



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

Producers Cooperative Oil Mill: A Case Study in Strategic Planning for a Cooperative

Philip Kenkel

Professor and Fitzwater Chair for Cooperative Studies
Department of Agricultural Economics
Oklahoma State University

Rodney B. Holcomb

Professor and Browning Endowed Professor of Food Studies
Department of Agricultural Economics
Robert M. Kerr Food & Agricultural Products Center
Oklahoma State University

Contact: Philip Kenkel
Department of Agricultural Economics, 516 Ag Hall
Oklahoma State University
Stillwater, OK 75078
Phone: (405) 744-9818
Fax: (405) 744-8210
E-mail: phil.kenkel@okstate.edu

Selected Paper prepared for presentation at the Southern Agricultural Economics Association Annual Meeting, Corpus Christi Texas, February 5-8, 2011.

Copyright 2011 by Philip Kenkel and Rodney B. Holcomb. All rights reserved. Readers may make verbatim copies of this document for non-commercial purpose by any means, provided that this copyright notice appears on all such copies.

Abstract:

This study examines the strategic issues and decisions of Producers Cooperative Oil Mill, a regional oilseed processing cooperative located in Oklahoma City, Oklahoma. The process of strategic planning and strategy implementation in agribusiness has been the topic of numerous research studies and case studies. While cooperative firms have been the subject of case studies focusing on strategic issues, the unique aspects of strategic decisions in a cooperative firm have not been highlighted. The formulation and implementation of strategy in cooperative organizations is impacted by their business structure. This case study provides unique examples of how strategy formulation and implementation is impacted by the unique structure and values of a cooperative firm. The article is formatted such that it can be used in educational programs as three inter-related mini-case studies. Questions for students are included.

Key words: cooperative, strategic planning, oilseed processing

Producers Cooperative Oil Mill: A Case Study in Strategic Planning for a Cooperative

Introduction

The process of strategic planning and strategy implementation in agribusiness has been the topic of numerous research studies and case studies. The formulation and implementation of strategy in cooperative organizations is impacted by their business structure. While cooperative firms have been the subject of case studies focusing on strategic issues, the unique aspects of strategic decisions in a cooperative firm have not been highlighted. This study examines the strategic issues and decisions of Producers Cooperative Oil Mill, a regional oilseed processing cooperative located in Oklahoma City, Oklahoma. The case study provides unique examples of how strategy formulation and implementation is impacted by the unique structure and values of a cooperative firm. The article is formatted such that it can be used in educational programs as three inter-related mini-case studies.

Background

Cottonseed is a co-product of cotton lint production which is separated during the cotton ginning process. Cotton gins typically purchase cottonseed from the producers, often as a partial offset of ginning fees, and sell the seed to a regional oil mill. The oil mill processed the seed to produce cottonseed oil, which, after refining, is an important food grade oil product. A cottonseed mill has three other co-products, cottonseed meal, cottonseed hulls and linters. Cottonseed meal is marketed as a protein supplement and feed ingredient in rations for dairy, beef and other ruminant livestock. Cottonseed hulls can be used in cattle rations for roughage, mulch and soil conditioners and a variety of industrial uses including oil well drilling mud. The linters consist of the short, typically less than 1/8 in (3 mm) long, cotton fibers that were not removed from the seed in the cotton ginning process. Markets for linters include absorbent

cotton medical supplies, yarns, felts, and industrial products. A typical ton of cotton seed produces 920 lbs of protein meal, 550 lbs of cottonseed hulls, 320 lbs of cottonseed oil and 160 lbs of linters.

In the oil extraction process the lint is removed from the seeds by a series of saw de-linting machines which use the same basic process as the de-linting machines in a conventional cotton gin. The hulls are removed through a hulling machine and a series of shaker separators. The cottonseed kernels are then conditioned in a steam cooker at a temperature of approximately 180°F (82°C) and then are rolled into flakes which are in turn forced through an expander to create collets (rough pellets). The collets then go into trays where a solvent (typically hexane) is percolated through, removing the oil. The solvent is then evaporated from the oil/solvent mixture and re-used. The extracted oil undergoes an initial stage of refining where an alkali process separates the soap stocks from the oil. After the oil has been extracted the collets are processed in a desolventizer (toaster) to remove and recover the solvent. They are then dried in a rotary steam drier and processed in a hammer mill where they are ground into meal or further processed into pellets.

Due to the specialized equipment involved, oilseed processing has a high ratio of fixed costs to total costs. Throughput and capacity utilization is therefore a major determinant of the profitability of an oilseed processing cooperative. While the breakeven point (volume required to cover fixed costs) varies due to the quality of the seed oilseed processing firms often must achieve over 75% capacity utilization before they can achieve a profit. Freight logistics for both the cottonseed raw material and the oil and meal co-product streams are also an important success factor. Most successful cottonseed oil meals are located close to the production region, and have access to both major interstate highways and rail lines.

Cottonseed processing is a capital intensive process with significant scale economies. There are also economies of scale and scope in marketing and handling the various co-products. Achieving economies of scale and scope are a common rationale for the creation of a cooperative business, so it is not surprising that cooperatives have a significant market share within the oilseed processing industry. Under the cooperative business structure the profits from the oilseed processing operation are distributed to the member gins in proportion to the volume of seed supplied. A portion of the profits are distributed in the form of stock which creates the equity funding for the oilseed cooperative's infrastructure. That stock, which is referred to as retained allocated equity, is redeemed for cash by the cooperative at a later date. The cottonseed cooperative's member gins equity investment in the oilseed cooperative consists of a small initial investment and retained allocated equity which is created over time through the oilseed cooperative's profit stream.

The profit distribution system and equity structure of cooperative firms are examples of the unique characteristics that influence strategic decisions. Because profits are distributed in proportion to use, a cooperative member does not receive a direct return on their invested equity but rather benefit through continued use (patronage) of the cooperative. This creates unique issues when changes in strategic direction will involve new users. Because much of a cooperative's equity is created from retained profits, a new user may receive benefits which are disproportional to their share of the equity investment. Existing members may be reluctant for the cooperative to use the equity created through their patronage to fund operations benefiting new users. In addition, since equity is created out of the profit stream, rather than through direct investment, proactively maintaining profitability is essential in order to fund infrastructure and other strategic projects. The structure of revolving equity also implies that managing the debt to

equity ratio of a cooperative is more complex relative to an investor owned firm where equity capital is permanent. Equity revolvment also creates competing uses for internally generated funds.

Cooperative corporations are taxed under Sub-Chapter T of the Internal Revenue Service Code. Cooperatives can deduct cash and stock patronage refunds (profit distributions to owners) from their taxable income. The distributed income is taxed at the member level allowing the cooperative firm to achieve single (pass through) taxation. In order to qualify for Sub-Chapter T the cooperative firm must operate on “a cooperative basis”. This involves a number of structural limitations including limiting business with non-members to less than 50% of total volume. Under the most common cooperative structure the firm pays taxes on the earnings from non-member business at the standard corporate tax rate.

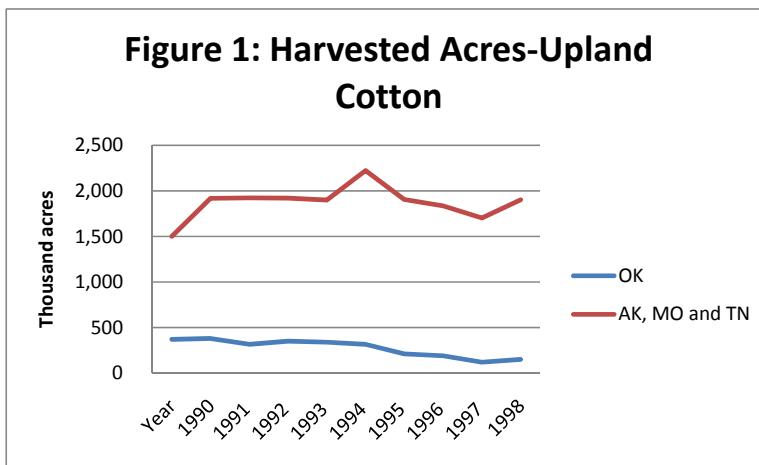
PCOM and the Expansion Issue

Producers Cooperative Oil Mill (PCOM) was established on June 20, 1944 when fourteen cooperative gins and three regional cooperatives purchased Terminal Oil Mill in Oklahoma City, Oklahoma. The mill had a crushing capacity of 160 tons of cottonseed per day and storage for 16,500 tons of cottonseed. By 1999 PCOM had increased its membership to 26 Oklahoma and 13 Texas gins and had a processing capacity exceeding 900 tons per day. Most of the cotton acreage in Oklahoma is concentrated in the Southwest region of the state. PCOM has historically received slightly less than 150,000 tons of cottonseed from member gins in Oklahoma and Texas gins bordering Oklahoma. This represents approximately 80% of the total Oklahoma cottonseed production.

During the 1960 to 1985 period Oklahoma cotton production averaged over 460,000 acres. However cotton acreage began a slow decline which continued throughout the 1990-99

Comment [RBH1]: How about the first subtitle saying “issue” and the second one saying “decision”

period. This trend was not shared by other cotton producing regions. Cotton production in the Mid-South (Arkansas, Missouri and Tennessee) was relatively stable (Figure 1). This trend of declining cotton production in PCOM's production region raised strategic issues in maintaining plant utilization and long term profitability. One option was expanding into the Mid-South through the construction or purchase of warehousing operations.



Source: USDA

The Mid-South expansion raised a number of strategic issues. The addition of warehouses in the Mid-South would create an additional supply of cottonseed that could be railed to the Oklahoma City plant at a net cost that was competitive with the local seed supply. The expansion would increase the amount of seed available allowing PCOM to increase capacity utilization and more effectively use fixed assets. The increased scale of operation could make PCOM a bigger player in the oilseed market. The ability to blend seed supplies had advantages in oil quality.

PCOM had historically been financially conservative and had no long term debt. The expansion would likely require a \$5M investment in infrastructure and up to \$15M in working capital. Because of PCOM's strong balance sheet it was possible that the project could be financed through internally generated funds. Even if the entire expansion was debt financed, PCOM's debt to asset ratio would be below 30%, a level considered low by industry standards. However the expansion and the possibility of debt capital represented a philosophical shift to PCOM's board of directors.

The expansion also raised issues relative to PCOM's cooperative structure. If PCOM offered patronage to the Mid-South gins, the cooperative would be extending the benefits of the investment of the Oklahoma and Texas gin members to new members. The gins in the Mid-South region (many of which were not cooperatives) had not historically dealt with cooperative warehouses or processors. Because the Mid-South gins had little understanding of or experience with the regional cooperative structure it was unclear as to whether PCOM could attract the gins as new members.

Alternatively, PCOM could simply purchase the warehouses in the Mid-South and operate the warehouses as non-member business. Under this structure PCOM would have to limit the seed volume from the Mid-South so that at least 50% of the volume came from member gins, retaining the threshold for cooperative taxation. This structure would likely maximize profits to PCOM's existing gin members. However, an alternative market for whole cottonseed as an ingredient in dairy feed rations was also developing. The non-member business option did not create the membership structure and patronage opportunities which enhanced a long-term supply relationship with PCOM. Most importantly, the purchase option raised the issue of whether a member/non-members structure was philosophically compatible with PCOM's

mission, values and history. PCOM's mission and values statements included the description that the firm would be "member-owned and member focused". The Mid-South decision forced the PCOM board to consider whether they were living up to their stated values.

The Expansion Decision

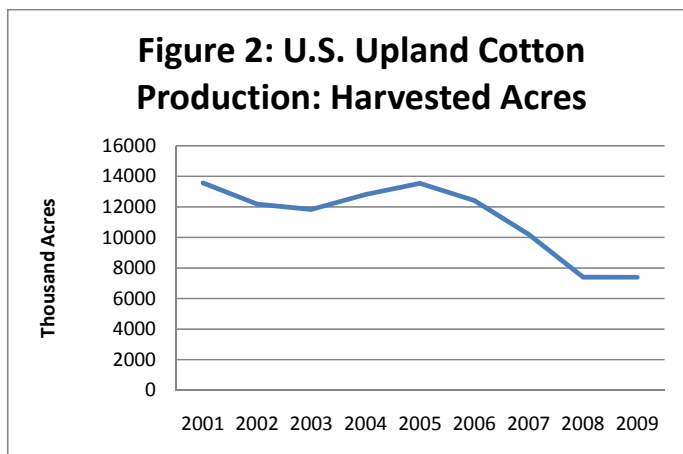
In 1999 PCOM purchased Osceola Products Company. Through this purchase, locations in Osceola, Arkansas; and Kennett, Missouri were acquired with storage capacity for about 200,000 tons of whole cottonseed. In the year 2000, PCOM bought land at Covington, Tennessee and built 60,000 tons of cottonseed storage at that location. The acquisition of these facilities resulted in the formation of Producers Mid-South Company (PMSC), a wholly owned subsidiary of Producers Cooperative Oil Mill. PCOM financed the expansion without the use of long-term debt although the cooperative increased its seasonal financing to cover the additional working capital requirements. The majority of the cottonseed purchased and warehoused in the PMSC facilities was railed to Oklahoma City to supplement PCOM's plant utilization. Some of the seed sourced through PMSC was also sold into the whole seed market.

PCOM created a unique structure to deal with the membership and patronage issues of the Mid-South expansion. The Mid-South gins were allowed to become members of PCOM with a minimal upfront investment. As members they would receive the same cash and retained (stock) patronage as PCOM's existing members and have the same voting privilege. Alternatively, the gins could become "equity members". Under this structure they would receive volume based "rebates" which were structured similar to cash patronage while not receiving retained patronage or voting privileges. The "equity member" structure helped to build a long-term relationship between PCOM and the gins. It also provided a vehicle for the Mid-South gins to gain an appreciation of the regional cooperative structure and its patronage structure. Most

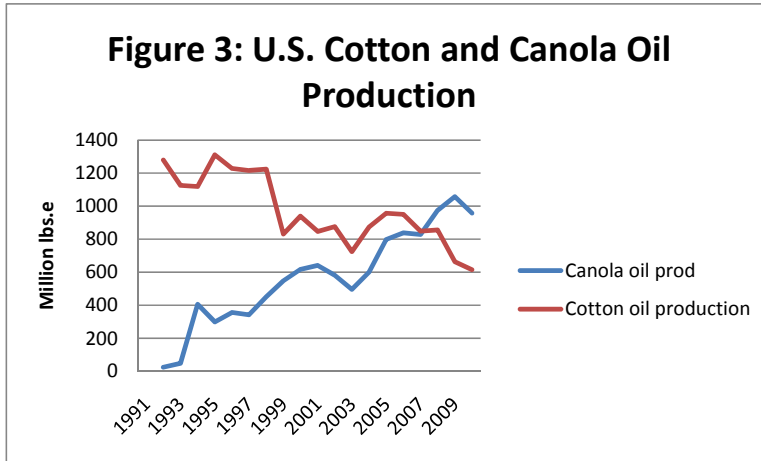
importantly, the structure allowed the PCOM board to perceive that they were living up to their values as a cooperative firm.

The Diversification Issue

By 2007 PCOM was faced with another strategic decision. Cotton production in the U.S. appeared to be following a downward trend as producers shifted to corn and other crops (Figure 2). At the same time, an increasing portion of cottonseed was being utilized as whole seed in dairy feed rations. Cotton oil appeared to be on a long-run decreasing trend while canola (which was perceived by consumers as healthier oil) was increasing (Figure 3). These trends concerned the PCOM board over their long run strategic position as a cottonseed processing cooperative (PCOM personal communication). The cooperative commissioned a respected consulting firm to analyze the trends in the entire oilseed sector. The study concluded that U.S. cotton acreage would decline by over 50% by 2016 while acreage of sunflowers and canola would see modest gains. At the same time the percentage of cotton seed that was processed (as opposed to being directly incorporated in livestock rations) would continue to decrease.



Source: USDA



Source: USDA

PCOM had been interacting with the steering committee of a new cooperative effort: Plains Oilseeds Products (POP). Faculty at Oklahoma State University had assisted POP with an in-depth feasibility study of a canola and sunflower crushing enterprise. Canola and sunflowers both appeared to be excellent rotation crops for winter wheat, breaking the insect and disease cycle of continuous wheat production. It was unlikely that cotton acreage would shift to these new crops so they did not directly compete with cotton production. The POP steering committee was attempting to organize POP using a New Generation Cooperative model with the members being canola and sunflower producers. However, raising sufficient equity to fund a processing plant appeared to be a substantial hurdle since the diversification of winter wheat acres into canola or sunflowers was just beginning to occur. The OSU study identified the adoption rate for these new crops and technical expertise in processing oilseeds as major risk factors for the proposed cooperative.

Like the expansion decision the diversification decision raised both strategic and cooperative specific issues. PCOM had a 61 year history as a successful cottonseed processing

cooperative, so the possibility of diversifying to other oilseeds was not one to be taken lightly. Processing canola and sunflowers would require different handling and storage systems. These crops also had much higher percentage oil content. While this was an advantage in overall efficiency it required changes to the extraction equipment and additional oil storage infrastructure. Upgrading the plant to handle these new oilseed crops would require approximately \$10M in infrastructure investment.

In the case of the expansion decision the PCOM board was able to successfully convince the membership that the strategic move benefit the existing gin members through increased plant utilization and efficiency. In this case the direct benefit to the cotton gin members was more difficult to establish. From an operational standpoint, diversifying the crush would increase utilization of the extraction equipment. However the utilization of the specialized equipment used to de-lint cotton would not change while some of the new equipment would only be used during the canola and sunflower crushing seasons. The major benefit of the diversification was to position PCOM as a larger player in the overall oilseed market and to remain viable if cotton acres did disappear. Those benefits, although logical from a strategic sense, were more difficult to translate into direct dollar benefit to the existing cotton gin members.

In terms of cooperative structure the diversification option raised issues of equity investment and patronage stream. Cooperative principles suggest that cooperative members should participate in the equity investment, ideally in proportion to their use and benefit. If PCOM financed all of the infrastructure investment and provided POP patronage, the canola members would be drastically under-invested and benefiting at the expense of the existing gin members. One alternative would be to require POP (and ultimately its farmer members) to finance the infrastructure investment. However it was unlikely POP could mount a successful

equity drive of that magnitude given the low (but growing) canola and sunflower acreages. If POP was forced to raise the equity it was also possible that they would pursue a standalone effort.

Another alternative was for PCOM to process these crops for POP on a simple contract basis. However, if PCOM's future was truly to involve a wider variety of oilseeds it was also important that POP and other similar members be eventually integrated into PCOM's patronage and equity structure. In short, PCOM could not transition to a canola and sunflower processing cooperative if POP did not receive its "fair" share of processing profits. A potential for processing profits would also enhance the adoption of these new oilseed crops which would benefit both POP and PCOM.

The Diversification Decision

In the fall of 2007 PCOM accepted POP as a new member and began to implement the \$10M infrastructure upgrade required to process canola and sunflowers. PCOM's CEO Gary Conkling described the diversification decision in an Aug 22 2007 press release:

In cooperation with Plains Oilseed Products Cooperative, PCOM will soon begin processing canola, sunflowers and other oilseeds. At the same time, the cooperative will continue its more than half century of service to cotton farmers in Oklahoma, Texas, Kansas, Arkansas, Missouri and Tennessee...PCOM's new cooperative undertaking with POP will give Texas, Oklahoma and Kansas farmers who grow oilseeds a modern, reliable organization to process their crop"

POP was accepted with only a nominal up-front investment. A special patronage structure was developed. Under this structure POP would receive a portion of PCOM's total patronage based on the relative profitability of canola and sunflower processing operations. Initially POP would not receive cash patronage but would rather receive allocated retained patronage (stock) until POP's equity matched PCOM's infrastructure investment. PCOM also fully endorsed POP's effort in developing the canola and sunflower acreage and sponsored a variety of educational and support efforts.

The Relocation Issue

PCOM also faced issues due to their plant location. Their facility was located in downtown Oklahoma City just to the South of a major downtown revitalization project. This raised liability issues in operating a hexane extraction process in close proximity to convention centers and a minor league baseball park. The potential development value of the property and the scheduled relocation of Interstate 40 made it likely that PCOM would have to close or relocate within 10 years.

Once again, PCOM's strategic decisions involved both business strategy and their mission and values as a cooperative. PCOM could abandon its Oklahoma processing and warehousing operations and profitably operate its Mid-South warehouses serving the dairy market. While that might be a viable alternative for an investor-owned oil mill it would not provide any service or patronage link to PCOM's member gins in Oklahoma. Alternatively, the cooperative could relocate to another site (probably still in Oklahoma since that appeared to minimize in-bound and out-bound freight costs) while continuing to process cottonseed and other oilseeds.

The board also faced cooperative specific issues in deciding how to handle the likely windfall from the sale of the Oklahoma City facility. PCOM could distribute the capital gains to its original member gins. It could also consider sharing some of the gain with the newer Mid-South members and POP its latest member. Alternatively, it could use some or all of the funds to develop a new facility. If the projections were correct, the new facility would eventually be processing a minimal amount of cottonseed and a variety of different oilseeds for a more diversified group of members. Using the windfall to fund a new plant therefore effectively transferred the benefit from historical user members to a different set of current and future user members.

Cooperative accounting principles suggest that cooperatives should employ a different system of allocating losses or distributing the residual value of a liquidated firm relative to the procedures used by investor-owned firms (Barton). In general, cooperatives distribute losses or residual value in proportion to patronage (use) over some selected period of time rather than on the basis of equity ownership. One of the fundamental cooperative principles is “User-Benefits” which could arguably be interpreted as implying that cooperatives should give priority to current users. PCOM’s auditors and legal advisors suggested that PCOM had substantial latitude in handling an “extra ordinary gain”. However the PCOM board concluded that the principles of distributing the gain in proportion to use should have some impact on their decision. As a final alternative PCOM could pursue a strategic partner which could share in the investment in the new facility. This might allow PCOM to distribute a greater portion of the windfall to the historic users while still pursuing an infrastructure to process oilseeds. In some ways this alternative might be considered as fairer as it would put the founding gin members and the newer members on a more equal footing in terms of net equity investment. On the other hand, this

would entail a significant loss of control and the possibility that the partner (either cooperative or investor firm) would not be philosophically compatible with PCOM.

The Relocation Decision

The Producers Cooperative purchased the former Bridgestone/ Firestone Dayton Tire factory near SW 25th Street and Council Road in 2009 for \$14M. The facility which was located on the outskirts of Oklahoma City included more than 1 million square feet under roof and 170 acres of land. PCOM CEO Gary Conkling described the rationale in a January 31, 2009 press release.

We considered moving to southwest Oklahoma, the heart of Oklahoma cotton-growing country. Access to rail service and interstate highways tipped the decision to move to the industrial sector of southwest Oklahoma City...It could take four or five years for Producers Cooperative to relocate. All we're really doing is planning for the future. We've kind of looked for land for several years”

In February 2010, PCOM officially put their 43 acre downtown facility up for sale at an asking price of \$120M. Prior to the announcement of the intent to eventually sell the downtown facility the PCOM board had adopted a special policy on “extra ordinary gains”. The policy specified that extra ordinary gains (such as the sale of the downtown Oklahoma City facility) would be distributed in proportion to patronage (volume delivered) during the previous 30 years. The policy also included the caveat that only PCOM members “in good standing” would receive the distribution. In order to remain “in good standing” a PCOM member was required to deliver at least 50% of their annual seed volume to PCOM.

The policy represented an interesting balance between cooperative principles and savvy management. Distributing the gain on the basis of long-term volume would provide the

founding gins with the lion's share of the gains while allowing the newer members some participation. The caveat on current patronage provided a strong incentive for the member gins to continue to deliver to PCOM even if it meant forgoing higher prices in the dairy market. The policy also demonstrated a strong desire of the PCOM board to benefit active users.

At the time of this article, the PCOM board had not finalized a decision as to the portion of the anticipated gains that it would distribute to members and the portion that would be channeled for developing the new facility. The board was in consensus that a substantial portion of the gain, likely over 50% would be distributed to PCOM's members. The possibility of a strategic partner was also still under consideration.

Conclusions

The importance of mission and values in strategic planning is frequently discussed in both academic research and in industry training sessions. Despite the consensus of the importance of mission and values in the planning process clear examples of how these factors influenced decisions are difficult to identify. The strategic decisions and positioning of PCOM provide excellent examples of how the firm's cooperative structure and its values as a cooperative firm influenced and were integrated into its planning process.

The importance of strategic planning is stressed in educational programs for cooperative boards across the U.S. Cooperative board members are often criticized for not being proactive in planning and failing to consider the implications of factors outside their trade territories. PCOM provides an example of a cooperative that has been proactive in planning and acquiring the most up-to-date and complete information. Rather than rely on its 66 year history as a successful cottonseed oil meal, PCOM has actively worked to position itself for the next generation of producers. Only the future can determine if their strategies continue to be successful.

References

Barton, D. "Alternatives for Handling Losses in Cooperatives" Journal of Agricultural Cooperation, Volume 4, 1989

PCOM, personal communication,

PCOM press release Aug 22 2007

PCOM press release, January 31, 2009

USDA Oil Crop Year Book Table 17 Cottonseed: Supply, disappearance, and price, U.S., 1980/81-2009/10

<http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1290>

USDA Oil Crop Year Book Table 19 Cottonseed oil: Supply, disappearance, and price, U.S., 1980/81-2009/10

<http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1290>

USDA Oil Crop Year Book Table 25 Canola oil: Supply and disappearance, U.S., 1991/92-2009/10

<http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1290>

Questions for Students

1. Expanding into the Mid-South appears to be a logical strategic decision. Structuring the expansion as non-member business would maximize the profits to PCOMs current member owners. How should PCOM incorporate its structure and values as a cooperative organization into this strategic decision?
2. Is it fair and equitable for PCOM to consider using its assets and experience which was funded by cotton gin members to benefit a different set of users? How does PCOM's structure as a cooperative impact its decision to diversify?
3. In an investor-owned firm gains and losses are distributed in proportion to ownership. In a cooperative firm distributions are based on use. How should PCOM balance its distribution between historic and more recent or current users? Is it appropriate to use the gain to build a new plant serving the next generation of producers?