53)	24 (10)	6363 (31)	11998 (59)	1992 (10)
12. New types of apple packs and packaging	89 (37)	120 (50)	32 (13)	7358 (36)	9554 (47)	3620 (18)
13. Improved processing technology and methods.	71 (30)	140 (60)	24 (10)	4281 (21)	13201 (66)	2538 (13)
14. Improved packing house technology, equipment and methods.	52 (22)	152 (64)	33 (14)	3969 (20)	13118 (65)	3050 (15)
15. Increasing production of the Michigan apple crop.	36 (15)	109 (45)	100 (41)	1924 (10)	9570 (47)	8824 (43)

¹ Research and extension areas are ordered according to the frequency with which they were indicated to be *very important*.



Ten of the eighteen areas were indicated to be "very important" by a majority of the growers, including responses weighted by acreage. Packers, as a group, indicated twelve of the areas to be "very important". All but one specified research and extension area were indicated to be at least "moderately important" by 86% of the growers. The relatively strong response from growers on the University as a major strength for the industry is again reflected in the wide variety of areas deemed to be of high importance and priority for research and extension.

Among the areas of highest priority was *developing improved pest control methods*, including IPM approaches, that are economically safe and politically acceptable. Specific categories of such *pest control approaches for disease* (82%), *insects* (68%), and *other apple pests* (60%), were separately designated as being very important research and extension areas.

Improving the overall quality of apples produced by Michigan growers was equally identified with improved pest control methods as a "very important" area for university research and extension (72%), including 98% indicating this area to be at least moderately important. The University can play an important role in public good-type research, supporting overall quality improvements through such measures as improved maturity information research, as well as through developing improved pest control measures that reduce damage from disease, insects, and other pests. The survey results indicate that substantial activities through the University that facilitate broad adoption of new technologies and institutional innovation in support of overall quality improvements would likely be well received by growers and others in the industry.

Demand expansion programs were also identified as areas of high importance for research and extension. A significant majority indicated *expanding domestic* (70%) and *export* (67%) demand to be a "very important" priority for the University. These areas may perhaps be seen as a subset of another category, *economics and marketing aspects for Michigan apples*, which also were indicated to be of high priority status by growers. There is thus strong support for the University at least to continue its support for these areas in response to this data. University involvement in marketing research in such areas as demand expansion programs, consumer marketing, generic promotion, and export enhancement and facilitation with respect to Michigan apples or apples in a generic sense would be consistent with this expressed priority by the growers.

Packers and shippers also indicated high support for university efforts in the area of demand expansion research and extension. The University might play an important role in support of evaluating and developing industry strategies relating to alternative demand expansion approaches.

Labor issues, management, and regulations were identified by the majority (54%) of growers as a "very important" priority for research and extension. Responses weighted by acreage reflected an even greater sense of importance (66%) for this area. Larger growers are typically impacted more by labor regulations. The importance of University attention to this area was communicated by all segments of the industry.

University involvement with *Strategic planning and coordination* for the Michigan apple industry was identified by the majority of growers (52%), including packers as a sub-group (56%), as a very important role for the University. It was ranked as moderately or very important by 92% of the growers. This would appear to be quite strong support for this activity, particularly given that the University has not typically played a major role in facilitating this kind of an effort. Grower responses are discussed in more detail with respect to this area in section 5.5.3.

The University has traditionally devoted some resources to variety evaluation. Forty-nine percent of the growers identified the *development and evaluation of varieties that are well adapted to Michigan* to be a "very important" priority for the University. The scope of varieties has in the past been considered a major source of competitive advantage for Michigan as a supplier region. Growers and packers even at this juncture widely identify Michigan's mix of apple varieties as one of the major strengths of the industry, well above many other potential areas considered in this survey. The identification of profitable, well-suited varieties for Michigan was considered most as an "important" industry issue (see Table 5.3), suggesting this area to be relatively high on the overall agenda for the industry, but not the top issue.

There is an interesting difference in response to the University research and extension priority with respect to varieties between growers operating packing houses and other growers. Only 39% of the packers indicated this to be "very important", while among those without a packing facility the University's role was considered "very important" by 51%. Response weighted by acreage similarly presented a significant shift in perceived importance of this area as 57%

indicated the area to be "moderately important". Smaller growers and those without packing facilities seem somewhat more inclined to view the University as playing a major role in variety development and evaluation. The importance of the University's role in this area, while widely designated as "very important", is often supplemental to the research and support activities of private nurseries.

Maturity, storage, and post-harvest methods have made significant advances in Michigan in recent years. The University has provided major research and extension in support of these advancements. As with most categories, this category represents a wide spectrum of activities. It may be difficult, therefore, to sort out grower perceptions of priority with respect to specific elements. Forty-two percent of the growers indicated this to be a very important priority for the University with the majority (52%) indicating the area to be of moderate importance (94%, at least moderately important). Growers indicated relatively limited prospects for expanded industry opportunity in the area of maturity information programs.¹⁴⁵

Grower efficiency through new orchard technology was regarded by most growers (54%) as a "moderately important" area for University research and extension. This is magnified even more when responses are weighted by acreage (62%). The industry opportunity areas relating to technical improvements and further innovation were, again, designated by growers as having somewhat less potential relative to demand-side opportunities. Growers and shippers alike indicate many technical tools are available for growers to produce the needed quantity and quality. Improvements in certain types of orchard technology are also well supported by private interests such as equipment dealers, nurseries, etc.

Fruit farm management was regarded by most growers (53%) to be a "moderately important" area for the University.

Development of *new types of packs and packaging* was identified by the majority of growers as a "moderately important" area for the University. This was the one area, however, where there were significant differences between the perceptions of growers who were packers and

¹⁴⁵ See Section 5.3.3.

those who were not. The majority of packers indicated this to be a "very important" area (51%) in contrast to non-packers (34%). Packers, of course, are uniquely positioned to evaluate the importance of the University's role in new package development. Many of these development and experimental processes are quite expensive and therefore unlikely to be taken up by the relatively smaller packing operations in Michigan.

Packers were less inclined to place high priority on the University to focus research on *improving packing house technology* (26% indicated this to be "very important"), but this may be more reflective of a perception that much of the technology needed is already developed and greater marginal returns could be gained by focusing on such areas as package development. This may also relate to the high priority placed on demand expansion programs.

The development of new types of apple packs and packaging was similarly designated as primarily of "moderate importance" (50%). Private sector provision of technical innovation and marketing support for new packaging is significant within the food industry.

Increasing the production of the Michigan apple crop was designated primarily as of moderate to low importance. Research and extension programs focusing only on increasing yield was not widely viewed as "very important". University programs that helped growers in such areas as pest management, quality improvement, marketing and demand expansion, labor management, and industry coordination were regarded most frequently as needing to be top priority areas for research and extension.

5.5.2 PLACING THESE RESULTS IN CONTEXT

The University commits resources to provide research and extension information for a variety of clientele and informational users both in and out of agriculture. Even within agriculture, there exists quite a diversity of interests. Setting research and extension priorities is a complex and dynamic task that is hardly straightforward for University faculties and administrators. Many programs are developed because they have significant synergies or can be advanced with small marginal cost in the context of a mix of research and extension activities.

Alston, et al, discuss a host of scoring criteria that can be used to sort out priorities for a broad research agenda.¹⁴⁶ These include factors such as probability of success, expected net present value and size of the projects, expected influence on yield, production, price, or income stability, costs of the programs proposed, value of the production for which programs are being developed, likely extent of industry adoption of the proposed programs or innovations developed, among several others. The number of factors that should be considered by university decision makers when prioritizing research and extension priorities, as suggested by Alston and others, underscore the complexity of this activity. Resources allocations are often made with only limited attention to these scoring components.

The apple industry represents a major commodity for Michigan, but of course many other commodities and programs need to be considered when allocating research and extension resources. The return to consumers with respect to research and extension investments is an important factor that should also be considered. The value of the data compiled over those within the apple industry is that it provides some quick overview information related to perceived needs for the research and extension output by some of those who would be utilizing them. Research faculty seeking to best support the apple industry within the state can incorporate these data, along with other kinds of information, and with the other scoring criteria, move toward formulating an overall program that will take into consideration the various expressed needs and indicated priorities of these clients.

5.5.3 VARIOUS PERSPECTIVES ON THE UNIVERSITY AND INDUSTRY STRATEGIC PLANNING

The role of the University as an organization facilitating strategic planning and coordination for the apple industry as a whole is one that has not received a lot of explicit attention, particularly with respect to the concept of strategic planning. Given the relatively limited amount of University research and extension programs in other commodity subsectors in Michigan

¹⁴⁶ Alston, Julian M., George W. Norton, and Philip G. Pardy, Science Under Scarcity: Principles and Practice for Agricultural Research Evaluation and Priority Setting, (1995).

explicitly identified with "strategic planning", it is likely that much of the grower perspective suggesting the degree of importance and priority for industry strategic planning reflects their perceptions of the activities and contribution of the Apple Industry Strategic Planning Task Force. This section investigates potential differences in perceptions among various grower groups indicating the importance of the University participating in this activity.

Several cross-tabulations were examined with respect to the indicated importance of strategic planning and a number of other factors. Responses were compared between growers and shippers, including a division between packer-growers and growers not operating a packing house. The indicated level of importance varied only slightly between these groups. The majority of each group (50-56%) indicated this area to be "very important" for the University, with 92%-97% indicating it to be at least moderately important. These results are presented in Table 5.9.

Table 5.9 COMPARATIVE INDUSTRY RESPONSES RELATING TO THE IMPORTANCE OF THE UNIVERSITY'S ROLE IN STRATEGIC PLANNING AND COORDINATION

Response Grouping	Indicated importance of the University's role in strategic planning		
	Very Important -Percent-	Moderately Important -Percent-	Low Importance -Percent-
Subsector Level			
Shipper ¹⁴⁷	50	42	8
Grower ¹⁴⁸	52	40	8
Packer	56	41	3
Non-Packer	51	40	9
University as an Industry Strength¹⁴⁹			
Major	66	33	1
Moderate	45	46	10
Minor or not a strength	35	43	22
Grower Size			
0-29 Acres	49	46	5
30+ Acres	55	36	9
Intent to Expand Acreage			
Expanding	61	34	5
Keep about the same	51	40	9
Decreasing acreage or exiting	37	51	11
Market Emphasis			
Primarily fresh	55	43	1
Both fresh and processed	53	43	4
Primarily Processing	49	32	19

Little difference in the importance of the University's role with regard to strategic planning and coordination for the apple industry was observed between growers, packers, and shippers. There was some expectation that perhaps larger growers may identify this as an area of greater need given their tendency to have relatively more at stake with respect to the long term planning and direction of the industry.

¹⁴⁷ Based on responses from the shipper survey presented in Chapter 4.

¹⁴⁸ Based on the grower survey data.

¹⁴⁹ The cross-categories of *University as an Industry Strength*, *Grower Size*, *Intent to Expand Acreage*, and *Market Emphasis* are all based on responses indicated in other sections of the grower survey.

Task Force strategic planning and coordination activities in conjunction with the University have to date tended to emphasize fresh market initiatives. No significant differences were apparent among those surveyed, however, between those growers indicating different market emphasis.

Cross-tabulations of the survey data indicate that perceptions of the University as a strength for the apple industry are somewhat correlated to how important a priority growers indicated strategic planning support by the University to be for the industry. Expressed importance of the University's role in strategic planning diminished significantly with more general impressions of it as a strength. Among growers that identified the University as a "major strength" upon which the industry could build for enhancing future competitiveness, 66% indicated this area to be "very important" for the University. This figure fell to 45% among those viewing the University as a "moderate" industry strength and to 35% among those viewing it as minor or not a strength.

The progressiveness and long term commitment to apple industry participants was hypothesized to be positively related to support for industry strategic planning. Growers were asked to indicate their near-term planting intentions. While progressiveness and long-term commitment to the industry are not necessarily by definition reflected in a grower's intentions (progressive, committed growers can go through periods of reducing acreage) a positive relationship is assumed to exist generally.

The indication of the University's role in strategic planning as "very important" was 61% among those expanding acreage, 51% among those keeping about the same, and 37% among those decreasing or exiting. While not definitive, a positive relationship between grower progressiveness and commitment to the expressed importance of industry strategic planning is suggested by these results.

A final point about the grower perceptions of the importance of industry strategic planning and the University's role should be noted. The Task Force, in partnership with the University and other organizations, has not yet developed a long track record of success given the short period of time it has been in existence. It is reasonable to expect that demonstrated benefits of industry strategic planning recognized by the growers would have a positive bearing on their expressed importance of this approach and the University's role. Continued development of the industry

strategic planning process and a clarification of the University's role in it could well raise grower support for both.

5.6 A SUMMARY OF GROWER AND PACKER RESPONSES

The grower and packer survey involved an intensive information gathering effort in support of the strategic planning activities of the industry. Grower and packer perspectives on the competitive situation of the industry followed very closely to the perspectives offered by the shippers. Many of the capabilities, advantages, opportunities, and issues facing the industry were similarly prioritized by all three industry segments, with a few differences.

Grower support for a variety of specified industry action areas was consistent with their ranking of industry issues. While support varied somewhat within certain action areas, such as actions toward quality enhancement, many actions within each of the major specified areas received strong support.

Much of this data can provide meaningful assistance to those directly involved with the Task Force to clarify the agenda needed to facilitate certain industry actions. A summary and further intersectoral comparisons are presented in the next chapter. The status and direction of a number of possible industry initiatives examined through the segment surveys are discussed. The needs for further analysis, strategies for implementation, and other considerations necessary to successfully advance the strategic planning process is discussed in the context of the main activities being pursued by the Task Force to date.

CHAPTER 6
THE STATUS AND DIRECTION OF SUBSECTOR STRATEGIC PLANNING
FOR THE MICHIGAN APPLE SUBSECTOR

6.0 INTRODUCTION

This chapter seeks to summarize and put into context the strategic planning activity that has been carried out within the Michigan apple subsector to date. Most of the effort to this point, as reflected in the previous three chapters, has focused on the fresh segment. Some aspects of strategic planning that have been developed relate directly or indirectly to the processing segment. The intent of those involved with this effort is to eventually address processing issues more explicitly after further progress is realized with the fresh segment. The ultimate goal is to extend and integrate strategic planning efforts over the entire Michigan subsector.

This chapter will summarize the status and direction of strategic planning in the context of Michigan apples to date in a number of stages. The first section considers the coalignment of firm and subsector goals related to the process of strategic planning within the subsector. The collective effort of individuals within the Michigan apple subsector to carry out a competitive situation analysis facilitates the identification of key issues or performance gaps, as well as the identification of subsector-level driving forces and key success factors. These are discussed as patterns and examined based on the information gathering from industry leaders as well as the surveys of the segments within the subsector.

The second section considers a number of general action themes have been identified through the activities of the Michigan Apple Industry Strategic Planning Task Force and the surveys of shippers, growers, and packers. The status and direction of these themes is discussed

in terms of which actions have emerged as most needful for focused strategic planning efforts and related areas that may benefit from further analyses.

The third section discusses barriers to implementation with regard to a number of the priority industry actions. Possible approaches to overcoming these barriers are considered. A discussion of the status and approaches under consideration by the Michigan apple subsector with regard to these stages of the current strategic planning efforts is presented.

The fourth section presents key considerations that have been clarified through the strategic planning process within the Michigan apple subsector. The importance of involving key knowledgeable and influential industry leaders throughout is stressed. Consensus building among individuals and organizations is also a critical task and consideration. A summary of Michigan's experience in this case is presented. A related consideration emphasized as important to the process based on Michigan's experience is the need to build and maintain organizational linkages that can facilitate and strengthen industry-wide involvement and overall effectiveness of the strategic planning process.

The fifth section examines the creation of a sustainable strategic planning system for Michigan apples. The need for a sustainable system is presented along with some approaches or mechanisms that can be built upon for the Michigan subsector.

6.1 THE STRATEGY BUILDING CONTEXT FOR MICHIGAN APPLES

The dynamics of a number of competitive factors provided the impetus for certain key individuals and organizations related to the Michigan apple industry to consider possible approaches to industry strategic planning. The current and expected influence of these factors on the viability of the Michigan industry in general were recognized by many to also have specific bearing on the welfare of their individual firms or organizations. The nature of these issues, including increasingly competitive rival production regions, regulatory threats to a workable and sustainable pest management system for Michigan, changing demands of the marketplace, and rapid changes in production technology and capability, together presented a need to develop collaborative and coordinated approaches for the Michigan apple industry to address them.

The initial intent was to address a limited number of current significant and pressing issues. As the process progressed, however, a wide recognition emerged among industry leaders that both their individual firms and/or organizations and the broader industry could benefit from on-going collaborative efforts to improve needed capabilities within the industry through industry strategic planning efforts. The need for a means or mechanism to facilitate general improvement and industry responsiveness to certain issues was recognized. It was also recognized that certain wide-impacting threats or opportunities may be often better addressed through some manner of collective or coordinated action.

Approaches to industry strategic planning developed by the Michigan Apple Industry Strategic Planning Task Force provide the individual firms within the Michigan apple industry a means to identify and evaluate issues, effectively discuss alternative actions, and facilitate the changes identified as needed by the industry.

Coaligning firm (or trade organization) goals with the broader interests of the subsector can be a major challenge, but is also critical for meaningfully engaging commitment to an industry strategic planning process. The experience of the Michigan firms within the Michigan apple industry is discussed in the following sections.

A summary of Michigan's competitive situation is also presented as part of the context for crafting industry strategy. Drawing on the experience and discussions of the Task Force, the shipper survey, and the grower and packer survey, the driving forces affecting industry change are considered. Key success factors, particularly relating to the fresh apple segment, are similarly discussed as part of the competitive situation analysis for the subsector.

6.1.1 ON FIRM AND SUBSECTOR GOALS

A major challenge of strategic planning in the context of a subsector is encouraging individuals to recognize the implications of major changes that are taking place beyond the borders of their firm. It has been argued here that outside forces, in many cases, influence the viability of individual firms within the subsector much in the same way, though perhaps not equally. Further, initiatives facilitating improved system-wide coordination and responsiveness that can result in

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overall improvement in the value-adding performance of the system can lead to growth and viability of the individual firms within the subsector.

Clear and meaningful goals are an important element of the conventional strategic planning process for a firm. The activities of various internal divisions within the firm are pursued in such a way as to achieve these goals, and thus goals serve as a filter for the firm. Relating the individual goals of the firm to the goals of the subsector can present the classic economic problem of relating (individual) micromotives to the desired (group) macrobehavior.

In the case of the firms within the Michigan apple subsector, imposing subsector goals on individual firms in such a way that they are required to supersede the goals of the firm has not been pursued as workable or appropriate. In most cases, subsector goal development has depended on the visionary perspective of industry leaders who have recognized that a number of changes at the industry level could be affected that would be not only in the interest of the subsector as a whole, but also in the interest of their individual firm.

An explicit recognition of the interdependence of their economic situation among those within the Michigan apple industry has been raised through intensive discussion among leaders involved with the Task Force. Respected industry leaders have committed themselves to the subsector strategic planning and implementation process. Their dedicated participation is one of the most important factors to bringing about meaningful changes in the industry.

While an explicit mission statement with supporting goals may not drive the subsector strategic planning process in the same way as it might for a firm, advancing individual firm goals through the broader subsector planning process can be enough to indirectly sustain the process at this higher level. Individual goals may actually, in part, conflict between rivals within the subsector, but these firms can mutually advance common goals better through cooperation, and therefore such benefits attract their commitment to the process. When rival shippers, for example, can both benefit from improved overall quality generated by the industry, and through their cooperation and participation in the Task Force, they can in their own ways facilitate such a development better than they might be able to independently, they may consent to participate.

The approach to encourage broad participation in the subsector strategic planning process through explicit consideration, discussion, and evaluation among industry leaders of what issues commonly or broadly face the Michigan apple industry has lent credibility to the process. The importance of pursuing industry change through such a collective planning process was made more apparent among this group as a forum (Task Force meetings) for evaluating the potential impact of a number of issues was established. The synergy of such a group process has generated relatively quickly many ideas for positive changes for the Michigan apple subsector and has facilitated the evaluation of Michigan's competitive position as a supplier region. The positive relationship between many of the goals of the Task Force, as it has facilitated the subsector strategic planning process, and many of the goals of individual firms and organizations participating in the process has been heightened as the process has unfolded.

6.1.2 SUMMARIZING MICHIGAN'S COMPETITIVE SITUATION

This section discusses a number of factors relating to evaluating Michigan's competitive position as a regional apple subsector. Some future considerations relating to evaluating the competitive situation are also discussed. There is a need for on-going analysis and evaluation with respect to the relative and distinctive capabilities of the Michigan apple subsector. Similarly, the nature and scope of threats and opportunities facing the subsector are always changing, as are ways to address them.

An Internal Capability Assessment

Major effort has been undertaken by the Michigan apple subsector to identify and evaluate its capabilities. The discussions and analysis of knowledgeable industry leaders on the Task Force have been supplemented by information gathered from industry segment surveys and other sources. While capability assessment has focused largely on the fresh segment to date, the goal of the industry leaders is to engage in a comprehensive evaluation of the entire subsector.

Evaluating the overall capabilities of the subsector provides important information for the strategic planning process. Opportunities and threats that face the subsector take on their

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significance as collective strengths and weaknesses are assessed. Actions can be considered that can better utilize unique advantages of the subsector to take advantage of certain opportunities or challenges. Actions can also be considered to shore up weaknesses or develop new or better resources to improve the overall capability of the subsector. Candid evaluation of overall capabilities can also help to evaluate and prioritize alternative strategies with respect to market goals and alternatives for improving internal capabilities.

The Michigan apple industry has relied on a number of strengths or advantages to achieve the success that it has. Location to key markets, ability to deliver as wide mix of apple varieties, strong fresh and processing markets, and to some extent, University research and extension were identified among some of the key advantages for the fresh market.

The dynamics of competitive advantage and capability of a subsector have been emphasized here throughout. A number of emerging strengths for Michigan include improving technology and modernization within the industry, particularly within packing houses, orchard planting systems, maturity information, storage, and pest management systems.

An important part of what has been emphasized by the Task Force might be described as encouraging those throughout the industry to adopt an orientation of continuing progressiveness with respect to their capabilities and changing markets. This includes marketing. Part of the strategic planning process has included encouraging a higher degree of responsiveness with respect to adopting and developing innovation to improve performance at all stages of marketing and production within the subsector. Coordination and collective action to facilitate this orientation has been discussed in the process.

A number of on-going considerations may be important for the Michigan apple subsector to consider with respect to its overall capabilities. The concept of Key Success Factors (KSFs) has not been explicitly employed during competitive situation evaluations to date. This concept is discussed in detail later in this section, but the concept involves first identifying what have been, are, and are likely to be in the foreseeable future the key capability factors necessary for successfully competing in certain markets by the subsector. It may be useful to explicitly identify

these for key apple markets (ie, key customer groups and/or customer functions) and examine the dynamics of the overall capability of Michigan firms with respect to these KSFs.

Questions can be raised or evaluations made by industry relating to Michigan's past performance with respect to these KSFs. It may be desirable to benchmark performance against past performance, the performance of key competitors, or against targets for improvement set by the industry.

An Assessment of Opportunities and Threats

Many opportunities have been identified by different individuals and segments within the Michigan apple subsector. Opportunity has been refined during this information gathering process somewhat from its usage in the conventional strategic management sense. Opportunity for the apple subsector has been considered both in terms of market opportunity outside of the influence subsector as well as opportunity for positive change or innovation within the subsector.

Much of what has been emphasized by the Task Force has been the identification and pursuit of opportunities that specifically require some degree of intra-industry coordination or collective effort, although other opportunities that would be primarily pursued by individual firm action were discussed as well.

Opportunities were categorized here, particularly with the apple shippers, as those relating to (a) markets that offered considerable potential but that have traditionally involved relatively minor participation by Michigan firms, (b) means for improving Michigan competitiveness through improved technology, coordination, or marketing, and (c) new products. Market opportunity evaluation and expectations were gathered from growers with regard to a number of customer groups and customer functions within both fresh and processed markets. Opportunity for technical improvements and pricing approaches were also considered.

Shippers identified particularly significant opportunities with respect to trays, premium packs, and the export market, noting many of these opportunities would be even more appealing for Michigan as overall improvements in quality, consistency (year to year), and volume were realized. The development of some of these opportunities would likely require various degrees of

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coordination within the industry to overcome certain barriers or better develop Michigan's advantages toward these markets. Growers were similarly optimistic about opportunities emerging from quality improvements.

Improved capabilities often lead to new kinds of opportunities. One concept that has been difficult for those involved with the strategic planning process to keep sorted out is the difference between opportunities for improving a certain capability or product characteristic (such as deliverable quality) and opportunities from improving a certain capability or product characteristic. This distinction can be important with respect to the focus of the analysis. Opportunity **for** improving a certain characteristic primarily involves analysis of technical or institutional innovation. It focuses also on actions that may be undertaken, collectively or otherwise, to develop or strengthen capability with a view toward producing a desired product characteristic.¹⁵⁰

Opportunity **from** improving a capability or a product characteristic focuses analysis on the market rather than on production. Such an analysis may commend a parallel analysis on the production side, but keeping these distinctions may aid the over all evaluation of opportunities for the subsector.

Threats to the Michigan apple subsector were often discussed in the context of issues and/or challenges to the subsector. Finding the most meaningful terminology to guide collective evaluation in subsector strategic planning can be as challenging as analyzing the information itself. A certain political sensitivity is required throughout the process. This was found to be particularly evident when discussing industry weaknesses and threats.

Threats have been taken here in the context of the subsector represent those factors that threaten the viability of the subsector. Strategic planning by the subsector is undertaken in part to collectively derive actions to address these threats, particularly where individual firm action

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This distinction is drawn conceptually from Sharon Oster (1994) where she suggests the task of any organization is to determine how much time to devote to identifying and entering attractive existing markets, and how much time to spend cultivating entrepreneurial ability and high performance within the current organization. These choices face those involved with strategic planning for the Michigan apple subsector, as well.

offers little opportunity to influence them. Threats, like the capabilities of the subsector, are best evaluated as dynamic environmental conditions (economic, regulatory, competitive, etc.), and should be monitored on an on-going basis. Some sort of modified Strategic Issue Management (SIM) system may be appropriate.

The major threats currently facing the Michigan apple subsector have been discussed and analyzed by the industry through the Task Force. Those that are regarded as pressing and with particularly wide impact include (a) the growth and competitive performance of the Washington apple industry, (b) a challenging regulatory process relating to key pesticide availability and food safety issues, (c) increasingly demanding buyers, partly influenced by production and marketing approaches used by Washington firms, and related to each of the aforementioned (d) lower prices persisting relative to growing costs of production. The relatively slow growth of the domestic market generally has also been mentioned by a number of industry sources.

6.1.3 DRIVING FORCES AFFECTING SUBSECTOR CHANGE

Driving forces represent major economic trends or conditions that have major impact or bring about change for an industry. While driving forces were not explicitly discussed as such, the information gathered from knowledgeable industry leaders participating on the Task Force, as well as the shipper and grower surveys, suggests several such forces that apply to the apple subsector. Continuously monitoring of such forces should be an important part of a system that evaluates the competitive situation of the subsector.

Driving forces may relate to threats, but can also be a source of opportunities for Michigan as an apple supplier region. A number of the major driving forces that are impacting the competitive environment with respect to apples include the following:

- **The large production, strong marketing activities, and high performance of the Washington apple industry.** Washington, as a dominant national and international supplier region, can significantly influence the competitive environment. They also can influence buyer expectations with respect to apples generally and especially quality. Their national promotional campaigns are designed to influence consumers favorably toward Washington-grown apples.

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- **Changing technology with respect to packing houses, orchards planting systems, pest management systems, new varieties, storage, etc.** The sophistication, capability, and cost of these technologies has already brought about considerable change with respect to quality improvements. Technology also appears to be driving trends toward consolidation and larger operations, particularly for packing houses.
- **Regional marketing efforts.** Michigan, Washington, California, and New York have all seen increased effort within each of these major apple supplier regions to establish more aggressive marketing and promotional programs in recent years. Many minor production regions where such collaborative regional efforts have not been taking place have had downward trending production.
- **The regulatory environment relating to pesticide availability, use, and food safety.** This is a highly politically charged driving force that has a significant influence on those producing apples.
- **Changing export markets.** Growing demand in international markets in various parts of the world present competitive advantages and disadvantages for various supplier regions, particularly for fresh apples. Preferences for such characteristics as quality, price, flavor, and seasonality are among factors that are important to some of these markets.

6.1.4 KEY SUCCESS FACTORS FOR THE FRESH APPLE SEGMENT

Firm-level strategic management typically involves defining goals and objectives that are measurable against its capabilities and environment. While a subsector may not emphasize precise, measurable goals relating to desired subsector performance, it still may be desirable to set goals and periodically examine whether progress toward developing certain capabilities, expanding into certain opportunities, or addressing broad threats is adequate with a current mix of strategies. The merit of alternative strategies may well change with the competitive situation of the industry.

The dynamics of industry capabilities were somewhat difficult to elicit from the growers through this survey. One alternative approach to get deeper into this might be to first identify key success factors (KSFs).¹⁵¹ The importance of the subsector's status with respect to a set of strengths is particularly significant to the extent they would relate directly to these KSFs. These factors

¹⁵¹ See A. Thompson and A. Strickland (pp. 83-88, 1990) on the concept of *Key Success Factors*. They indicate only a few factors typically serve as the major determinants of financial and competitive success in a particular industry (not really in the sense of a subsector; more a horizontal slice of like competitive firms). They suggest "(k)ey success factors vary from industry to industry and even from time to time within the same industry as driving forces and competitive conditions change...rarely does any one industry have more than three or four key success factors at any one time".

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begin to become apparent through the responses relating to the competitive situation, but need to be developed more explicitly. The goal would be to investigate these factors, once identified, in terms of their dynamics and in terms of the subsector's evolving capabilities, favorable or otherwise.

Key success factors for producing and marketing fresh apples were not directly identified as such by those surveyed in the industry, but based on survey results and discussions with key industry informants, several KSFs seem evident. These might perhaps modified somewhat with further industry analysis and discussion.¹⁵² The dynamics of these KSFs could then be more explicitly discussed through industry forums.

The key success factors for the fresh channel of an apple supplier region the would appear to be the following:

- Adequate, dependable quality with demonstrated commitment by the subsector to maintain the high quality demanded by consumers of fresh apples.
- Strong buyer orientation by suppliers that is demonstrated by responsive, flexible service. The successful region will therefore maintain a strong performance and image of cooperation with buyers.
- Ability to rapidly adapt (responsiveness) as a supply system to changes in demand driven opportunities or supply driven changes in production.
- Dependable supplies of consistent quality available from year to year
- Recognized as a long-season (or year around) supplier region
- Ability to supply the types of varieties and packs demanded by the market at a competitive price
- Strong industry support for promotions, merchandising, and marketing
- Modernized planting, production, packing, and shipping systems

These KSFs may be modified somewhat when discussed in specific detail with certain knowledgeable industry leaders, but they were widely articulated in various degrees through the surveys and Task Force discussions. The status and dynamics of Michigan as a supplier region

¹⁵² Much of the Task Force agenda and orientation of the surveys have focused on the fresh apple segment. It is likely that somewhat different Key Success Factors may be recognized for the processing segment.

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with respect to each of these could be investigated by those in the industry more completely with respect to the following questions:

- How is the industry progressing on these overall with respect to past performance?
- How is the industry progressing on these with respect to competing supplier regions?
- Are there specific barriers present or emerging that may impeded performance of the regional subsector with respect to any of these KSFs?
- What industry linkages might be developed to improve overall capability and performance with respect to these KSFs?
- Are there specific measures or benchmarks the industry should consider that would help on-going self-evaluation with respect to these KSFs?

6.2 THE STATUS AND DIRECTION OF PRIORITY INDUSTRY ACTIONS

Competitive situation data on the subsector was gathered from the shipper, grower, and packer segments by the Task Force to provide an informational complement to data gathered from shippers and secondary sources. Grower recognition of industry needs, support for specific actions, and unique perspectives on key competitive forces, all provide insight on the merit and viability of alternative industry strategies. Grower perspectives on specific industry actions, each with the potential of improving the performance of Michigan as an apple supplier region, are the main focus of the next section.

Data gathered from key industry leaders, including those on the strategic planning Task Force, as well as information compiled from the various segments of the Michigan apple industry point to at least four major themes for industry action relating to the fresh segment. The need for the industry to address these areas is highlighted by driving forces and key success factors derived through the competitive situation analysis for the subsector. Some of these top priority industry action areas include:

- Improve Michigan's overall competitiveness as a supplier region through **improving overall regional performance on quality and the corresponding image of the industry.**
- Collectively influence **pesticide availability, workable pest management systems, and IPM development** favorable to or in consideration of Michigan growing conditions.

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- Encourage a variety of **demand expansion** initiatives.
- Improve the **marketing, evaluation, and information** relating to fresh **apple varieties** within the Michigan industry.

Implicit in each of these areas is the objective to improve the returns to participants within the subsector by improving the value of the products generated by the system. Improving system responsiveness to dynamic changes corresponding to each of these areas is a major objective behind strategic planning undertaken by the Michigan apple industry. Each action area can be viewed as a component of a subsector competitiveness enhancement program. Specific actions that support each of these areas have been discussed within a variety of forums within the industry, including the Task Force.

This chapter discusses further the status of a series of industry-level activities intended to support each of these broader themes. Certain synergies or simultaneous achievement among these actions can be potentially realized collectively by the subsector. Actions that facilitate quality improvements within the system, for example, are intended to also facilitate demand expansion.

Implicit in approaches to implement each of these actions is the industry-wide effort to improve intersectoral and inter-organizational linkages that may facilitate affecting the desired changes.

6.2.1 ACTIONS TO IMPROVE OVERALL FRESH APPLE QUALITY

Improving the quality of fresh apples has emerged as one of the top areas of need identified by those within the Michigan industry. Competition and quality pattern-setting by Washington, growing domestic and export opportunities that are contingent on relative quality improvements by Michigan, and the recognized need among those within the industry to improve Michigan's quality image as a supplier region are among the factors elevating the urgency to develop workable means to improve Michigan's quality performance.

There appear to be a number of things Michigan firms can do to facilitate overall quality improvements. Recent progress in this area has been realized within Michigan, particularly in

conjunction with technological improvements in orchard planting systems, the packing houses, and storages.

Consensus on the need for improving overall quality, however, appears to be greater than consensus on specific approaches appropriate to affect the needed changes. Some of the proposals that have been strongly supported by many within the industry, while perhaps having the potential of bringing about the desired effect, have been met with some resistance due to unknown or uncertain results, including possible side effects.

The quality improvement objective is somewhat complicated by the fact that there are many ways to improve quality at a number of different levels or activities. Some have proposed that what is needed is a subsector-wide Total Quality Management program. Efforts to improve quality can be encouraged throughout the growing, packing, and shipping segments. One challenge, however, is that each participant involved at each stage must have remunerative incentive to deliver the extra care in harvesting, handling, packing, etc. Small voluntary changes or precautions may make a noticeable difference when aggregated over the entire system, but may be too small to affect micro-level changes.

The idea of a subsector-wide TQM program is an area that is currently receiving considerable attention from the Task Force. Some have suggested to focus initially on packing houses. Several considerations must be addressed, however, before this is ready to proceed to an implementation stage. There is some debate as to whether educational "quality workshops" would be enough to bring about the needed changes. Many agree such programs should be part of a larger package. Other questions of the most meaningful approach have been raised. Should an outside expert be brought in at the shared expense of the industry or should shippers, leading packers, and other knowledgeable industry leaders develop TQM guidelines? What are appropriate guidelines that would be seen by most to be workable, attainable, and bring about genuine change?

Packer workshops that could be conducted regionally in the state at on-site progressive packing facilities were suggested as an approach that might draw a wide audience.

Proposals coming from the shippers regarding actions to address overall quality improvements included a mix of initiatives that would require either collective or individual effort.

Some quality improvements would be realized as a result of market forces bringing about greater returns for high quality and lower returns for those under-performing with regard to quality. A proactive stance, however, that accelerated improvements in quality is widely regarded as needed. A recognition that quality image is something shared in common by all shippers within Michigan provides an incentive for shippers to consider collective efforts to bring about and communicate improvements in this area.

The development and adoption of a premium grade for the state is another proposal that has received wide attention. The merits and dangers of such an approach are the subject of considerable discussion within the subsector and among Task Force participants. Analysis of the approaches employed in other regions has been proposed, as well as more careful examination of possible negative secondary effects. Considerable consensus building remains to be done with this approach, although some progress seems evident. Further discussion on setting the exact parameters of such a premium and how such a program would be enforced remain as further issues that must be resolved.

Further analysis on several other approaches toward improving quality are needed. Approaches to the practice of multiple picking, with some measure of the marginal cost and benefit of such a practice, might be helpful to the industry. Refinements to and the use of maturity information systems would also benefit from such an analysis.

The recognition of a need to improve the overall quality delivered by the industry and the commitment to develop workable actions to affect the needed changes is evident in the Michigan apple subsector. This remains one of the foremost agenda items for the Michigan Apple Industry Strategic Planning Task Force.

6.2.2 ACTIONS ADDRESSING PESTICIDE USE, AVAILABILITY, AND WORKABLE PEST MANAGEMENT SYSTEMS

A number of industry initiatives have developed through the Task Force relating to the area of pesticide use and pest management. Two major initiatives are representative of the perceived importance of this area to the Michigan industry.

A comprehensive pesticide stewardship program was developed through the leadership of the Task Force. The detail and scope of this plan was considerable and developed in by the industry in cooperation with MSU faculty and staff.¹⁵³ The focus of this effort was to present a "Michigan Stewardship Plan" for modern pest management, emphasizing needs and judicious use of pesticides as part of an integrated pest management system.

Industry feedback, exposure, and support for this effort was very strong, in keeping with their indication of the importance of this area as an industry issue.

Current initiatives include the support of the Task Force behind an industry effort for additional research support for managing fireblight disease on apples in Michigan. This support has taken the form of Task Force discussions and support of research funding.

IPM research relating to apples at the Clarksville experiment station has been discussed at Task Force meetings. Support for grower IPM workshops has also been offered. Discussions relating to opportunities for Michigan through IR-4 programs, EPA supplemental funding, and regional IPM centers have also been topics of discussion.

6.2.3 ACTIONS FACILITATING DEMAND EXPANSION

Demand expansion for apples has emerged as one of the top areas of support for further action on the part of the industry segments surveyed to date. The Michigan Apple Committee, as the lead organization for facilitating demand expansion efforts for Michigan apples, has considered

¹⁵³ The Pesticide Stewardship Report is an unpublished document prepared for the Michigan apple industry by the Michigan Apple Industry Strategic Planning Task Force. It has been submitted in various forms to leadership at the International Apple Institute, who are turn cooperating with the EPA.

a number of ways to adjust to such industry expressions of need and to alter their program strategies for greatest effectiveness.

There is some consideration of possible raising the assessment rate on growers to increase the budget for efforts in the area of demand expansion. This would require wide grower support, but could potentially address some of the needs expressed.

Some effort has been undertaken by the University, with the support of the MAC, to continue significant consumer marketing research. This research has sought to identify a number of consumer preferences and attitudes toward Michigan apples in a number of regional markets. It appears that the industry has considerable support for continued efforts such as this.

6.2.4 ACTIONS FACILITATING VARIETY EVALUATION

A variety situation and market outlook survey has been initiated in response to needed actions expressed by shippers, growers, and industry leaders on the Task Force. A significant amount of information has been collected from the grower survey and a supplemental survey of the shippers is under way.

Improving certain informational flows throughout the industry has emerged as an important need. Approaches such as this are easily facilitated by the Task Force. Reports summarizing this information can presumably aid in the coordination of the supply and demand of the most desirable varieties coming out of Michigan in the future.

6.3 TOWARD IMPLEMENTING AND EVALUATING SUBSECTOR ACTIONS

The implementation component to strategic planning for a subsector can be one of the most challenging. Individual firms, when faced with the actual costs of bring about change or negotiating on the details of what specific change should involve, may be less supportive of an otherwise and previously supported change. The experience of the Michigan Apple Industry Strategic Planning Task Force has not been extensive in this area to date. Much of the process has

emphasized issue identification and evaluation of alternative actions to this point. This section looks toward some of the likely considerations regarding implementing and evaluating actions for the Michigan apple subsector.

As various actions that have been widely supported have been refined, there has been a need for on-going consensus building within the industry. The advantage of having recognized industry leaders involved in the details of the strategic planning process is that they have considerable experience and analytical ability for what may or may not be a workable approach to addressing an issue.

Some actions have proceeded through the need and analysis process faster than others. Those that proceed more quickly to the implementation stage need not be the most important actions. Incorporating many of the technical advances in Michigan packing houses, storage, and orchards into regional promotions, for example, was widely supported. An organization that could quickly and credibly lead such an activity (the Michigan Apple Committee) was identified. Shippers and packers were quick to recognize the value of such action, and there has been little resistance to implementing this suggestion.

Other actions, such as a Michigan premium grade, require considerable analysis and consensus building. Leading shippers appear willing to consider such an approach, according to some. The scope of benefits to such a program, however, is not as readily apparent to all who would be effected. The progress of such an action toward implementation, therefore, has taken considerably longer. The details of an implementation plan require greater attention.

One group strategy that has been helpful to advance an idea to the next strategic planning stage is the use of planning groups or subcommittees. Issue focused analysis can narrow the agenda for such a committee and include individuals who can provide distinctive leadership and expertise to a particular area. The details and logistics of certain issues can be more rigorously discussed in these groups. Recommendations are also often more readily received by a larger group when coming from a group recognized as having a particularly keen vision and leadership vantage point. The shipper subcommittee has worked very well this way to identify priorities and

meaningful approaches to both the Task Force and the shipper segment through the Shippers Association.

It is possible that certain actions may require specialized analysis by experts outside the on-going strategic planning process. The Task Force, for example, when addressing industry approaches to a pesticide stewardship plan, brought in University scientists to provide special analysis and reports to the Task Force on a variety of specialized issues. Market analysts, TQM experts, and other specialists may need to be appealed to provide input in developing a meaningful, effective implementation plan.

From time to time the Task Force has required resources for analysis and facilitative roles. Surveys, travel and expenses of specialists, and the opportunity costs of industry leaders time have all been invested into the planning process. Further resources may be demanded to implement such programs as industry workshops, economic analysis of various cultural practices, the dissemination of various reports to the industry at large, etc.

Evaluating actions that have been, or are in the process of being, implemented is also a critical component of the strategic planning process. Are changes achieving the desired results? How might the Michigan industry know? Whether the process is moving forward with a view toward clearly measurable goals or toward more general objectives, such as with Michigan apples, there should be an on-going "gap" analysis. Progress toward narrowing the gap between past performance and desired performance should be evident.

6.4 KEY CONSIDERATIONS FOR STRATEGIC PLANNING IN THE APPLE SUBSECTOR

Several key considerations have been clarified as being necessary throughout the strategic planning process for the Michigan apple industry. While reference has been made to the importance of these key considerations throughout, specific discussion of some of the experiences relating to the Michigan apple industry are summarized here. These considerations include (a) involving industry leaders, (b) consensus building, and (c) building organizational linkages.

6.4.1 INVOLVING KEY INDUSTRY LEADERS

It is difficult to conceive of effective strategic planning at the level of an industry without the explicit commitment and involvement of many of the key industry leaders. The process for the Michigan apple industry has been very pragmatic and intentionally organized around the industry agenda as initially recognized by management and leadership from among the most influential firms and organizations in the industry. A degree of individual discussion was necessary, in some cases, to clarify the intention and objectives of the Task Force and how the participation of an individual could provide mutual benefit to the industry and the individual's organization.

A certain critical mass appears to have been obtained in being able to attract the needed key leaders by beginning with a smaller "planning development" committee. An advantage of reaching a certain critical mass of involvement is that most key leaders are already oriented toward monitoring the broader industry picture and quickly recognize the need and potential behind group efforts such as this that have the wherewithal to affect positive change.

The participation of respected leadership also brings a credibility to the process. Individual firms and industry organizations are more willing to consider recommendations coming from a group of recognized leaders. Communications from the Task Force, including the names and organizations of a wide scope of participating industry leaders, has been shown to carry considerable influence.

6.4.2 CONSENSUS BUILDING

Consensus building is a critical process throughout the subsector strategic planning process. Prioritizing issues, developing goals and direction for the industry, evaluating actions, and implementing strategies all depend on a strong commitment and orientation toward consensus

building. A number of specific approaches that have been used to obtain broad industry support and involvement were discussed in Chapter 3.¹⁵⁴

Knowledgeable industry leaders often have a sense of how to work toward consensus, recognizing certain approaches that are apt to receive more wide support than others. Strong consensus behind a recognized needed industry change, which can be built first at the leadership level, can potentially provide the momentum for actually implementing the change within the subsector.

6.4.3 BUILDING ORGANIZATIONAL LINKAGES

Building organizational linkages, like consensus building, has been an on-going concern for the Michigan apple industry throughout the strategic planning process. Representation from each of the major organizations and segments has been diligently pursued by the Task Force leadership with a view toward strengthening linkages from the industry planning core back to the firms and individuals represented. Many of the organizations that have participated in the Task Force are also related to each other through some kind of linkage.

A strong network of communication can facilitate the consensus building processes necessary to strategic planning at this level. Support for certain actions can be more easily marshalled as leaders represented to the Task Force can discuss the deliberations and intentions of the Task Force with their constituents. Iterative progress toward workable plans can also more easily proceed with the support of strong linkages.

An ownership of, or at least a voice in, the process has been considered necessary, given the scope and size of the apple industry in Michigan. Specific meetings with these organizations have been engaged by Task Force leaders with this in mind. Individuals representing the Task Force have discussed the Pesticide Stewardship Program, the segment survey questionnaire, shipper and grower survey results, and other activities of the Task Force in an effort to build organizational linkages.

¹⁵⁴ See Table 3.11.

6.5 CREATING A SUSTAINABLE STRATEGIC PLANNING SYSTEM FOR MICHIGAN APPLES

This last section discusses the importance of creating a sustainable strategic planning system for Michigan apples. The Michigan Apple Industry Strategic Planning Task Force, as has been mentioned, is in its relative infancy as an organization. One of its major contributions to the Michigan apple industry has been to provide an innovative institutional mechanism through which strategic planning can be carried out at the industry level. The goal has always been to identify and facilitate actions, particularly those requiring some degree of collaboration or collective effort, that will improve the performance of the industry.

One premise that is derived from the study of the strategic planning of organizations generally, and the experience of the Michigan apple industry specifically, is that having a strategic planning process in place can contribute to a system of subsector activities that are more responsive to the dynamics of opportunities (for emerging markets without and positive innovations within) and threats facing the subsector.

An important realization for the Michigan apple industry has been the need for establishing an on-going means for strategic planning at this level. The experience from working through issues at the industry level has led many within the industry to give serious consideration as to how such an activity can be sustained. Issues and opportunities that widely affect the firms in the Michigan apple industry can be expected to continue to emerge. An on-going orientation is needed toward encouraging industry-level discussion and analysis of a variety of issues with a view toward identifying and implementing actions to continuously adapt as an industry.

The process, while yet to develop a long track record of successes, shows promise for bringing about within the industry a needed vitality, forward and outward orientation, and commitment to do what it takes to be competitive. The Task Force has served as a useful industry issue and idea clearinghouse. It has further, in innovative ways, been able to facilitate a greater degree of responsive decision making within the industry to the dynamic changes it continues to face.

This and preceding chapters have explored, described, and evaluated the experience of the Michigan apple subsector with respect to its experiences developing a strategic planning process. This final chapter draws on many of these experiences to propose a general framework for commodity subsector strategic planning.

CHAPTER 7
TOWARD A GENERAL FRAMEWORK FOR
COMMODITY SUBSECTOR STRATEGIC PLANNING

7.0 INTRODUCTION

Analysis of the process and preliminary results of the strategic planning activities within the Michigan apple subsector offer some useful, albeit qualified, indications of general principles of strategic planning that may be applied in the broader context of a commodity subsector in general. While application of this research has focused primarily on the implications for Michigan apples, this final chapter considers the possibilities for more generalizable applications.

There are several main objectives of this chapter. Based on the analysis of the experiences of the Michigan apple subsector and on general principles of strategic planning for the firm, components of a subsector strategic planning system are developed, analyzed, and discussed. First, the basic objectives of strategic planning within a commodity subsector are considered. Second, actual stages or components to the subsector strategic planning process are suggested. The objectives and specific elements of each component are discussed together with methods, tools, and approaches that may be suitable for analysis at each stage of strategic planning for a commodity subsector.

Another main objective of this chapter is to discuss approaches that may be useful, or considerations that may be necessary, for developing or operationalizing a sustainable subsector strategic planning system. The unique characteristics of a subsector, as a complex value-generating system comprised of loosely related production and marketing activities, in comparison to a firm requires some distinctive approaches to developing industry focus, maintaining industry commitment, and generating meaningful industry solutions in contrast to single firm strategic planning and management approaches. The general approaches used in the case of the Michigan

apple industry are drawn upon in this discussion as they may be useful for the development of strategic planning activities in other commodity subsectors.

A number of areas for future research in the area of subsector strategic planning are suggested. Further linkages between agricultural subsector research and strategic management research that is evolving in the business academy offer promise for considerable intellectual synergy, as different tools and conceptual approaches can improve the more general understanding of systems organizing to be more responsive to outside forces and generating competitive value.

Several points of qualification should be emphasized here with respect to generalizing principles or approaches for commodity subsectors and strategic planning. Many analysts have made distinctive and meaningful contributions to the general stock of understanding that has accumulated with regard to agricultural commodity subsectors. Some attempts have been made (with somewhat limited success) to make generalizations over subsectors in an attempt to inductively develop principles of structure, conduct, and performance that could be applied universally, or at least systematically to subsector systems.¹⁵⁵

Collections of subsector analyses have been compiled by other economists with a view toward considering what generalizations over the universe of subsectors might be feasible. A collection of analyses was coordinated by Marion and Ward using the structure-conduct-performance (SCP) paradigm and applied to a variety of commodities. The analysts, in this case, set out looking for patterns in their cross-section of subsectors; common problems, organizational features, and coordinating mechanisms that would move the analysts toward making broader generalizations. Each commodity subsector (or "case", as they referred to them) was a data point. Patterns among these points could presumably develop a basis upon which broader principles could be formulated and applied to the universe of subsectors.

This study of the Michigan apple subsector could presumably be incorporated as another data point for such an analysis, however this was not the main objective of this research. Marion and Ward reflect on the usefulness and contribution made by the micro-analysis of each subsector

¹⁵⁵ See, for example, the work of Bruce Marion and others (1986, especially pp.185-196).

subsumed in their "meta"-study. They emphasize the importance in its own right of understanding how these subsectors work as individual economic systems. They conclude, however, the idiosyncratic nature of each commodity subsector precludes rigorous cross-subsector analytics or definitive statements with regard to general causal relationships that can be applied universally. Comparing and evaluating the relationship between strategic planning (as a dimension of industry conduct) and subsector performance within different subsectors in a definitive, generalizable sense should be similarly regarded.¹⁵⁶

The limited extent to which explicit collective strategic planning has been initiated by firms and organizations together within a commodity subsector, however, need not limit discussion with regard to considering how strategic planning activity might be approached or developed in other subsectors. The research effort presented in this dissertation has focused on developing, applying, and evaluating a strategic management framework for a single commodity subsector, Michigan apples. Many of the approaches that have emerged as useful in the Michigan apple subsector may stimulate the development of parallel approaches by those involved with or considering strategic planning in other commodities.

Generalizations about components or approaches relating to subsector strategic planning are not intended to be definitive as they are discussed here. The newness of conceptualizing, developing, and implementing strategic planning in a practical way at this level to date precludes developing strong prescriptive measures applicable to every situation. Still, the experiences observed within the Michigan apple subsector provide a point of departure for developing and refining a general framework. It may be possible that eventually broad experimentation with strategic planning approaches, as they may eventually be applied to a variety of commodity

¹⁵⁶ Even Marion and Ward concede that the questions answered and generalizable relationships identified by examining a number of different subsectors were more limited than what they had initially hoped for. Their conclusion could be summed in their statement: *"...we find that comparative analysis of different subsectors provides rather tentative conclusions on subsector organization-performance relationships. With our present knowledge level, normative judgements about different subsectors are hazardous. It is difficult to evaluate subsector performance in anything but a crude way and even more difficult to establish the cause of various levels of performance."* (Marion, B. and R. Ward, p.186).

subsectors, can solidify or clarify the stock of understanding with regard to strategic planning in this context.

7.1 COMPONENTS AND TOOLS FOR A SUBSECTOR STRATEGIC PLANNING SYSTEM

This section of the chapter discusses general components or stages of a strategic planning system for a commodity subsector. While some of the specific stages relevant to strategic planning for a subsector may parallel those appropriate for a firm, certain distinctions often exist. Some of objectives and many of the approaches, analytical tools, and methods are apt to be different for strategic planning in the context of a subsector.

Several systems or frameworks for strategic planning for a firm have been discussed earlier in Chapter 2. The framework proposed by Quinn (1980) is adapted here with special consideration of the strategic planning and implementation process for a subsector.

A general planning and implementation framework is presented here that includes general components, approaches, objectives, and tools considered necessary to the process. This framework has been analyzed and adapted based on the strategic planning and implementation experiences observed in the case of the Michigan apple subsector. The importance or approaches used for any given stage or the application of different tools may differ somewhat in the context of another commodity system. These are presented as a launching point, or initial considerations for those considering strategic planning initiatives in other subsectors. The general components represent a series of stages that would likely need to be developed through some means by those who might consider developing a strategic planning system in the context of another commodity subsector.

A number of important components to subsector strategic planning are discussed here. These components, including examples of specific elements, component objectives, and tools, methods and approaches, are presented in Table 7.1. Individual components suggested here for a subsector conceptually are related, in part, to those comprising a strategic planning system for an individual firm or organization. Specific elements, objectives, and approaches, however, when

considered in the context of strategic planning for the subsector, take on a fairly distinctive orientation with quite different approaches than might be employed in a corporate planning system.

Table 7.1 GENERAL COMPONENTS TO A SUBSECTOR STRATEGIC PLANNING SYSTEM

Strategic Planning Component	Examples of Specific Elements	Component Objective(s)	Tools, Methods, and Approaches
Goal Development	Profitability objectives Market share objectives Market participation or penetration objectives Product development or differentiation Capability development	<ul style="list-style-type: none"> Identify general goals or desired directions for the subsector; should be defined broadly enough initially to be as inclusive as possible of subsector participants. 	<ul style="list-style-type: none"> Work with a relatively small group of knowledgeable and influential industry leaders Consider goals for selected market segments Consider goals for improving overall subsector capability Some selective quantification of goals may be useful, but used only in a limited sense Broad industry goals become more clarified concurrent to the development of the subsector's competitive situation
Situational Analysis	Internal capability assessment Opportunity assessment External threat assessment	<ul style="list-style-type: none"> Identify current and emerging driving forces and other factors internal and external to the subsector that potentially influence overall performance. Inform key decision makers with respect to subsector's overall competitiveness. Develop a context for identifying and evaluating alternative strategies. Provide basic data for identifying Key Success Factors. 	<ul style="list-style-type: none"> Subsector "SWOT" Analysis Shift-Share Analysis Customer group, function, and technology matrix Trends and forecasts of key market or supply factors from secondary data Interviews with key industry informants Industry surveys to clarify competitive situation and identify major issues
Gap Analysis	Deficit capability and performance assessment Deficit target market performance	<ul style="list-style-type: none"> Identify deficiencies in capabilities needed to obtain subsector goals. Identify differences between status and potential with respect to Key Success Factors. Identify differences between status and potential with respect to key markets toward prioritizing areas needing strategy refinement for the subsector 	<ul style="list-style-type: none"> Relates closely to capability assessment, extent of overall responsiveness to opportunities and threats Performance deficits with respect to target buyer specifications Technology development and adoption

**Table 7.1 GENERAL COMPONENTS TO A SUBSECTOR STRATEGIC PLANNING SYSTEM
(Continued)**

Strategic Planning Component	Examples of Specific Elements	Component Objective	Tools, Methods, and Approaches
Issue Clarification and Prioritization	Issue definition Interdependence or scope of implication for the subsector	<ul style="list-style-type: none"> Clarify and prioritize issues emerging from the competitive situation analysis with respect to following criteria: urgency (implications for stated goals), size (and scope) of impact, prospects for developing workable industry responses beyond those of the firm 	<ul style="list-style-type: none"> Strategic Issue Management System Interviews with key industry informants Segment surveys Discussion meetings among segment leaders and key organizations Strategic Planning Task Force
Action Alternative Identification	Action definition	<ul style="list-style-type: none"> Identify a series of alternative actions (initiated by individual firms or jointly) that could potentially address industry challenges or facilitate initiative toward certain opportunities. 	<ul style="list-style-type: none"> Industry leadership brainstorming Analysis of previous industry experiences Analysis of parallel approaches employed in other subsectors Discovery through iterative exchange with subsector leaders, trade associations, leading organizations, and other surveys Consultants, university analysts
Action Evaluation	Effectiveness - Prospect for resolving issue Barriers to implementation Benefit-Cost assessment Secondary subsector effects Synergy with other industry actions	<ul style="list-style-type: none"> Evaluate alternative actions according to the following criteria: provides substantial improvement or broad economic gain to the system; workable; apt to be broadly acceptable - strong industry consensus; synergistic (or consistent) with other actions and broader industry strategy; reasonably equitable 	<ul style="list-style-type: none"> Expert judgement from industry leadership Identify barriers to previous similar actions Survey of major segment support Benefit-Cost Analysis Economic or systems analysis

**Table 7.1 GENERAL COMPONENTS TO A SUBSECTOR STRATEGIC PLANNING SYSTEM
(Continued)**

Strategic Planning Component	Examples of Specific Elements	Component Objective	Tools, Methods, and Approaches
Consensus Building Plan	Identification of key participants among which consensus for industry action is critical Identify who should take the lead in building consensus May require clear articulation of incentives for individual participation or support	<ul style="list-style-type: none"> ● Build a strong consensus for change, ownership of a particular action, and recognition of individual benefits to industry changes ensure necessary follow through. A well-crafted consensus-building plan will coalign micro-motives with the generally desired macro-behavior. ● Consensus building may only need to be focused among several key segment or organizational leaders or it may require wider discussions and consensus decisions among many individuals and firms. 	<ul style="list-style-type: none"> ● Utilize respected industry leadership to ensure industry ownership of plan ● Work through established trade organizations and publications to generate wide industry communication ● Progression of previous strategic planning components emphasizes consensus support
Resource Development Plan	Identification of program or action cost or needed resources Identification of cost sharing	<ul style="list-style-type: none"> ● Devise a means for marshalling resources needed to carry out a particular action. ● Identify who pays and how with respect to resources needed for action identification, evaluation, or implementation. 	<ul style="list-style-type: none"> ● Segment assessments or check off programs ● Develop research proposals to special interests or public funds ● Pooling resources among major trade organizations and/or firms
Implementation Plan	Identification and involvement of key participants Decide on lead implementing organization(s) Approximate time line Contingency options and plans	<ul style="list-style-type: none"> ● Facilitate the adoption or implementation of desired actions or orientation among needed subsector participants. 	<ul style="list-style-type: none"> ● Move from general concept of action to more finely detailed program ● Implementation by stages may be more effective and acceptable ● Action may require enforcement through legislation, other actions may evolve through voluntary self-enforcement ● Changes may be affected through a strategic planning lead organization or industry task force recommendations to specific firms or organizations
Strategy Evaluation Mechanisms	On-Going gap and situational analysis	<ul style="list-style-type: none"> ● Evaluate relationship between implemented actions and desired results or performance objectives. ● Monitor and evaluate other possible approaches that may better achieve desired results. 	<ul style="list-style-type: none"> ● Monitor key subsector performance indicators; ie, market share, market presence, profitability, industry growth, quality or product delivery.

The development and maintenance of subsector goals can be an important component for the broad task of subsector strategic planning and implementation. Goal development for a system derived by individuals within that system depends on a recognition of certain common interest or at least mutually beneficial objectives. The extent to which industry actions are seen to be consistent with or in support of the goals of an individual participant reflects the degree to which support for these wider goals can be expected from that individual. Widely recognized system goals can serve as the rallying point or decision locus for individuals within that system.

Goal development, as a strategic planning component for the firm, often takes on quite specific definition. The experience of the Michigan apple subsector suggests that in many cases goal development, in terms of desired performance outcomes, has some advantages to being stated more generally, in contrast to inflexible or unrealistic hurdles. Measurable progress toward stated goals may be somewhat more difficult when stated more generally, but the inclusion of many independent elements within the subsector, each with their own goals, under the umbrella goals of the subsector may be critical. This would be particularly true where there is little orientation toward collective action to affect change in the system. System goals defined too narrowly may unwittingly alienate key participants early in the process, including those who may be needed to ultimately help affect needed changes for the subsector.¹⁵⁷

In a firm, organizational goals are set by management or major stockholders. In a subsector, system goals are developed through a consensus of subsector leaders and key subsector participants. The identification of appropriate goals for the subsector may be facilitated through industry organizations representing a broad cross-section or through an organization of industry leaders such as in the Michigan apple subsector Task Force. Group discussion, analysis, consensus decisions, and emphasis on commonality, with a view toward the driving forces of the subsector pave the way toward appropriate subsector goal development.

¹⁵⁷ This principle need not hold true where a history of cooperation has been evident or where a lead organization has significant administrative control over resources to implement strategies.

The situational analysis is a major component of strategic planning that can help clarify the subsector's competitive position, major problems, and a recognition of the gaps between the current performance status and the desired goals. This is usually a complex stage even for a firm; many variables exist that potentially influence the organization's performance and many areas of analysis are possible with typically limited resources for monitoring or evaluation. Firm management typically oversees this analysis for the firm. The subsector often has little administrative structure to carry out such analysis.

Many larger commodity groups, however, have regional or national organizations that could track key trends and keep their contingency informed. In many cases, however, there is little effort to compile data reflecting the subsector's competitive position with a view toward establishing a context for evaluating alternative strategies or identifying driving forces or key success factors. The qualitative dimension to this kind of analysis is critical. Few may understand the internal subsector dynamics or recognize emerging driving forces. The stock of secondary production and price data may be a useful departure point for this kind of analysis, but is only of limited usefulness when considered alone.

The SWOT framework can be helpful for evaluating the internal strengths and weaknesses of the subsector, and how these match up to the opportunities and threats facing the subsector. The task of working with industry leaders to systematically identify the competitive situation can potentially lead to the identification of performance gaps; the difference between where the subsector is perceived to be currently and where they could or would like to be.

The gap analysis for the subsector, therefore, is an extension of the situational analysis. It also relates directly to the goal development (which may or may not be an explicit focus of a strategic planning effort for a subsector). Gaps may be identified in terms of the overall capability within the subsector (internal to the subsector). Gaps may also be identified relating to desired performance within particular markets. In many cases, developing strategies to address subsector capability gaps may be the needed approach to address certain performance gaps relating to key markets. Developing strategies to improve overall quality (narrowing the gap between current and

desired performance) , for example, may help move the subsector closer to the desired performance level within certain market segments where quality-dependent opportunities seem present.

Issue clarification and prioritization often requires considerable qualitative kinds of analyses for any kind of organization. Certain management systems may attempt to partially quantify this activity, but it is inherently dependent on managerial judgement based on the best information at hand. The firm can typically achieve issue clarification through division specialists or an occasional outside consultant. Prioritization of these issues then is a managerial decision which may involve the collaborative judgement of a number of management staff of the firm.

This component becomes much more complicated in the context of a subsector. One must identify and engage individuals who are particularly knowledgeable about the subsector and the nuances of particular issues. Leadership and independent initiative to assemble individual and divergent perspectives must be in place for meaningful information to be maintained for a subsector.

Clarification can often be derived through the use of key industry informants. The prioritization of issues for industry action is one of the aspects where the subsector can encounter particular difficulties. The firm can often more clearly sort out an issue in terms of its urgency and magnitude of impact as it influences its own objective function. The subsector, with its many independent firms and other participants, may hold widely divergent perspectives with regard to the urgency or magnitude of an issue for the subsector system. Furthermore, firms may simply not recognize the importance to their own interest of an issue that appears to primarily impact another part of the subsector system.

Strategic issue management is frequently used in the context of an individual firm. It is the task of systematically sorting out all the strategy issues facing the organization. These issues must be “managed” by key organizational decision makers, since there are typically many of them, often inter-related, and they routinely change in relative importance. Part of objective behind systematically managing issues of firm strategy is the need to develop a workable strategy

development plan that takes into account the dynamic nature of the strategy issues, each with differing degrees of urgency and importance, facing the firm.

Strategic issue management can be adapted with some refinements to serve a similar purpose in the context of a subsector. There is a similar need to sort out strategy issues facing the subsector. Where possible, industry leaders directly involved in the strategic planning and implementation process for the subsector need some means for monitoring and prioritizing the dynamic set of issues facing the subsector as they proceed with the task of helping to craft appropriate strategies for the subsector. The need to “manage” strategy issues highlights the dynamic nature of strategic planning and implementation. The task is never done. New issues emerge. The competitive environment is always changing. Approaches for addressing other issues that may have worked in the past may also need to be retooled.

Another important dimension to issue prioritization for the subsector not typically realized in the firm is the prospect for developing workable joint responses to an issue. Cooperation can be mandated in a firm. Cooperation in a subsector is usually dependent on voluntary commitment. The sorting process of issues by the subsector for which considerable attention will be directly devoted must consider the extent to which workable joint actions can be developed as part of its issue priority criteria. These must also be perceived as sufficiently beneficial to be worth the effort by a “critical mass” of industry participants.

Firms will take a variety of approaches to identifying and choosing from among alternative actions to address an issue or support a strategy. Firm management can delegate plan development to a select group, provide resources for detailed investigation, request proposals by specified times, and even employ outside assistance when needed. Certain aspects of this kind of initiative are considerably more difficult and often less workable for a subsector. Meaningful action identification for any organization is contingent on a strong understanding of the issues involved, the potential benefits, costs, and shortcomings, the relationship of a particular action proposal to other on-going actions, a recognition of implementation barriers, and an anticipation of secondary effects resulting from imposed changes.

It is not always immediately evident in the context of a subsector who should or can propose or evaluate actions, or what the action alternatives are, that would require broad industry participation in order to be effective. The experience of the Michigan apple industry suggests there should be a strong involvement with established, knowledgeable, and visionary industry leaders for providing input on proposing and/or evaluating actions. Further, a clear and wide recognition of significant economic gains from the action alternative is often going to be necessary in order to bring about meaningful industry-wide change. Evaluation at this stage is generally going to be dependent primarily on qualitative analysis; issues of acceptability, workability, suitability, and equity, to address an issue are all going to be major components of such an analysis.

An analysis of previous industry experience with regard to a particular issue or improvement action is often quite useful. Many issues identified as important by those in the Michigan apple industry have been a challenge to that industry and to other industries for some time with a variety of remedies considered. Long term production planning, fruit maturity management, and a premium fresh apple grade are examples of issues for which a variety of approaches or initiatives have been considered. These are not new issues to production in other fruit subsectors. Drawing on parallel experiences from approaches developed earlier in the industry or in other subsectors can speed the development of effective actions by identifying barriers to anticipate or by focusing on successes elsewhere.¹⁵⁸

Consensus building holds a considerably more central focus for strategic planning among the many varied individuals and firms within a subsector as compared to a firm. The firm may require a degree of consensus building among management or divisions, but consensus building for the subsector will often have to be considered among even the most atomistic levels. In subsector strategic planning, it is relatively easy for participants who don't agree with a proposed improvement action to cease to be involved. They can readily withdraw from the planning activities or resist implementation of improvement actions. Strong consensus for change is often

¹⁵⁸ Some of the approaches behind the formation of the Strategic Planning Task Force itself as a vehicle for industry improvement, as indicated in Chapter 3, were based in part on some experiences in other subsectors.

the main ingredient required to implement an action. Partial or divided commitment to a particular industry course may not allow the industry as a whole to develop nor especially to implement a certain strategy at all.¹⁵⁹ Firm management can often impose certain strategies or actions on its employees or divisions independent of their support or non-support.

Firms may have a resource development plan to affect certain internal changes. Worker re-training programs, investment plans, new equipment or technology adoption, implementing managerial accounting changes, and hiring outside consultants are all examples of how firms invest and allocate resources to re-direct the organization toward developing its capabilities suitable for new strategies. Firms may have to use retained earnings, sell stock or bonds, or otherwise use its own resources to affect an internal re-orientation.

Such approaches to resource development and allocation are typically much more difficult and often not workable in the context of a subsector. The need for supporting resources to help carry out subsector change is still often present. Questions such as who should pay and how should costs be shared are not always self-evident, however, it is often at this stage that some actions that seemed to have strong support meet an implementation challenge related to financing the costs. If significant cost to a new program is perceived as having relatively limited benefits to only a few firms (ie, expanding industry promotion for a new fresh variety that is marketed by only a few firms), and wide support is required (such as an assessment increase paid by all growers), the proposal may fail.

Actions that address high priority industry issues and have been identified, debated, and worked through by industry leadership, and which generally meet the criteria for action evaluation (see Table 7.1), are relatively well positioned for successful implementation. The industry acceptable approach to implementation will depend on the extent to which voluntary or mandatory participation is necessary. The range of actions may extend from new educational programs, technical workshops, encouragement from industry leaders to others to consider possible reforms,

¹⁵⁹ Wide participation for such activities as promotional assessments, production or quality educational programs, or mandatory minimum quality standards are all examples of such initiatives observed in the Michigan apple industry strategic planning activities.

developing and disseminating new information resources or results of economic analyses, to developing some sort of enforceable legislation.

The stage where change is actually implemented can be especially met by resistance. The importance of consensus building can be particularly significant at this stage where coalitions for change may have to be developed. A well-crafted implementation plan considers likely barriers to implementation and appropriate contingencies. It also considers incentives, enforcement, leadership behind change, and possible secondary system effects. A means for evaluating industry action on an on-going basis allows for identification of the effectiveness of actions toward bringing about desired changes or performance.

Sometimes a set of changes may well be implemented simultaneously as a related set of action intended to address a similar objective. Educational programs on packing house Total Quality Management may be coordinated with other quality improvement initiatives, such as grower workshops on harvest management and maturity information as they relate to improving quality delivered to the packing house. Both activities support a broader thrust of improving overall quality and simultaneously orient related segments of the subsector toward overall quality improvements for the subsector.

A plan for implementing a certain action can be crafted among industry leaders that will give careful thought to receptivity to or implications of change among those within the subsector. Some action or aspects may need to take into account the implications for the ultimate buyers of the products generated. Periodic evaluation of the implemented changes is necessary, with a view toward how these actions or strategies are moving the subsector or major subsector segments toward the desired performance level. Flexibility to modify and refine approaches as improvement actions or strategy implementation is played out is usually desirable. A fair bit of experimentation with certain actions, with on-going refinements, should be expected. Plans should not be so rigid as to be difficult to refine or abandon when they fail to deliver the intended effect. Dynamic adjustments to subsector improvement strategies based upon experiences and reactions are expected.

In sum, these general components of subsector strategic planning have been suggested as dimensions to a strategic planning system that need to be considered when pursuing strategic planning in the context of a commodity subsector. While the components and objectives are likely to be similar for most subsectors, the specific tools, methods, and approaches most useful to analytically develop these components may vary considerably.

7.2 OPERATIONALIZING STRATEGIC PLANNING FOR A SUBSECTOR

This section discusses approaches or considerations that may be useful for those involved in attempting to operationalize a strategic planning system for a subsector. The considerations draw heavily upon the experiences within the Michigan apple industry, but represent important factors that will likely require attention when facilitating this process with other subsectors.

An important foundational consideration that is particularly essential at the beginning of the strategic planning process is getting committed, knowledgeable, and visionary industry leaders to recognize a need for such a process and the importance of their leadership input to drive it. Need for such a process may not always be self-evident. Sometimes a series of factors that can readily be recognized as broadly influencing the subsector need to precede or attend consideration of collective action.

The leadership and participation of individuals widely recognized as progressive, visionary, analytical, and able to influence broad change in the industry are important for several reasons. They lend a greater credibility to the process. They are also likely to be individuals who best understand the subsector, its driving forces, major dynamic changes, problems, and feasible action alternatives for subsector improvement.

The synergy and collective commitment of a group of industry leaders such as these can raise the expectation among others in the subsector that new ideas can be proposed, discussed, and possibly implemented through industry leadership. These industry leaders may be leaders within

individual grower or non-grower investor-owned firms, trade organizations, cooperative managers, university research or extension professionals, or others.

Identification and prioritization of issues are also more likely to be recognized by others in the subsector when they are proposed and evaluated by recognized industry leadership. The articulation of industry needs and priorities to other organizations outside the subsector, but in a supporting role, also carries more weight when known to be expressed by highly regarded leaders.

Involvement of key leadership can greatly facilitate the development of a meaningful competitive situation analysis and the rapid expansion of the stock of possible action approaches that may be practically employed by the industry to address various issues. The subsector represents many idiosyncratic activities, relationships, and approaches. These can be quickly understood and explained by industry leaders as they participate in the analytical processes of strategic planning for the subsector.

A number of approaches may be useful to engage key industry leadership in the process of subsector strategic planning. It can be easier to begin with discussing and developing the concept of industry strategic planning with a relatively small and select group of visionary industry leaders than a large group of variously committed (or uncommitted) individuals. As momentum and the objectives of the strategic planning process develop, it may be appropriate to expand the base of involvement of industry participants.

The task of subsector strategic planning can be very time intensive for those involved. It may be practical, when some sort of core planning group or task force is involved, to allow for some degree of leadership rotation. It is desirable to maintain as broad a representation as possible, but the time commitment involved can lead to major trade-offs between leadership commitment to the broad industry interests and the interests of their own firm or organization.

Another major consideration necessary for operationalizing subsector strategic planning is an appropriate institutional or organizational vehicle through which such a process can be facilitated or most effectively carried out. There is no universally superior organizational arrangement appropriate for all subsectors. Those considering developing such a process should

consider, however, the activities and influence of current organizations, such as subsector or segment trade associations, promotional commissions, cooperatives, grower organizations, etc. Some sort of special strategic planning task force may also be appropriate.

It may be a good strategy to initiate a subsector strategic planning process with a well established and well regarded industry organization. The development of the agenda to focus on broad, industry issues may require special meetings, outside participation, or otherwise stretching the conventional agenda of an organization. These factors also need to be considered. The lead organization must be strongly committed to the overall strategic planning process for the subsector. It is likely, however, that there will be a synergy between the on-going activities of the lead organization(s) and strategic planning for the subsector.

An important consideration that is closely related to the organizational arrangement is administration and staffing needed to facilitate the process. It may be difficult to keep a diverse group focused on the larger industry needs. Further, guiding discussion toward a consensus, summarizing discussions, maintaining communications, delegating resources for further analysis, and many other administrative needs are likely to arise as the process progresses.

The experience within the Michigan apple industry has found that utilizing experienced extension professionals to be a useful approach to facilitate planning meetings and leading much of the analysis and communication activity. An advantage of this approach is the minimal stake in the welfare of any one firm or segment held by an university professional, reducing the prospects for conflicts of interests in the administration process.

Analysis of the appropriate role for each of the major commodity organizations in the subsector strategic planning process is also an important consideration. Each organization may take or share the lead in implementing certain kinds of collective actions, depending on their orientation to the subsector and their sphere of influence. Typically, some representation or participation will be routinely elicited from the leadership of these organizations in the strategic planning process. Industry communications or other industry-level initiatives toward implementing a strategy, however, may best be accomplished through one of the established commodity organizations.

Similar linkages or roles may be necessary to develop with other organizations, such as commodity groups in other regions or subsectors, national commodity organizations, state departments of agriculture, or individual specialists. Coalition building between organizations that can advance common objectives is an essential dimension of strategic planning in the context of a subsector. This may lead to a need for developing linkages with organizations outside of the subsector itself, where common interests are more apparent. It may also involve working with organizations with whom there is only a narrow common interest.¹⁶⁰

Means for widening the scope of participation and discussion beyond the initial group of industry leaders is another important consideration for subsector strategic planning. Ideally, industry leadership that are directly involved in the strategy development process would seek to engage others in the subsector, seeking to develop a broad ownership of the strategy discovery and development process. Widening the scope of involvement of subsector participants helps to encourage a heightened awareness of system issues and effects among more individuals and an ownership of the problem-solving process by a broad base of participants in the subsector. This can help build momentum for processes geared toward discovering and implementing joint initiatives by even further expanding the stock of ideas that may involve collective action, clarifying issues, and coaligning the production and marketing orientation of more individuals within the subsector.

The subsector strategic planning process, in summary, requires a number of considerations, many of which may require innovative approaches, depending on the circumstances facing the subsector. Operationalizing strategic planning, that is, making the process work, is a task that can expect to require considerable facilitation, discussion, joint analysis, consensus development,

¹⁶⁰ IR-4 legislation, for example, that facilitates the joint development of pest management alternatives between high-value, minor use crops. It attempts to draw on possible size and scope economies in the pesticide and management research and development process. Those with primary interests in the apple industry can advance their viability through joint action with those in a wide variety of other subsectors. IR-4 primarily uses taxpayer dollars to support this process. More explicit sharing of resources between diverse commodity groups may be possible to jointly address other issues, perhaps such as labor management, aspects of storage technology, quality management systems, etc.

coalition building, creative resource development, and a constant orienting, or bringing into focus, the big picture of major subsector issues and driving forces.

Charles Lindblom, in his best known article, "The Science of 'Muddling Through'", emphasized the value of coalition building and focusing on the important in collective policy building. He states:

"Policy is not made once and for all; it is made and re-made endlessly. Policy-making is a process of successive approximation to some desired objectives in which what is desired itself continues to change under reconsideration. Making policy is at best a very rough process."¹⁶¹

Collective strategy development and implementation for a subsector can be characterized in much the same way. It is best regarded as an iterative, on-going process. Objectives and priorities for the subsector can change midstream because of the dynamic and complex setting of the subsector. Many of the performance objectives for the subsector, therefore, may not be precisely defined. They may represent more of a successive approximation toward some desired subsector objectives. The considerations offered here to operationalize strategic planning in a subsector are suggested with this in mind.

7.3 THE WAY AHEAD FOR SUBSECTOR STRATEGIC PLANNING IN GENERAL

This section discusses areas of need for further inquiry and conceptual development with regard to strategic planning in a commodity subsector. The orientation of strategic planning in general is forward-looking, anticipating, and in consideration of the big picture. The relative newness of strategic planning at this level of analysis (the subsector) suggests many likely areas of fruitful further research. It is with a view toward some of the lessons learned, new questions raised, and old questions still unresolved through exploring the concepts and methodological

¹⁶¹ C.E. Lindblom, (1959), p 86.

approaches of strategic planning in the context of the Michigan apple subsector that these suggestions are offered.

One of the most direct avenues through which further contribution will be made in this area is through extending the initiatives and approaches developed in Michigan apples to other commodities. There is a need to better understand the conditions under which collective strategic planning is apt to be well received, conditions under which it will be effective, and the appropriateness of various tools, methods, and approaches given the defining parameters of the subsector. An expanded number of conditions under which the development and implementation of strategic planning approaches are applied within different commodities would at least begin to tentatively point to meaningful patterns.

The observations conveyed here with respect to the activities of the Michigan apple subsector reflect views of an evolutionary process that has not had a long history, at least under the rubric of strategic planning. The linkages between the strategic planning activities developed and changes in subsector performance are tenuous. Many of the plans that have been developed so far remain to be fully implemented. Further observation of the activities of the Michigan apple industry would be particularly useful from this point forward, now that many of the institutional and procedural aspects have been worked out and the task of strategic planning is now more tangible. Further lessons, refinements, and alternative approaches developed within the Michigan apple industry with respect to their strategic planning activity will likely be able to later confirm or clarify much of what has been discussed in this research venture.

Much of planning involves coordination. The issues of coordination for a subsector, vertical and otherwise, have been widely considered, but continue to present fruitful ground for research. The identification of coordinating mechanisms within a subsector can improve overall performance through improving the efficiency of the system; major segments of the value-generating system can increase its value generated and therefore present itself as more compelling to buyers or competitive with respect to rival supplier systems. Strategic planning involves explicit

exploration for production or coordination synergies by subsector participants that mutually advances their individual interests with a view toward outside forces and conditions.

Improved subsector coordination, and thus subsector performance, can sometimes be achieved through the active sharing of ideas among industry leaders. They may need a forum to present their ideas and feedback, but in many cases the flow of ideas for subsector improvement just needs some facilitation. Orienting industry leaders (and followers) to work together to develop workable improvement strategies and to recognize a need to improve subsector coordination can also be a major component to the subsector strategic planning process.

Strategic planning and coordination appears to provide considerable opportunity for improving the vertical coordination of a commodity subsector that is composed of primarily small firms in vertically related value-adding segments. Such vertical coordination may be more easily achieved where the large, vertically integrated firm dominates. The structure of many commodity subsectors, however, is such that the initiation of explicit strategic planning and coordination is needed, and can bring about meaningful change with the right approaches.

Related avenues of research can provide potentially valuable extensions to strategic planning in a subsector. Group decision making approaches, management information systems, systems analysis, learning organizations (and other elements of organizational behavior), and other streams of strategy-formation research that are typically applied to the firm may offer promise for modified extension to a subsector context.

Many principles have been proposed, conceptual and methodological approaches considered, and merits and limitations in this thesis with respect to strategic planning in the context of a subsector. Considerable promise remains for the continued development and fine-tuning of a successful, sustainable strategic planning system for the Michigan apple industry. Prospects for extending many of these approaches to other commodity subsectors also seems favorable. Strategic planning for any organization is a process of constant observing, learning, applying, and evaluating. It is hoped that this research effort has successfully communicated that while much has been learned, much remains to be done.

APPENDIX A
ON CASE STUDY METHOD

CASE STUDY AS A RESEARCH METHODOLOGY FOR EXPLORING SUBSECTOR STRATEGIC PLANNING

This appendix elaborates on the use of case studies as a research strategy for exploring a relatively underdeveloped area of investigation or theory, such as in the case of strategic planning in the context of a subsector. Discussion follows to describe what case study research is, why it is a particularly useful methodology in this case, its limitations, and contribution to theory building.

Robert Yin (1981) points to the distinguishing feature or characteristic of the case study is that it attempts to examine (a) a contemporary phenomenon in its real-life context, especially when (b) the boundaries between phenomenon and context are not clearly evident. The case study is a research strategy. It is not characterized by the type of evidence or analysis employed (qualitative or quantitative), or data collection method (ethnologies, participant observation, etc.). Rather, the case study is best employed when the analyst is presented with an unusual opportunity to examine and interact with an actual, contemporary, on-going process in its real-life context. Such a strategy focuses on understanding the dynamics present within single settings.¹⁶²

Contrast these conceptions of the case study approach with that of Schmid (1989), who follows Campbell and Stanley (1963) where the case is conceived of as a project (or treatment)

¹⁶² K.M. Eisenhardt, (1989). A key feature of the case study research strategy is also noted by Eisenhardt to be the frequent overlap of data analysis with data collection. It is not uncommon, therefore, for the research questions to shift during the course of the research.

followed by an observation at one point in time.¹⁶³ The case approach is better conceived as simultaneous treatment and observation that can be over a period of time. Case analyses can include single or multiple case, and can be developed at numerous levels of analysis.¹⁶⁴

The advantage of the case study approach is that it lends itself to the task of investigation of a complex process that contains many uncontrollable variables of unknown importance a priori. Case studies, according to Yin, can be classed according to their various objectives, including those that are primarily exploratory, descriptive, or explanatory. The case itself is best regarded as a self-contained analysis of an often complex or idiosyncratic situation, relationship, or system that seeks to test an explanation of what is observed rather than a single variable or factor. Following Yin:

"... a case study is not a data point that represents only a single observation. In fact, case studies as analytic units should be regarded on par with *whole* experiments, a realization that provides an important insight for cross-case analysis"¹⁶⁵

The case study may employ a wide variety of analytical techniques and data types. A variety of such techniques and data were illustrated in the case of strategic planning in the Michigan apple subsector. A combination of qualitative (interviews from key industry informants) and quantitative analysis (market trends, evaluating closed end responses from subsector participants) were employed in this study.

The synergy between the various data types has been highlighted by Eisenhardt (1989). She indicates that quantitative evidence can indicate relationships which may not be salient to the researcher. It can also strengthen or clarify the findings derived from qualitative evidence, which in its own right can describe or relate idiosyncratic factors that may not be easily quantified. Both

¹⁶³ Yin (1984) makes a careful distinction between the case study and quasi-experimental designs that are characterized by one-shot, post-test-only approaches. He notes the revision of such incorrect misconceptions later conveyed by Cook & Campbell (1979), quoting them: *"...certainly the case study as normally practiced should not be demeaned by identification with the one-group post-test-only design."* Yin goes on to lay out the necessary components to good case study research design toward more rigorous and methodologically sound cases.

¹⁶⁴ R.K. Yin (1984).

¹⁶⁵ R. Yin, (1981), p.62., emphasis his.

kinds of evidence are essential and widely employed in the strategic planning process within the subsector.

Julian Simon notes that the case study provides an indispensable overview of a subject when little is known about the particular area and that it is the method of choice under such conditions where it is desirable to obtain a wealth of detail and primary data about the subject of interest.¹⁶⁶ Furthermore, it is appropriate in the formative stages of investigation when hypotheses are not fully formed, and to engage in the pursuit of clues or guidelines for further research. His admonition, however, is for the case worker to investigate objectively and describe what could be seen or confirmed by another observer.¹⁶⁷

A major point of difficulty for related analysis is generalizing or trying to build theory from individual case studies. Mary Kennedy notes that studies of individual cases allow the evaluator to learn the intricate details of how a particular treatment may be working, rather than averaging the effect across a number of cases. She notes further, however, that one serious drawback to the single-case study approach is the lack of generally accepted rules for drawing causation and generalization inferences from the data. Inferences and generalization, however, are always tentative in scientific research, whether large sample statistics are used or not. The strength of evidence is a matter of judgement. Extensions of knowledge from the specific case to the general are never done easily, but are important where observable cases are rare or costly to examine, as may be common in medicine or law.¹⁶⁸ The case study approach is clearly limited in its ability to refute a pre-formulated hypotheses in a controlled or even quasi-controlled manner. Still, it can serve as a useful point of departure toward the initial shaping of more narrowly defined hypotheses that can be tried with greater rigour as the problem is later refined as more information

¹⁶⁶ Simon, Julian L., Basic Research Methods in Social Sciences: The Art of Empirical Investigation, 2nd edition, Random House, New York, New York, 1978.

¹⁶⁷ Yin (1984) and Eisenhardt (1989) each suggest a number of ways to further enhance construct validity for the case, including use of multiple sources of evidence, use of multiple investigators, and having key informants review drafts of the case study report.

¹⁶⁸ Kennedy, Mary M., "Generalizing From Single Case Studies", Evaluation Quarterly, 3(4):661-678 1979.

becomes available. Data observed from the case can include complex system inter-relationships that may or may not be unique to the conditions under which they were observed. Inferences drawn from these data carry appropriate caveats, however it may be useful to combine observations from the case study with economic, business, and organization theory, as well as observations from other related, though not necessarily controlled, cases to compile evidence that can support inductively derived generalizations.

APPENDIX B
MICHIGAN APPLE SHIPPER SURVEY

Michigan Apple Shipper Survey

This survey of Michigan apple shippers is being done at the request of the Michigan Apple Industry Strategic Planning Task Force and is supported by the Michigan Apple Shippers Association. An overall goal of the Task Force is to find ways to help improve the Michigan industry's competitive position, market growth and profitability for the future. The Task Force goals also include exploring ways to (a) build on the Michigan industry's strengths, (b) more fully exploit the opportunities, (c) reduce the challenges, (d) resolve the issues in a positive manner and (e) to facilitate the various industry segments working closely together.

The intent of this survey is to obtain information which will help achieve the above goals. Your ideas and thoughts about the industry, both now and as we look to the future, will be appreciated as an important part of this overall effort.

We would like to arrange a personal interview with you to get your ideas and responses to questions like those listed in the attached survey. We do not seek for any information you may consider proprietary, but want your candid response and suggestions. All results will be treated with the strictest confidence in any report of research findings. We will be glad to provide you with a summary of the results upon completion of this study. You may contact either **Dr. Don Ricks** (517-355-0145) or **Tim Woods** (517-355-0134) if you have any questions regarding this survey at the following address:

Department of Agricultural Economics
23 Agriculture Hall
Michigan State University
E. Lansing, MI 48823

Please note that response to all questions is voluntary, but your thoughts, ideas, and insights will add to the meaningfulness of results coming out of this study for the benefit of the industry. We appreciate your willingness to participate in this study.

Survey of Michigan Apple Shippers

1. **Strengths** or favorable factors for the **Michigan apple industry**

What are the **most important strengths** or favorable factors of the Michigan apple industry that can be built upon for our industry's benefit in the future?

Follow-up question:

To what extent do you see the following as strengths for the Michigan industry? Location, varieties, markets, existing processors, packers, shippers & growers, technological progress, industry support organizations & programs, etc.

2. **Opportunities** for the **industry**

What do you see are some important **opportunities that need to be more fully exploited** by the Michigan apple industry?

3. **Response to a list of some industry opportunities**

a. The following is a list of some industry opportunities that have been suggested by the **Michigan Apple Industry Task Force** discussions. How would you evaluate these in terms of their realistic potential as **attainable goals** for the Michigan industry? Why?

b. What would you suggest are **actions** that would help the industry to achieve the favorable opportunities and to build onto the industry strengths?

		Outstanding	Good	Fair	Poor
(1)	Expanding the sales volume for fresh Michigan apples.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(2)	Expanding Michigan's market share for fresh apples.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(3)	Obtaining higher prices for fresh Michigan apples.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(4)	Expanding export markets for fresh Michigan apples.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(5)	Improving the quality of fresh Michigan apples.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(6)	Marketing more tray and cell pack apples.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(7)	Improving efficiency and quality through more technically advanced packing houses .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(8)	Mechanical harvesting for processing apples.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(9)	Expanding Michigan's type of pack offerings .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.(Continued)	Outstanding	Good	Fair	Poor
(10) Expanding the varieties offered by Michigan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(11) Refine/develop the marketing - merchandising packages for Michigan apples.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(12) Improved industry education on how to grow and market top quality apples.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(13) Improved communication and effective linkages between different segments of the industry.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(14) Other (specify)_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(15) Other (specify) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. What do you see are the most **important issues, challenges, or areas of concern** for the Michigan apple industry?

a. Why are these important?

b. What **actions or changes** would you suggest that need to be done by the industry to improve the situation?

(1) What are some **obstacles** to your suggested improvement actions, and how might these obstacles be overcome?

(2) Who or **what organization should take the lead** in stimulating or accomplishing the needed changes or actions?

5. What is your **evaluation of the following industry issues** which have been discussed by the Task Force or have been identified by other apple industry leaders?

	Very Important	Important	Minor Importance	Not Important
(1) A need to more effectively compete with apples from Wash., N.Y. etc. for fresh market sales.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(2) A need to improve the overall quality of Michigan fresh apples.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(3) A need to raise prices received by Michigan shippers and growers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(4) A need to update the equipment and efficiency of some Michigan packing houses.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(5) A need for fewer, larger shippers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(6) The challenges posed by pesticide, food safety and environmental regulations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(7) A need to more effectively expand consumption generically for apples.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(8) Other (specify) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(9) Other (specify) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- a. For the above issues that are ranked "important" or "very important" and were not brought out earlier (in Questions #4,a,b and c),
- (1) **Why are these important?**
 - (2) **What actions or changes are needed?**
 - (3) **Who or what organization should take the lead in stimulating or accomplishing the needed changes?**

6. Which of the following ideas do you support as a step that would help to improve the Michigan apple industry's situation?

- a. Why would you support or not support these ideas?
- b. For those changes that would be done primarily by individual firm decisions, are there steps that could be taken to further stimulate the needed changes?
- c. What do you see as the potential benefits, disadvantages or obstacles from such an approach?
- d. If you would not support the idea, what would you suggest as an alternative approach to accomplish the same thing?

Support Not Support

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | (1) Monitor and analyze the progress and success of competing fresh market regions including Washington, New York, Chile, etc. in relation to Michigan |
| <input type="checkbox"/> | <input type="checkbox"/> | (2) Continue expansion of CA storage capacity for Michigan's expected larger apple production in the future. |
| <input type="checkbox"/> | <input type="checkbox"/> | (3) Increase the number of bins for expanding Michigan production. |
| <input type="checkbox"/> | <input type="checkbox"/> | (4) Expand total packing house capacity. |
| <input type="checkbox"/> | <input type="checkbox"/> | (5) Increase efficiency, flexibility, and effectiveness in meeting buyer-customer needs of the average Michigan packing house through the adoption of top-notch equipment. |
| <input type="checkbox"/> | <input type="checkbox"/> | (6) Comprehensively evaluate new varieties and strains that are best suited for Michigan's fresh markets and growing conditions. |
| <input type="checkbox"/> | <input type="checkbox"/> | (7) Further improvements in storage technology, equipment and storage management for Michigan varieties. |
| <input type="checkbox"/> | <input type="checkbox"/> | (8) Further improvements in maturity information programs, implementation and harvest management to get fruit picked at best times for good storage life and condition. |
| <input type="checkbox"/> | <input type="checkbox"/> | (9) Develop and implement a system for non-destructive firmness testing in Michigan packing houses. |
| <input type="checkbox"/> | <input type="checkbox"/> | (10) Develop a new mandatory program for management of quality and grade standards , especially for firmness and maturity by the Michigan industry. |
| <input type="checkbox"/> | <input type="checkbox"/> | (11) Encourage growers to multiple pick for the needed color, size and maturity for fresh market. |

Support Not Support

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | (12) Continued improvements to reduce bruising in orchards by pickers and forklift operators and in packing houses through improved packing line equipment and design for less bruising as well as more widespread implementation of current know-how on bruise reduction. |
| <input type="checkbox"/> | <input type="checkbox"/> | (13) Encourage more uniform sizing of Michigan fresh apples through improved cultural practices, modernized packing house equipment, and marketing practices. |
| <input type="checkbox"/> | <input type="checkbox"/> | (14) Encourage growers to remove and rejuvenate poor varieties and strains and to plant only the best strains . |
| <input type="checkbox"/> | <input type="checkbox"/> | (15) Develop a program to pay growers to eliminate poor quality blocks and strains . |
| <input type="checkbox"/> | <input type="checkbox"/> | (16) Emphasize and explore special market niches for Michigan apples. |
| <input type="checkbox"/> | <input type="checkbox"/> | (17) Increasing the grower assessment for apple <u>research</u> to finance needed technical and market research projects. |
| <input type="checkbox"/> | <input type="checkbox"/> | (18) Increasing the grower assessment for <u>promotion and advertising</u> through the Michigan Apple Committee to further expand demand for Michigan apples. |
| <input type="checkbox"/> | <input type="checkbox"/> | (19) A Michigan apple marketing clinic similar to the IAI national marketing clinic in Chicago. |
| <input type="checkbox"/> | <input type="checkbox"/> | (20) An association of apple exporters . |

11. Research and extension needs for the Michigan apple industry

How do you view the **priority needs for research and extension** to help the Michigan apple industry in the following areas? Any explanation or reasons for the views indicated above are encouraged.

	Very Important	Moderately Important	Low Importance
(1) Expanding grower production of Michigan apples.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(2) Improving the overall quality of apples produced by Michigan growers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(3) Economics and marketing aspects for Michigan apples.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(4) Improved, safe and politically-acceptable pest control methods including IPM approaches.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(5) Improved packing house technology, equipment and methods.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(6) Improved maturity, storage and post-harvest methods.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(7) Improved processing technology and methods.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(8) Varieties that are well-adapted for Michigan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(9) Labor issues, management and regulations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(10) Fruit farm business management.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(11) Expanding domestic and export demand for Michigan apples.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(12) Improving grower efficiency through new orchard technology.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(13) Integration and strategic planning for the Michigan apple industry as a whole.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(14) Others			
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX C
MICHIGAN APPLE GROWER AND PACKER SURVEY

MICHIGAN APPLE GROWER SURVEY

Conducted at the request of
THE MICHIGAN APPLE INDUSTRY STRATEGIC PLANNING TASK FORCE

I. STRENGTHS OF THE MICHIGAN APPLE INDUSTRY

A. Please give your evaluation of each of the following as a **strength** of the Michigan apple industry that can be built upon to improve the industry for the future. Add comments if you like.

		Major Strength	Moderate Strength	Minor Strength	Not a Strength
(1)	Michigan's location in proximity to many metropolitan population centers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(2)	Michigan's mix of apple varieties.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(3)	A combination of several major market outlets for fresh and processing apples.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(4)	A cost-efficient region for growing apples.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(5)	A substantial shift to modern orchard planting systems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(6)	A major supplier of bagged apples.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(7)	Improvements in packing house modernization within the last few years.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(8)	Improvements in storage techniques and management within the last few years.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(9)	A price competitive industry that helps to increase or maintain sales volume.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(10)	An increasing emphasis on market aspects rather than production by the Michigan industry.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(11)	The various apple organizations serving the Michigan industry.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(12)	The university support with extension and research for the apple industry.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B. What other features would you regard as important strengths of the Michigan apple industry?

II. CHALLENGES, ISSUES, AND LIMITATIONS FACING THE MICHIGAN APPLE INDUSTRY

A. What is your evaluation of the following industry issues which have been discussed by the Task Force or have been identified by other apple industry leaders? Add comments if you like.

	Very Important	Important	Minor Importance	Not Important
(1) A need to more effectively compete with apples from Wash., N.Y., Calif., etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(2) A need to improve the overall quality of Michigan fresh apples.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(3) A need to raise prices received by Michigan growers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(4) A need to update the equipment and efficiency of some Michigan packing houses.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(5) A need for fewer shippers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(6) The challenges posed by increasing regulations on pesticides from food safety and environmental concerns.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(7) The challenges posed by lack of re-registration of needed pest-control materials and obstacles to registration of new materials.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(8) The problems imposed on growers by new labor regulations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(9) The identification of varieties which will be both profitable and grow well in Michigan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(10) The issue of how to effectively expand demand for Michigan apples in highly competitive fresh and processing markets.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(11) A need for more bins in the industry and the related marketing challenges.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B. What are other challenges, issues, and limitations which are of high importance for the Michigan apple industry?

III. OPPORTUNITIES FOR THE MICHIGAN APPLE INDUSTRY

A. Indicate the extent to which you consider each of the following areas to be **opportunities which may be more fully exploited** in order to strengthen the Michigan apple industry. Add comments if you like.

	CONSIDERABLE OPPORTUNITY			LIMITED OPPORTUNITY	
	<i>Please check one</i>				
	1	2	3	4	5
1. Expansion of Michigan Fresh Apple Markets					
(1) Tray and cell packs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(2) Bags	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(3) New premium packages or types of pack	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(4) Export markets for fresh apples	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(5) U.S. grocery store markets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(6) U.S. food service markets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(7) Expanded geographic markets in the U.S.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(8) More promotions for fresh apples					
(a) by the Michigan Apple Committee	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) by individual shippers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(9) Improving the quality of Michigan fresh apples	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(10) Other Michigan fresh market opportunities?					

2. Expansion of Michigan Processed Apple Markets					
(1) Apple sauce	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(2) Slices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(3) Juice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(4) Export markets for processed apples	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(5) More promotion programs for processed apples					
(a) by the Michigan Apple Committee	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) by individual processors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(6) Other Michigan processed market opportunities?					

III. OPPORTUNITIES FOR THE MICHIGAN APPLE INDUSTRY (Continued)

	CONSIDERABLE OPPORTUNITY		LIMITED OPPORTUNITY		
	<i>Please check one</i>				
	1	2	3	4	5
3. <i>Development of Stronger Pricing Approaches for Processing Apples in other States Similar to MACMA</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other opportunities for apple industry pricing?

4. *Technical Improvements*

(1) Continued progress in modernized orchard planting systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(2) Further modernization of fresh packing houses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(3) Further advancements in IPM programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(4) Improved sprayer equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(5) Continued progress in maturity information programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(6) Multiple picking for color, size, and maturity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(7) Further modernization of storage technology and management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(8) Other opportunities for technical improvements?

B. What are some additional opportunities with considerable potential to benefit the Michigan apple industry if these are more fully exploited?

IV. ACTION ALTERNATIVES TO IMPROVE THE MICHIGAN APPLE INDUSTRY

- A. Which of the following action alternatives would you support as possible ways to help improve the Michigan apple industry? (These have been discussed by the Task Force or suggested by other Michigan apple industry leaders). Add comments if you like.

ACTION ALTERNATIVES: Indicate for each possible action the level of your support and also in the last column whether you think it is a priority area for further analysis.

- | | Strongly Support | Support Moderately | Not a Necessary Action | Strongly Oppose | Priority Area for Further Analysis |
|---|--------------------------|--------------------------|--------------------------|--------------------------|------------------------------------|
| (1) Comprehensively evaluate new and established varieties and strains that are best suited for Michigan's fresh markets and growing conditions. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (2) Develop more new apple varieties for Michigan. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (3) Efforts through International Apple Institute and other apple organizations to work with government agencies for realistic approaches on pest management and pesticide policies. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (4) Continue to expand the use of IPM programs, including scouting, pheromone traps, weather monitoring, etc. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (5) Develop a state-wide "reduced pesticide" standard and certification program for:
(a) voluntary participation by growers
(b) a mandatory program for all Michigan growers | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (6) Encourage improved fruit size of Michigan fresh apples through improved cultural practices. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (7) Encourage growers to multiple pick for the needed color, size, and maturity for fresh market. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (8) Further improvements in maturity information programs, implementation and harvest management to get fruit picked at best times for good storage life and condition. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (9) Continued improvements to reduce bruising in orchards by pickers and forklift operators and in packing houses through improved packing line equipment and design. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (10) Develop a state-wide premium grade for fresh Michigan apples | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (11) Further improvements in storage technology, equipment and storage management for Michigan varieties. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

IV. ACTION ALTERNATIVES TO IMPROVE THE MICHIGAN APPLE INDUSTRY (Continued)

ACTION ALTERNATIVES: *Indicate for each action your level of support and also whether it is a priority area for further analysis.*

		Strongly Support	Support Moderately	Not a Necessary Action	Strongly Oppose	Priority Area for Further Analysis
(12)	Continue expansion of CA storage capacity for Michigan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(13)	Expand educational efforts for grocery stores on how to handle, refrigerate, rotate, etc. Michigan apples to maintain high quality.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(14)	Growers invest in more bins for the expected expansion in Michigan production.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(15)	Explore a shipper-packer-grower initiative to make a transition to plastic bins.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(16)	Continue modernization of Michigan packing houses through the adoption of top-notch equipment to increase efficiency, flexibility, and effectiveness in meeting buyer-customer needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(17)	Develop a state-wide mandatory program for management of quality and grade standards, especially for firmness and maturity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(18)	Develop a mandatory program with minimum firmness standards to ship fresh Michigan apples.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(19)	Develop a program with earliest permissible harvest dates by variety as part of maturity standards.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(20)	Encourage packers and shippers to provide detailed packout and return information by blocks to growers to assist in removal and planting decisions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(21)	An expanded, state-wide apple grower group, such as the Michigan Association of Pomesters, to deal with a number of important issues from the grower perspective.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(22)	Expand programs to increase demand in the U.S. for Michigan apples.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(23)	Expand programs to increase exports of Michigan apples.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(24)	Encourage shippers to charge a percentage sales fee rather than a fixed price per box.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(25)	Develop government cost-sharing or tax incentives for migrant housing investments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

IV. ACTION ALTERNATIVES TO IMPROVE THE MICHIGAN APPLE INDUSTRY (Continued)

B. What other action alternatives would you suggest as **ways to raise grower prices**?

C. What **additional action alternatives** would you suggest as means to improve and strengthen the Michigan apple industry?

V. PROGRAMS AND PRIORITIES FOR THE MICHIGAN APPLE COMMITTEE

Since the Michigan Apple Committee's programs are for the benefit of all Michigan apple growers and are financed by all growers, the Michigan Apple Industry Strategic Planning Task Force is especially interested in your thoughts on certain programs, priorities, and issues for the Michigan Apple Committee.

A. Programs: Which Michigan Apple Committee programs do you think should be expanded to benefit the Michigan Industry?

	STRONGLY SUPPORT	SUPPORT MODERATELY	NOT A NECESSARY ACTION	STRONGLY OPPOSE
(1) Expand program emphasis on the fresh markets .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(2) Expand program emphasis on processed markets .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(3) Expand promotional programs for new varieties .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(4) Other specific Apple Committee programs which should be expanded ?				
(5) Any specific Michigan Apple Committee programs which should be de-emphasized ?				

B. Financing: If, based on the recommendations of the staff and the boards of the Michigan Apple Committee and the Michigan Apple Research Committee, there is a need for an increase in the assessment to help market the Michigan crop and to stay competitive, would you support an increase in the grower assessment to finance?

	STRONGLY SUPPORT	SUPPORT MODERATELY	NOT A NECESSARY ACTION	STRONGLY OPPOSE
(1) Increased promotion and advertising programs by the Michigan Apple Committee	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(2) Technical research such as for improved cultural practices, orchard planting systems, post harvest work, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(3) Market research such as for consumer preferences, market needs, demand, pricing, preferred varieties, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

V. PROGRAMS AND PRIORITIES FOR THE MICHIGAN APPLE COMMITTEE (Continued)

(4) If you support an assessment increase, which would you favor: *(Check one)*

- a. ☐ A **phased-in increase** over a 3-year period.
- b. ☐ An **immediate increase** of the whole amount the first year to provide an expanded program sooner.

(5) **Other ideas or suggestions on the financing of promotion and research programs** by the Michigan Apple Committee and Michigan Apple Research Committee: _____

C. What do you consider are some of the **important strengths of the Michigan Apple Committee?** _____

D. What do you consider are some of the **important limitations or challenges** of the Michigan Apple Committee? _____

E. Do you believe that the grower assessment monies have overall been worthwhile for:

- | | | | | |
|--|------------|--------------------------|-----------|--------------------------|
| (1) The Michigan Apple Committee | Yes | <input type="checkbox"/> | No | <input type="checkbox"/> |
| (2) The Michigan Apple Research Committee | Yes | <input type="checkbox"/> | No | <input type="checkbox"/> |

F. Do you have other suggestions for the **improvement of:**

- (1) the **Michigan Apple Committee** _____
- (2) the **Michigan Apple Research Committee** _____

VI. MACMA

A. Are you a MACMA Apple Division member? **Yes** ☐ **No** ☐

B. Comments or suggestions on MACMA? _____

VII. RESEARCH AND EXTENSION NEEDS FOR THE MICHIGAN APPLE INDUSTRY

A.	How do you view the priority needs for research and extension to help the Michigan apple industry in the following areas? Add comments if you like.	Very Important	Moderately Important	Low Importance
(1)	Improving the overall quality of apples produced by Michigan growers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(2)	Increasing production of the Michigan apple crop.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(3)	Economics and marketing aspects for Michigan apples.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(4)	Improved pest control methods, including IPM approaches, that are economical safe and politically-acceptable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	(a) On major apple diseases such as fire blight, apple scab, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	(b) On insect pests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	(c) On other apple pests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(5)	Improved packing house technology, equipment and methods.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(6)	Improved maturity, storage and post-harvest methods.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(7)	Improved processing technology and methods.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(8)	Varieties that are well-adapted for Michigan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(9)	Labor issues, management and regulations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(10)	Fruit farm business management.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(11)	Expanding domestic demand for Michigan apples.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(12)	Expanding export demand for Michigan apples.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(13)	Improving grower efficiency through new orchard technology.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(14)	New types of apple packs and packaging	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(15)	Strategic planning and coordination for the Michigan apple industry as a whole.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(16)	Other specific research and extension needs: _____			
B.	Explanations or reasons for your views on research and extension needs: _____			
C.	Suggestions on ways to maintain adequate research and extension staff positions and support resources for the apple industry: _____			

VIII. What OTHER SUGGESTIONS do you have to help improve the Michigan apple industry -- now and for the future?

.....
.....
.....
.....

IX. GENERAL GROWER INFORMATION

1. In what county is your main apple farm operation?
2. Do you consider yourself primarily a fresh market or processing grower? What is the approximate percent of your apple crop sold for:

fresh% processing%

3. Approximately how many acres of apples do you grow? acres.
bearing acres non-bearing acres

4. What is your approximate average apple production?

<input type="checkbox"/>	< 5,000 bu.	<input type="checkbox"/>	30,000 - 60,000 bu.
<input type="checkbox"/>	5,000 - 10,000 bu.	<input type="checkbox"/>	60,000 - 100,000 bu.
<input type="checkbox"/>	10,000 - 30,000 bu.	<input type="checkbox"/>	100,000 + bu.

5. What other crops do you raise in addition to apples?

6. How do you expect to change your apple acreage within the next few years? (approximately)

<input type="checkbox"/>	Expand	acres	or	percent
<input type="checkbox"/>	Keep about the same			
<input type="checkbox"/>	Decrease	acres	or	percent
<input type="checkbox"/>	Discontinue growing any apples			

7. Do you expect to renovate by replanting some of your apple orchards within the next few years?

Yes ☐ No ☐

If yes, approximately how much? acres or percent

8. What varieties do you plan to plant in the next few years?

9. Do you operate an apple packing house? Yes ☐ No ☐

If YES, please respond to the questions for packing house operators on the next page

- X. If you have any questions on this survey, you may phone Tim Woods at (517) 355-0134 or Don Ricks at (517) 355-0145, who are in the Agricultural Economics Department, Michigan State University.

Supplemental Questions for Packing House Operators

If you also operate an apple packing house please answer the following questions:

- (1) What kinds of **new investments and equipment purchases** have you made for your packing house in the last few years?
- (2) **Why** did you make these changes?
- (3) What kinds of **new investments, equipment purchases**, or other changes do you plan for your packing house during the **next few years**?
- (4) **Why** do you feel you will need to make these changes?
- (5) What are some of the **most important challenges or problems** for the packing house part of your business?
- (6) What **changes** do you believe need to be made in the Michigan apple industry to **improve the quality of fresh Michigan apples**?
- (7) In your packing house during the next few years do you plan to:
 - ☐ **Expand the volume packed**
 - ☐ **Keep the volume about the same**
 - ☐ **Decrease the volume packed**
 - ☐ **Discontinue packing apples**
- (8) Other suggestions related to the packing house business or for the broader Michigan apple industry?

APPENDIX D
SUPPORTING DATA TABLES

Table A5.1 GROWER PERCEPTION OF INDUSTRY STRENGTH¹

AREA OF INDUSTRY STRENGTH ¹GROWER FREQUENCY..... (Percent)				---Response According to Acreage--- (Percent)			
	Major Strength	Moderate Strength	Minor Strength	Not a Strength	Major Strength	Moderate Strength	Minor Strength	Not a Strength
1. Michigan's location in proximity to many metropolitan population centers.	148 (60)	76 (31)	20 (8)	4 (2)	13059 (63)	6319 (31)	1141 (6)	85 (0)
2. A combination of several major market outlets for fresh and processing apples.	135 (54)	89 (36)	21 (8)	4 (2)	12277 (59)	7325 (35)	1250 (6)	118 (1)
3. Michigan's mix of apple varieties.	130 (52)	100 (40)	14 (6)	4 (2)	11707 (56)	7890 (38)	915 (4)	294 (1)
4. The university support with extension and research for the apple industry.	108 (43)	102 (41)	33 (13)	6 (2)	6417 (31)	10497 (50)	3133 (15)	797 (4)
5. Improvements in storage techniques and management within the last few years.	66 (27)	128 (52)	48 (20)	4 (2)	5561 (27)	10954 (53)	3902 (19)	345 (2)
6. An increasing emphasis on market aspects rather than production by the Michigan industry.	62 (26)	103 (42)	52 (21)	26 (11)	5015 (24)	8833 (43)	4132 (20)	2787 (13)
7. Improvements in packing house modernization within the last few years.	53 (22)	116 (48)	61 (25)	12 (5)	5347 (26)	9386 (45)	4639 (22)	1311 (6)
8. The various apple organizations serving the Michigan industry.	50 (20)	109 (44)	62 (25)	25 (10)	3292 (16)	10743 (51)	5110 (24)	1732 (8)
9. A major supplier of bagged apples.	48 (20)	110 (45)	67 (28)	19 (8)	3917 (20)	8176 (41)	5560 (28)	2167 (11)
10. A substantial shift to modern orchard planting systems.	44 (18)	114 (47)	73 (30)	13 (5)	3465 (17)	10543 (51)	5964 (29)	878 (4)
11. A price competitive industry that helps to increase or maintain sales volume.	38 (16)	103 (43)	59 (25)	41 (17)	2016 (10)	9404 (45)	4731 (23)	4564 (22)
12. A cost-efficient region for growing apples.	26 (11)	79 (32)	93 (38)	48 (20)	1344 (6)	5493 (26)	8989 (43)	5015 (24)

¹ Ordered according to frequency indicating the area to be a "major strength". The modal response for each area is shaded for both frequency and acreage.

Table A5.3 GROWER PERCEPTIONS ON INTERNAL AND EXTERNAL INDUSTRY ISSUES AND CHALLENGES

INDUSTRY ISSUE OR CHALLENGE	----Grower Frequency----- (Percent)				---Response According to Acreage--- (Percent)			
	Very Important	Important	Minor Importance	Not Important	Very Important	Important	Minor Importance	Not Important
1. How to effectively expand demand for Michigan apples in highly competitive fresh and processing markets.	172 (69)	70 (28)	7 (3)	1 (0)	12966 (62)	7788 (37)	190 (1)	12 (0)
2. A need to raise prices received by Michigan growers.	166 (66)	79 (32)	4 (2)	1 (0)	14397 (69)	6289 (30)	269 (1)	0 (0)
3. The challenges posed by lack of re-registration of needed pest-control materials and obstacles to registration of new materials .	164 (65)	63 (25)	14 (6)	10 (4)	15833 (76)	4158 (20)	652 (3)	319 (2)
4. The challenges posed by increasing regulations on pesticides from food safety and environmental concerns.	157 (63)	67 (27)	11 (4)	14 (6)	13353 (65)	6016 (29)	442 (2)	845 (4)
5. The problems imposed on growers by new labor regulations .	156 (62)	72 (29)	18 (7)	5 (2)	13527 (65)	6058 (29)	886 (4)	490 (2)
6. A need to improve the overall quality of Michigan fresh apples.	144 (58)	95 (38)	10 (4)	0 (0)	11369 (54)	8993 (43)	548 (3)	0 (0)
7. A need to more effectively compete with apples from Wash., N.Y., Calif., etc.	140 (57)	85 (34)	17 (7)	5 (2)	11258 (55)	8320 (40)	652 (3)	372 (2)
8. The identification of varieties which will be both profitable and grow well in Michigan.	111 (44)	117 (47)	21 (8)	1 (0)	7606 (36)	11504 (55)	1783 (9)	56 (0)
9. A need to update the equipment and efficiency of some Michigan packing houses.	52 (22)	137 (57)	50 (21)	3 (1)	4077 (20)	11780 (57)	4438 (21)	500 (2)
10. A need for more bins in the industry and the related marketing challenges.	37 (15)	91 (38)	93 (39)	20 (8)	2461 (12)	8722 (43)	7392 (36)	1710 (8)
11. A need for fewer shippers .	35 (15)	55 (24)	84 (36)	60 (26)	4914 (24)	3755 (19)	6530 (32)	5092 (25)

Table A5.5 GROWER PERCEPTIONS OF INDUSTRY OPPORTUNITIES BY FREQUENCY AND ACREAGE

AREA OF INDUSTRY OPPORTUNITY ¹	----Grower Frequency---- Percent				---Response According to Acreage--- Percent			
	Considerable Opportunity	Limited Opportunity	Considerable Opportunity	Limited Opportunity
FRESH MARKET								
Improving the quality of MI fresh apples	55	28	14	3	52	27	15	6
Export Market for fresh apples	50	31	12	4	43	39	9	5
More promotions by the MAC	43	31	14	7	34	31	16	11
U.S. Foodservice markets	40	34	21	3	39	36	18	4
Expanded geographic markets in the U.S.	38	31	23	5	32	34	21	10
U.S. grocery store markets	36	33	23	6	34	35	22	6
More promotions by individual shippers	34	25	19	13	34	26	16	15
Tray and cell packs	32	35	21	5	32	36	20	6
New premium packages or types of pack	32	35	20	9	25	37	22	10
Bags	15	21	36	17	15	15	39	17
								14
PROCESSED MARKET								
More promotions by MAC	48	28	16	3	45	25	20	6
Juice	44	32	18	4	46	35	16	2
More promotions by individual processors	43	26	19	5	43	27	22	4
Export markets for processed apples	41	29	18	8	39	33	15	9
Slices	36	36	19	5	37	34	22	5
Apple sauce	33	37	19	7	33	39	17	8
								3
TECHNICAL IMPROVEMENTS								
Further advancements in IPM programs	42	35	19	3	36	40	18	3
Improved sprayer equipment	33	36	26	3	30	40	25	3
Modernized orchard planting systems	28	45	20	5	22	48	22	5
Maturity information programs	26	39	27	5	22	38	32	3
Modernized fresh packing houses	23	48	21	5	22	48	22	5
Modernized storage technology & management	23	44	25	6	17	50	24	6
Multiple picking for color, size, & maturity	19	34	26	10	20	10	39	16
								15
PROCESSED PRICING APPROACHES IN OTHER STATES	51	27	13	3	53	27	12	2
				7				6

¹ Opportunity areas are listed in the order by which they were indicated as having *considerable opportunity*. The modal response for each category is indicated by the bolded figure.

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