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Cognitive Processes and Co-operative Business Strategy

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&
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University of Saskatchewan
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Centre for the Study of Co-operatives

The Centre for the Study of Co-operatives is an interdisciplinary teaching and research institution located on the University of Saskatchewan campus in Saskatoon. Contract partners in the co-operative sector include Credit Union Central of Saskatchewan, Federated Co-operatives Ltd., Concentra Financial, and The Co-operators. The centre is also supported by Saskatchewan Regional Economic and Co-operative Development and the University of Saskatchewan, with the CUMIS Group making an additional contribution. The university not only houses our offices but provides in-kind contributions from a number of departments and units—Agricultural Economics, History, Management and Marketing, and Sociology, among others—as well as financial assistance with operations and nonsalary expenditures. We acknowledge with gratitude the ongoing support of all our sponsoring organizations.

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- to publish co-operative research, both that of the Centre staff and of other researchers; and
- to maintain a resource centre of materials that support the Centre's teaching and research functions.

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Introduction*

SINCE THE LATE 1980S, co-operatives have faced a number of significant changes in the environments in which they operate. These changes include new technologies, new regulatory regimes, growing corporate concentration, and new social relations. In the agricultural sector, for instance, the introduction of genetically modified foods has changed production methods and altered consumer attitudes towards food.[1] Farm consolidation has resulted in increasingly commercialized farming operations and an increasingly diverse farm population, while new trade regimes have opened up markets that were traditionally separated.[2] Agri-business firms have responded to these changes with mergers and acquisitions, thus creating increasingly concentrated industries.[3]

Similar changes have occurred in other sectors where co-operatives operate. In the Canadian financial services sector, for example, a new regulatory regime has resulted in increased competition as foreign companies enter the Canadian market, and as insurance and trust companies provide more and more of the services that were previously provided by only banks and credit unions.[4] As well, consumers are increasingly demanding financial services that are available twenty-four hours a day, seven days a week. In response to these and other changes, the financial institutions have invested in new information technologies and have attempted a number of high-profile mergers. In the retail sector, changes include: new competitors such as WAL-MART; a growing centralization of

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purchasing; an increased demand by retailers for service, dependability, and quality assurance at the lowest possible price; increased corporate concentration; rapid product development; and rapidly shifting consumer purchasing habits.[5]

Co-operatives have adapted their business strategies in response to these changes. Like their non–co-operative counterparts, co-operatives have restructured their operations, invested in new technology, and undertaken mergers and acquisitions. Some of this adaptation appears to have been successful, including mergers and joint ventures by local retails to create the so-called super-locals, mergers by credit unions to create larger entities able to provide services more cost effectively, and the revamping of stores and the withdrawal from manufacturing undertaken by Federated Co-operatives Limited.

Not all the adaptation, however, has been successful. Prominent examples include: Agway and Farmland Industries in the United States, both of whom filed for Chapter 11 bankruptcy protection in 2002; Dairyworld, which was purchased by Saputo in 2001; Agricore, which merged with United Grain Growers in 2001; and Saskatchewan Wheat Pool, which has experienced extremely difficult financial times. In all these cases, the co-operatives in question had been long established in their respective sectors and held a significant market share.[6]

The purpose of this chapter is to explore why some co-operatives have been able to successfully adapt to a new environment while others have not. The chapter begins by laying out a framework for understanding why organizations (including co-operatives) might differ in their ability to adapt. The development of this framework requires an examination of cognitive processes and the implications of the manner in which knowledge is created for the decisions and strategies that organizations undertake. The framework is then used to examine unsuccessful adaptations by two co-operatives—Agway and Farmland Industries. The chapter concludes with some implications for co-operative business strategies during times of rapid change.

Cognitive Processes and Knowledge

Adaptation is of the utmost importance in a world of constant and rapid change. It requires decision making, which in turn demands knowledge of existing opportunities and challenges of the world as it is now and of how it might be in the future. It is difficult, however, to be sure of how the world appears today, and an even more complex task to determine what it may look like tomorrow. This lack of complete knowledge—whether of the past, the present, or the future—arises because of the way in which information is processed.

Cognitive Processes

Information is not knowledge, and to transform it into knowledge requires the interpretive resources of cognitive models or frameworks. Cognitive models are the mental structures that people impose on the world to make sense of it. These structures organize information from the environment in a meaningful way and represent the perceived essential qualities of an object or event.[7]

Cognitive models are made up of slots, or frames, which act as containers for specific information. Information is thus categorized into different frames according to perceived similarities with other objects or events, or on the basis of an explanatory structure. By classifying objects, events, actions, and people into a series of frames and containers, the world is made to appear as if it has a structure.[8] This structure is based on a series of rules that outline the relations between and among objects and events, although it is important to remember that both structure and rules are often based on idealized and/or abstract examples of these objects or events.

Cognitive models typically have a story that provides a way of ordering the sequence of events[9] and that guides expectations about the ordinary course of events, including the presumed actions of other actors. These narrative structures are often reflected in how past examples of these situations are remembered, with the possibility of selective and/or false memories being constructed in order to make past and current situations "fit" into an existing template.

The combination of categories and narratives that make up cognitive models provides the rules by which people are told—and tell—what the world is like. They delimit what events and actions are thinkable, and what is not; they also point to the problems that need to be solved and the limits to acceptable solutions.[10] In short, these structures mark out where attention is to be focussed and what decisions are to be made. They also, of course, determine what escapes perception.

Cognitive Processes and Their Implications for Knowledge

The process by which information is sorted, ordered, and selected has important implications for the nature of knowledge. Specifically, the cognitive processes that individuals use and the limited cognitive capacities that people possess mean that knowledge is never complete—whether it is of the past, the present, or the future.

One reason that knowledge is never complete is that it is always partial and relative. The perspective people have of the world is shaped by history and culture, as well as by the relationships they have with each other and with the institutions that govern the economy and society (e.g., markets, regulatory regimes, social norms). These factors—culture, history, and relationships—make up a context, which provides the basis for the frames and the narrative that in turn form the foundation for knowledge. This connection between context and knowledge implies that knowledge is only partial, that it is relative to context, and that there is more than one way of knowing or understanding.

Second, knowledge is never complete because it is difficult for the production of knowledge to "keep pace" with new situations and new information in circumstances of rapid change. There is no necessary cor-

relation between information and knowledge; instead, knowledge is produced only when information is sorted, processed, and selected by the cognitive processes described above. Moreover, the world is much too complex to fully comprehend. In complex situations, individuals and organizations are only able to focus attention on a certain number of activities at any given time, and adding new scenarios or information will result in decreased attention elsewhere. Thus, attention devoted to one area may impede notice of new information or scenarios in another. In addition, when situations are constantly undergoing change, individuals must spend more time readjusting their picture of the world. Combining these two factors—more information and more rapid change—suggests that people and organizations must constantly be reconceptualizing their knowledge of the world.

Third, knowledge is incomplete because it is impossible to know the future outcomes of current actions. If knowledge of the current world is partial and relative, it follows that knowledge of the future is, at the very least, uncertain. While it is true that predictions can be made about the future based on current actions, these predictions follow from incomplete knowledge of the current situation, and hence they, too, will be deficient. Further, the more rapid and profound the change, the more likely the deficiency of the predictions.

Fourth, knowledge is incomplete because it is not possible to know the current or future actions of other individuals. Since all knowledge is relative and partial, different people are likely to understand the world in different ways, and hence will not react to changes in the same way. Moreover, since the outcome of current actions can never be completely known, the future actions of others (and indeed of oneself) as they respond to these outcomes can equally never be known.

Economics literature makes a distinction between risk and uncertainty that neatly captures the incompleteness of knowledge. Risk describes situations in which the probability of all outcomes can be determined through analysis (e.g., deductive reasoning, empirical analysis). Risk, therefore, presumes complete knowledge, even though it may consist of probabilities. In contrast, uncertainty characterizes situations in which there is no method for determining probabilities. Uncertainty can

also be extended to cover situations where it is impossible to even establish the set of possible outcomes that might arise.[11] Thus, uncertainty implies incomplete knowledge.

Cognitive Processes and Organizations

The nature of knowledge and the manner in which knowledge is created have significant implications for organizations and the way in which they operate. As Loasby argues,[12] organizations exist because of the lack of complete knowledge and because of the nature of how knowledge is created. If knowledge were complete, there would be little or no need for organizations. Everyone—including CEOs, managers, employees, and customers—would view the world in the same manner and would make the same decisions. While organizations might exist to formally structure the relationships among the various parties that are required for the production, distribution, and sales of goods and services, they would serve no other purpose.

The role of organizations changes fundamentally when it is recognized that knowledge is not complete and that different people view and understand the world in different ways. When information is incomplete and decisions are thus made under uncertainty and ignorance, organizations emerge as places where knowledge is created. Through the various functions that the organization carries out, it is able to generate information, and from it, knowledge. Since the creation of knowledge depends on context, on the nature of the people who undertake it, and on the relationships that exist among these people, organizations will differ in the knowledge they create.

This difference in knowledge, in turn, creates both opportunities and obstacles for an organization. If it is able to effectively create knowledge, the organization is more likely to succeed in whatever activity it is undertaking. If it is unable to create effective knowledge, however, it is

more likely to be unsuccessful. Organizations thus become the vehicles by which various views of the world—whether knowledge frameworks or structures proposed by entrepreneurs, or traditional frameworks that have been used repeatedly—are created, tested, and implemented. In short, organizations are interpretative systems in which knowledge is created and assembled. By undertaking this role, organizations become the mechanisms by which society deals with complexity and change.

Organizations create and assemble knowledge by bringing a number of different perspectives and vantage points to bear on any given situation. Organizations allow people to specialize in certain areas, which is, of course, critical in the creation of knowledge, particularly given the complexity of most issues. In addition, organizations allow for variety, which is important because as noted above, knowledge is never complete. Because conceptual models both reflect and produce world views, people will have unique ways of approaching problem solving and knowledge gathering, although these different conceptual models are not necessarily incompatible. More often, when combined, different conceptual models offer a fuller and richer picture of the world and provide the basis for skilful decision making. Indeed, the greater the incompleteness of knowledge, the greater is the need for a variety of approaches to problem solving as a safeguard against poor solutions. By creating access to a number of different viewpoints and perspectives, organizations generate ideas for consideration and opportunities for individuals to learn from each other.

Thus, to be successful, organizations must have available the expertise and insights of a range of individuals. In addition, organizations must have some way of assembling the dispersed information and knowledge that has been created.[13] The manner in which this is carried out, however, will determine the organization's effectiveness. It is particularly important during times of rapid change, since it is during these periods that historical structures and processes are likely to be relatively ineffective at providing knowledge of how the system will operate and recognizing available opportunities. As a consequence, organizations that fail to adapt their knowledge creation processes are unlikely to fare well in the activities they undertake.

To recap, organizations arise as a vehicle for interpreting the events that occur in the world and for creating knowledge out of this interpretation. This knowledge can be used to provide benefits or advantages to the individuals and groups that created the organization. Indeed, it is the potential for advantage or benefit that causes organizations—be they for-profit businesses, co-operatives, or universities—to be created in the first place.

Organizations differ in their ability to create and assemble knowledge, both because of the different histories and contexts in which they developed, and because of the manner in which they are structured. During times of rapid change in the economy and society, the world view of an organization—and the manner in which it creates and assembles knowledge—will require modification or adaptation. Without this, an organization typically finds itself being "beaten to the punch" by organizations that have a world view or perspective that provides them with an advantage. Indeed, organizational adaptation is almost always about how the organization interprets the world and constructs knowledge. Changes in activities—e.g., in the products that are produced or the customers who are targeted—are invariably a reflection of a different perspective and understanding of events.

Co-operative Business Strategy

As in any organization, the success or failure of a co-operative depends on its ability to create and assemble knowledge—in short, to act as an effective interpretative system. The manner in which it organizes these activities affects its business decisions, and in turn, its performance. As outlined above, these decisions are invariably a reflection of how decision makers in a co-operative perceive and understand events.

To illustrate this connection between the perspective and understanding of events and the performance of the co-operative, this chapter

will analyse two examples of unsuccessful co-ops—Agway and Farmland Industries Ltd. Both organizations had a long history in the agricultural industry and were significant players in their respective sectors. Farmland was the largest agricultural co-op in the US at the time it filed for bankruptcy, and was one of the largest firms in the livestock industry. Agway was the largest agricultural co-operative in the US for much of the 1970s and 1980s. In 2002, both filed for Chapter 11 bankruptcy protection. The discussion of Farmland is based on Randall Torgerson's presentation to the joint meetings of the American Agricultural Economics Society and the Rural Sociology Society in Montreal in August 2003. That of Agway is based on a case study written by Brett Fairbairn for the CARD II Leadership Development Forums in 2003, and on a paper written by Bruce Anderson and Brian Henehan shortly after Agway filed for bankruptcy protection.

Table 1 (overleaf) outlines a number of the factors that have been identified as contributing to the failure of the two co-operatives. These factors are similar across the two firms and have been grouped together to facilitate their analysis and comparison. While there are other ways of interpreting these factors (indeed, this was the essence of the discussion earlier), each of the groupings identified in Table 1 can be directly linked to the ability of these co-operatives to effectively create and assemble knowledge. The remainder of this section will explore these linkages.

Agway and Farmland were both highly leveraged by the time they filed for bankruptcy protection. While a co-operative's financial leverage may not directly affect its ability to create and assemble knowledge, it does affect a co-operative's ability to act on the knowledge it does create. As Loasby notes,[14] organizations faced with a highly uncertain future must develop flexibility so they can adapt to whatever outcome eventually occurs. Both Agway and Farmland clearly had not cultivated flexibility; the most visible evidence of this is the degree to which they were leveraged. While this lack of flexibility cannot provide conclusive evidence as to what cognitive processes were at work inside these organizations, the high debt load is consistent with a world view that the future is highly predictable and/or that management clearly believed they knew how the world was going to unfold.

Table 1: Factors Contributing to the Failure of Agway and Farmland Industries Ltd.

Agway	Farmland
Lack of Flexibility	
Heavily leveraged balance sheet that made co-op vulnerable when specific activities became unprofitable	Heavily leveraged balance sheet that reduced flexibility in economic downturns; subordinated investment made up significant portion of debt, leading to run on callable notes
Complex Organization	
Large conglomerate with interests in many sectors	Large conglomerate with interests in many sectors; loss of core competency
Perception by the management that they could run any business	
Overall goal was growth in sales, not profitability	
Concentration of Decision Making	
CEO was appointed member of the board in 2001, when it was clear that Agway was facing serious financial troubles	Lack of separation of management from the board of directors (CEO was, for a while, a member of the board)
Low turnover among board members	Board of directors ineffective in oversight role
Large board, with representation by districts (not all of which contributed equally to earnings)	
Loss of Member Commitment	
Equity write-downs due to operating losses left members with very little ownership in the co-op	Equity write-downs due to operating losses left members with very little ownership in the co-op
Involvement in nonagricultural operations (e.g., lease financing, insurance, energy) weakened sense of member ownership	Use of joint ventures had unintended consequence of distancing members from the organization
Changes in the agricultural economy were reducing number of members and causing members to interact with co-operative less and less (e.g., direct delivery of goods from warehouse to farm)	Growth in food marketing area through cross-subsidization

Agway	Farmland
Inability to Deal with Structural Issues	
Numerous attempts to restructure throughout the 1990s. Restructuring included a conversion to a centralized organization that dealt directly with members	Tensions in federated system between central and the large locals
With a few exceptions, Agway's agricultural services were losing money while their nonagricultural services were profitable	Serious attempts to consolidate with other regional co-operatives were unsuccessful
Nonagricultural services required more capital than Agway could provide	

Source: Agway—Fairbairn; Anderson and Henehan; Farmland—Torgerson.

In Agway, at least, there is additional evidence to support the latter contention. As Anderson and Henehan note, "There was a longstanding attitude at Agway, and predecessor organizations, that they could manage any type of business, even when other people could not."[15] The persistence of this attitude is consistent with Fairbairn's observation that Agway had a large board of directors with little turnover.

In both Agway and Farmland, there appears to be a lack of separation between management and board. In cognitive terms, the result is that there are fewer places in the organization where knowledge is created and assembled. The board's failure to perform an oversight role noted in the Farmland case is consistent with this lack of knowledge creation.

As discussed earlier, complex situations create circumstances in which attention devoted to one area may impede notice of new information or scenarios in another. Both Agway and Farmland were exceedingly complex organizations with a large number of business lines; they commonly entered into joint ventures with other co-operatives. This complexity suggests that the decision makers in both firms may have been unable to fully focus their attention on the changes underway in all their sectors and markets, and thus unable to entirely comprehend what changes were necessary to keep their co-operatives profitable.

As outlined in the introduction, there have been significant changes in the agricultural sector since the mid-1980s. In the case of Agway, for instance, these changes included a loss in farm numbers due to consolidation, a geographical shift in the dairy industry towards the southwestern US, a growing demand by farmers for highly specialized products and services, a shift in the manner in which farmers were provided with service, and the emergence of new competitors in traditional market areas (e.g., retail). These changes had the effect of significantly reducing the profitability of Agway's agricultural lines. Indeed, with a few exceptions, Agway's agricultural business operations were unprofitable.[16]

While Agway made numerous attempts to restructure its operations throughout the 1990s, no effort was made to deal with the fundamental structural issue that its nonagricultural ventures were generally profitable, while its agricultural business lines were not. As well, the nonagricultural ventures required more capital than Agway could provide, particularly since the agricultural businesses were a drain on capital.

One reason that this structural issue was so difficult to deal with may have been Agway's co-operative structure. The company's cross-subsidization of its agricultural businesses was attractive to its farmer members, who were represented on a regional basis that did not reflect the contribution to volumes and earnings. Thus farmers who were contributing very little to the financial health of the organization had an interest—as well as the ability through their voting rights—to continue cross-subsidization. Given this mismatch of interests, it is not surprising that the knowledge that would have been required to restructure the co-op was neither created nor acted upon.

Cross-subsidization was also an issue in Farmland, which invested in food processing using profits from activities in which farmers had a more direct connection—farm fuel supply. This cross-subsidization, along with a heavy reliance on joint ventures that allowed the company to move into new lines of business, reduced member commitment. In addition, the loss of member equity over the years meant that members had less and less of an ownership stake in the co-op, a dynamic that was also at play in Agway, where member commitment was on the decline as well.

This loss of member commitment may have had an impact on the cognitive processes at work in these two organizations. Specifically, with little to lose if the co-operatives failed, members had little incentive to try and conceptualize the problems that their businesses were facing. As well, the loss of member commitment and the attendant loss in business meant that members had fewer opportunities to provide input into the problems facing their organization, thus directly affecting the manner in which knowledge was created and assembled.

Discussion and Concluding Remarks

While additional research is clearly required, the discussion above suggests that the poor financial performance of Agway and Farmland Industries Ltd. can be linked at least in part to the cognitive processes at work in these co-operatives, which in turn can be linked to their co-operative structure. Put somewhat differently, their business strategies did not successfully position them in their respective industries, and this appears to be directly connected to their ability to fully understand and act upon the changes underway in their sectors.

The establishment of a link between a co-operative's financial performance and the manner in which it creates and assembles knowledge means that co-operatives have to pay much more attention to how they are conceptualizing and understanding the economic and social environment in which they are operating. In particular, the discussion above suggests that co-operatives should pay close attention to the role played by the board and management, as well as the knowledge possessed by its members.

At the risk of oversimplification, the problems facing both Farmland and Agway appear to stem from a lack of diversity in views and perspectives about how the agricultural industry might unfold and, closely

related, from a sense that these co-ops could do no wrong—that they had the world figured out. While these perspectives and dynamics might serve an organization well during times of relative stability, they are antithetical to success when the economic and social environment is changing rapidly.

Given that the rapidity of change does not appear to be lessening, co-operatives must find mechanisms to ensure that effective knowledge is being created and assembled, that world views are challenged, and that new ideas are forthcoming. As suggested by the discussion here, these mechanisms are likely to involve governance structures that limit the power of management and more properly reflect the role played by members, as well as investment decisions that reduce cross-subsidization and create greater member commitment. Greater transparency in the co-operative, a concentration on core activities, and the creation of business units that can focus on a particular group of members are all consistent with making co-operatives more effective at fulfilling their key role—the interpretation of information and knowledge in a highly uncertain world.

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