

Greek Co-ops' Re-Engineering: Exploring the Influences among Organizational Attributes, Strategic Attributes, and Performance

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Abstract

We develop an actual classification entailing traditional vs. reengineered cooperative organizational attributes. Using this classification, we conceptualize and empirically investigate three types of relationships: a) organizational (i.e., collective ownership, control and cost/benefit allocation) and strategic (i.e., entrepreneurial-, market-, and brand-orientation) attributes' influence on performance; b) organizational attributes' influence on market orientation; and c) influences among strategic attributes. With data from 108 CEOs of marketing co-ops in Greece, we explore that strategic attributes have a much greater direct influence on performance than most of the organizational attributes have. The results also suggest positive influences among strategic attributes.

Keywords: cooperatives, attributes, organizational, strategic, performance, Greece

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1 Introduction

Several researchers have analyzed the re-engineering of cooperative (co-op) structures as mechanisms designed to accommodate end-user demand (e.g., Meulenberg, 1979; 2000; van Dijk and Mackel, 1991; Kyriakopoulos, 2000; Kalogeras, *et al.* 2007). One of the arguments highlighted in agribusiness research and practice is that producer-owned organisations are assumed to create value for their owners, but often fail to respond to rapid market changes because they lack a well-developed strategic focus (Peterson and Anderson, 1996). This lack of connection to demand limits the viability of co-ops and requires the re-engineering of their organizational and strategic attributes. The co-op's choices among different organizational and strategic modes are crucial, in particular, in dynamic markets where product adaptations are required (Goldsmith and Gow, 2005).

Co-op literature proposes a variety of organizational models to match organizational and strategic attributes (Cook, 1995; Nilsson, 1998; Kyriakopoulos, *et al.* 2004; van Bekkum, 2001; Chaddad and Cook, 2004). Classifications for different co-op models often use the unique attributes of co-ops as core-criteria. These attributes encompass the definition of co-ops as user-owned and user-controlled businesses that distribute benefits on the basis of use (USDA, 1995). The extent to which co-ops relax their definitional attributes results in organizational forms that range from traditional to re-engineered models (i.e., IOF-like) (Kalogeras *et al.* 2006). The proposed co-op models are assumed to better facilitate co-ops' adaptation to agricultural industrialization, and response to market signals. Several strategic attributes have been identified in business literature as crucial for the development of successful strategies that link firms to their market environment and, therefore, improve their performance. Notably, the attributes of market- and entrepreneurial-orientation (e.g., Kohli and Jaworski, 1990; Kirca, *et al.* 2005; Matsuno, *et al.* 2002) are dominant and well-established strategic attributes that enhance successful participation in downstream marketing activities.

Despite the recognised need for better understanding the influence of organizational attributes on strategic attributes and performance of co-ops, limited research has been devoted to the examination of these relationships. The rich economics literature on co-op competitiveness does not account for historical, sociological and behavioural aspects of co-ops and broader implications for their core attributes re-engineering (Gray and Mooney, 1988). Moreover, previous studies on the co-ops performance have either focused primarily on financial analysis, such as balance sheet ratios assessments (e.g., Getzoglani, 1997; Parliament, *et al.* 1990) or maintain an analytical focus (e.g., Peterson and Anderson, 1996; Nilsson, 1998; Meulenberg, 1979; 2000). However, empirical research addressing the relationships among changing attributes, strategic focus and performance of co-ops is scant with a few notable exceptions. To the best of our knowledge, only the study of Kyriakopoulos, *et al.* (2004) sheds light on the impact of co-op attributes on market orientation and performance. The authors introduced and empirically tested a conceptual framework, which allows the investigation of the effects of the organizational attributes on their co-op firm's outcomes (market orientation and performance). The starting point of their conceptual and empirical analysis is

based on an *a priori* theoretical classification of the attribute elements of agrifood co-ops in The Netherlands. However, such classification schemes may not fully account for empirical anchorage and actual complexity of the examined organizational forms (Verhaegen and Huylenbroek, 2002; Borgen and Hergenes, 2005).

This paper discusses and explores the organizational innovations adopted by marketing co-ops in Greece, resulting from policy reforms. In 2000 a new legal Act (National Hellenic Act - NHA 2810/2000) came in force in Greece, which has removed several legal barriers and permitted the re-engineering of organizational attributes of co-ops. Such changes in the institutional environment may affect substantially the organizational attributes of agribusiness co-ops (Chaddad and Cook, 2004). We develop a more *actual*, real life, classification scheme for classifying organizational attributes of co-ops that may have been – or not - modified after the changes in the legal environment occurred. We are particularly interested in studying empirically the influence of the likely re-engineered organizational attributes on market orientation and performance of co-ops, the influence of several strategic attributes (entrepreneurial-, market -, and brand-orientation) on co-ops' performance, and the influences among strategic attributes (e.g., the influence of entrepreneurial- on market orientation).

Data for this study were collected in a large-scale survey of CEOs of marketing co-ops in Greece in spring 2006. The decision context of Greek marketing co-ops presents a unique opportunity to develop a more actual classification of organizational attributes ranging between the traditional vs. re-engineered co-op models because of the occurrence of recent policy reforms in Greek co-op sector. Agribusiness co-ops are dominant in Greek agricultural economy, particularly, in food and drink industries (MAICh, 2000). The high nutritious quality and health standards of several agrifood products in Greece (e.g., olive-oil, dairy-products, wine) are globally recognized (Damianos, *et al.* 1998). However, the vast majority of Greek co-ops lack well-developed marketing strategies and expertise and often are un-anchored by end-user demand (Baourakis, *et al.* 2002). Hence, an empirical investigation using the decision context of Greek co-ops is also challenging since it may reveal crucial information that allows for a more comprehensive understanding of essential organizational and strategic parameters affecting co-ops re-engineering process and performance.

The remainder of the paper is organized as follows. We first elaborate on the development of a dichotomous classification entailing organizational attributes and their corresponding elements ranging within the “traditional vs. re-engineered cooperative” paradigm, followed by an elaboration on strategic attributes. Then, specific hypotheses regarding the influences among organizational attributes, strategic attributes and performance are formulated. After discussing the survey design and operationalization of the measures, the empirical results are presented and discussed. Finally, we provide a discussion on the results, managerial implications and suggestions for further research.

2 Co-op Attributes

Inspired by Kyriakopoulos (2000); and Kyriakopoulos, *et al.* (2004), we hypothesize that re-engineered organizational attributes influence market orientation and performance of co-ops. Further, we hypothesize that several strategic attributes influence performance and also influence each other. The study's concern is to build a classification based on empirical observations regarding traditional vs. re-engineered attribute elements entailed in a co-op structure. Emphasis is placed, therefore, on the specificities of our decision context by using an inductive approach informed by reality. In this section we, first, elaborate on these specificities of the organizational attributes and next we discuss particular strategic attributes.

2.1 Organizational Attributes

A co-op is as a user-owned, user-controlled business that distributes benefits on the basis of the use (USDA, 1995). This definition is well accepted in the international community of agricultural economists and encompasses the basic organizational attributes on which the co-op structures rely (van Dijk, *et al.* 1997). Coop structures comprising these attributes may be organized in different ways ranging from "traditional" to "re-engineered" (IOF-like) as two extremes.

Agricultural co-ops have traditionally adhered to exclusive members' ownership in the form of direct investments or retained patronage refunds (Knoeber and Baumer, 1983), democratic control (Barton, 1989) and uniform pricing policy (net income allocation through product prices). However, many co-ops in order to adapt to agricultural industrialization have re-engineered one or more of these traditional attributes, allowing for individualized equity shares, inviting non-member parties to partially finance their operations, applying proportionality in decision control, and allocating net benefits through price and personal shares (see Chaddad and Cook, 2004). The degree of re-engineering is assumed to better accommodate the strategic-oriented goals of co-op business firm (van Bekkum, 2001) and reinforce members' commitment and willingness to invest within co-op operations (Kalogeris, *et al.* 2007).

Below we discuss in detail the attributes entailed in a dichotomous classification (traditional vs. re-engineered cooperative structure) in the light of policy reforms. This is the case of agricultural co-ops in Greece that are challenged to restructure their organizational attributes after the National Hellenic Act (2810/2000) was introduced in 2000. The dichotomous classification is informed by empirical observations based on the determination of the articles of the new Act, relevant literature dealing with agricultural co-ops in Greece and discussions with co-op experts and policy-makers in Greece and abroad.¹

Co-ops in Greece: A New Organizational Challenge

Co-ops business firms are dominant in Greek agrifood industry. There are almost 7.000 agricultural co-ops with 780, 000 members, totals which are amongst the highest in Europe (van Bekkum and van Dijk, 1997). These co-ops are involved in activities such as farm input supplies, product processing, and marketing of agri-

cultural produce, and imports/exports (Baourakis, *et al.* 2002). The organizational pyramid of co-ops in Greece consists of three levels. Co-ops that integrate farmers from the same geographical area are defined as first-order co-ops. They are responsible for commercializing their farmer's production, although other services are offered (e.g., supplies, technical support). Even though they represent a first movement towards higher levels of integration in the agro-industry, their local orientation limits the volume and number of products they offer to their clients. That is, second order co-ops (Unions of Agricultural Co-ops-ACOs) were established to commercialize all, or portions, of the production of various first order co-ops. Most of the Greek PDO/PGI products are also marketed by ACOs (EUROPA, 2005). At the peak of the pyramid is PASEGES; the Panhellenic Confederation of Agricultural Co-ops.

Although the sheer number of co-ops in Greek agro-industrial sector indicates that collective action is flourishing, the total turnover of Greek co-ops (0,8 billion EUROS) is 18-times less than the European Union's (EU) average (14.2 billion EUROS) (van Bekkum and van Dijk, 1997). In fact, most Greek co-ops have high production costs, large levels of accumulated debt, low capital equity, and low market shares implying that their members are unable to capture as much of the aggregate surplus as possible (Oustapassidis, *et al.* 1993, Iliopoulos, 2000). Greek accession to the EU (1981) had an impact on the growth of marketing activities; the annual increase in shares was significant for the marketing co-ops. However, the evolution of Hellenic State's intervention after 1980s influenced substantially the establishment and implementation of a viable statutory framework which could enhance the efficient organizational development of agribusiness co-ops in Greece (Gousios and Zacoboulou, 1990). Recent studies provide evidence that the vast majority of Greek co-ops are still traditionally organized and their marketing approaches are generally weak, with products being far less differentiated than those of large-private firms and strategies are short-term and ill-defined (Oustapassidis, *et al.* 1995, Ananiadis, *et al.* 2003). Lambrinopoulou, *et al.* (2006) have identified the intermediate supply chain structures, the high degree of past governmental intervention, the missing social cohesiveness between co-op actors, and the lack of well-structured and focused strategic orientation as key barriers to successful collective action in Greece. Their study reports that less than 30% of agricultural produce in Greece is marketed by co-ops. Most Greek co-ops operating in downstream value-added activities (i.e., processing, marketing) lack entrepreneurial vision and are not able to develop generic competitive advantages in the form of specialization through very selective market segmentation (MAICH, 2000).

In 2000 a new legal act (NHA 2810/2000) came in force in Greece, which has removes several legal barriers for co-ops and permitted the re-engineering of their organizational attributes. It also grants a great flexibility to the co-op's constitutional redefining. The new act offers a unique opportunity to Greek co-ops not only to overcome their structural inefficiencies associated with past governmental intervention and low entrepreneurial activity, but also to opt for a more efficient organizational structure and effectively compete with IOFs in the agrifood industry. The re-engineering of the organizational attributes of Greek co-ops may en-

hance, therefore, their strategic focus and competitiveness. Since policy reforms often reflect the widely accepted social preferences (North, 1990), the new act may reflect, after all, that the old-fashioned beliefs and preferences regarding coop entrepreneurship in Greece have been replaced by more cohesive and rational ones. Moreover, the rapidly changing marketing trends in agrifood sector worldwide and the recent changes of the Common Agricultural Policy (CAP) in EU, challenge Greek co-ops to reconsider their organizational environment if they wish survival and competitive market-shares in the internationalized agrifood industry (Iliopoulos, 2001).

We conducted an in depth study of the new NHA 2810/2000 and we further discussed our inferences with numerous co-op experts and policy makers in Greece and abroad. The review of the relevant literature on co-op classification schemes, the study of the NHA 2810/2000 and the relevant discussions, informed the development of our dichotomous classification with respect to the identification of various attribute elements that range between the traditional and re-engineered definitional attributes of co-ops. Below we discuss the organizational innovations introduced and we present our dichotomous classification scheme.

Control Attribute

The new Act stipulates that only members have voting rights. It is specified that co-ops are free to introduce voting systems proportional to production rights. The voting rights of members have to be in proportion to patronage. It is suggested an upper limit of 3 votes per member for the first order co-ops and 5 votes per member-co-op for second order co-ops. The corporate control regarding essential resource allocation decisions (e.g., allocation of net income, approval of big investment projects and annual financial statements) will be exercised by the member-patrons of the co-op through their general assembly. However, the Board of Directors (BoD: elected representatives by members) is allowed to transfer almost all the decision management rights regarding tactical and operational issues to professional experts who have a high market expertise.

Ownership Attribute

The ownership attribute involves elements relevant to the financial instruments used to determine the claims of members on collective ownership rights, the nature of the right to residual claims, and the financial entry conditions. The NHA 2810/2000 states that co-ops have the right to issue non-voting preferred shares with fixed returns alongside the voting stock. It is also stated that non-members are also entitled to purchase this separate class of stock. In an effort to make these preferred shares highly attractive to investors, co-op's constitution may stipulate that some incentives are provided, such as dividends on those shares from the coop's annual net income allocation to members. Alternatively, members' claim on ownership rights may be pursued if co-ops would set-up public limited companies (Ltd). When a co-op may develop strategic synergies with other co-ops or investors (non-members), for establishing Ltds, it implies that the co-op holds the majority of equity ownership. Those companies are defined as "Cooperative Enterprises" and their stocks should be always registered (nominal shares). Their

Ltds' equity can only be transferred after the completion of the formalities required by law. Moreover, the law provides extra incentive for members to further invest within co-op activities. It specifies that when the stocks of co-op enterprises are due for exchange, other co-ops or co-op members should always have priority over external investors.

The regulation related to the alignment of equity investment with patronage suggests upfront equity investment and compulsory product delivery by members to co-op. It is mentioned that members are free to decide whether to acquire additional stocks always in proportion to patronage or not. So, the level of the upfront equity investment and issuance of extra voting stock in proportion to patronage is a members' choice. Further, the transferability of ownership rights is left upon BoD's choice (e.g., whether stocks are transferred to members or not), but the appraisal of rights is left upon members-patrons' preference and the relevant decision is formed via the general assembly (i.e., whether to increase or decrease the value of the voting stock owned by individual members). Also, it is suggested that members are those who decide whether the voting stock is interest bearing. Strictly speaking, however, the NHA 2810/2000 does not mention that ownership rights are really appreciable, but, at least, points out how member's remuneration, for their contribution to the collective equity capital, could be indirectly compensated for the opportunity cost of their invested risk capital. The regulatory items that refer to redeemability and tradability of ownership rights do not introduce any changes. Members have the right to be refunded the nominal value of their individualized equity upon exit and ownership rights can not be tradable among members. The later implies the absence of secondary internal market within co-ops.

Although the element regarding the allocation of net income relates to cost/benefit attribute, we consider that it is even better tied-up to the ownership attribute, since the net income that an individual member receives is a function of his/her investment in the co-op and, hence, to the ownership titles (s)he holds. The relevant articles and associated regulations refer to the choices that a co-op business firm has for allocating net income. In the traditional organized co-ops the net income was allocated through product prices. The NHA 2810/2000 suggests that the distribution of net income can be made through dividends in proportion to patronage or it can be retained as an individualized short-term loan from members to the co-op or even allocated for an investment project. It is mentioned that at least 10% of net income should be reserved for the unallocated form of equity (reserve funds) until the value of the latter equals to the value of the individualized voting stock. Thereafter no amount is retained, unless the value or the amount of voting stock is increased. In this situation the unallocated equity has to be re-adjusted and the retained earnings mechanism has to be reintroduced. Hence, net income allocation cannot be done as a price supplement and can only be (if) returned as a dividend in proportion to patronage. Finally, the new act states that co-ops' constitution has to define the minimum period of time that a member has the right/obligation to patronize the co-op.

Cost/Benefits Attribute

The Act does not particularly specify the “price paid to members” rule which implies that the responsibility in making such a decision relies on members-owners preference as reflected through their constitutional agreement. For first time in the constitutional history of Greek co-ops, however, it is suggested that co-ops are free to adopt a differentiated pricing policy in terms of volume, quality and produce content to reflect as much as possible the handling costs and market returns of each member’s produce. The price level may be cross-subsidized with returns on transaction-based investment or reflect the market equilibrium price paid through separate dividends (i.e., returns on capital invested). The supply management is determined also through the regulations which specify the delivery rights agreement. The latter can be obligatory and co-ops are also free to choose whether sanctions against members who do not fulfil their delivery obligations will be imposed or not.

Table 1. Organisational Attributes of Co-ops in Greece

Attributes	Traditional: before the NHA 2810/2000	Re-engineered: after the NHA 2810 was introduced
<i>Control</i>		
Voting rule	1 member-1 vote (79.2%)	Proportional (20.8%)
Decision-making	BoD	BoD and Experts
<i>Ownership</i>		
Claim to ownership rights 1/preferred shares	Members only (95.6%)	Non-members also (6.4%)
Claim to ownership rights 2/subsidiary	Members only (75.2%)	Non-members also (24.8%)
Equity investment-patronage alignment	No (55.0%)	Yes (45.0%)
Transferability of rights	No (74.0%)	Yes (26.0%)
Tradable ownership rights	No	No
Redeemable ownership rights	No	No
Appraisal of rights 1 / interest	No (96.8%)	Yes (3.2%)
Appraisal of rights 2/change in fee	No (4.0%)	Yes (96.0%)
Net Income	Through Price	Dividends
Exit barriers	No (73.0%)	Yes (27.0%)
<i>Cost/Benefit Allocation</i>		
Nature of the delivery agreement	Non-obligatory (56.8%)	Obligatory (43.2%)
Sanctions	No (57.3%)	Yes (42.7%)
Differential pricing	Equal (42.4%)	Differentiated (57.6%)
Differential cost pricing	Equal (70.7%)	Differentiated (29.3%)

Source: see text

The information from the above discussion on the re-engineering opportunities of various elements entailed in the definitional attributes of co-ops, constitute the basis of the development of our dichotomous classification scheme. After discussing excessively the organizational innovations introduced for Greek co-ops with experts in Greece and abroad, we considered that our dichotomous classification scheme should entail all the aforementioned elements. However, only these elements which are upon members’ or BOD’s choice to be constitutionally settled, are utilized for further analysis. More specifically, since the NHA 2810/2000 sets particular rules regarding the elements of net income allocation (no price supplement is received), redeemability of ownership titles (refund of nominal value on exit), and exchange of ownership rights among members (no tradable rights),

these elements are simply presented in our classification scheme but will not be examined further. That is, these elements do not allow for the choice of adoption, but rather have to be compulsory implemented as defined by the NHA 2810/2000. Table 1 describes the various elements as ranging between the traditionally vs. re-engineered co-op structure.

The strategic attributes which are assumed to influence co-ops' performance and to be influenced by the re-engineering attributes of co-ops, are discussed in the next sub-sections. After elaborating on these concepts, we present our hypotheses. We pose specific assumptions regarding the influence of the organizational and strategic attributes on the performance of co-ops. Following Kyriakopoulos, *et al.* (2004) we view the performance of agricultural co-ops as a volatile variable resulting from the rapidly changing agrifood environment. Evaluating whether one's co-op is achieving its objectives is far more complex than using simple market-based performance measures as in the case of IOFs (Cook, 1994). Gray and Mooney (1988), Katz (1997), Sexton and Iskow (1988) contend that, due to the absence of secondary markets for co-op issued-stocks (and this is a relevant element to our decision context), simple market-based measures (e.g., financial ratio analysis) may mask crucial insights when one studies co-op performance. In addition, objective measures of performance are often difficult to obtain (Pitt, *et al.* 1999). These arguments prompted us to view co-op's performance as a multidimensional subjective concept which comprises market and financial indicators proposed by previous studies in business literature (Deshpande, *et al.* 1993; Cadogan, *et al.* 2002).

2.2 Strategic Attributes

Entrepreneurial Orientation

Entrepreneurial orientation refers to the processes, practices, and decision-making activities that lead to entering new or established markets with new or existing products (Lumpkin and Dess, 1996). It is expected to stimulate market orientation (Matsuno, *et al.* 2002). An entrepreneurial orientation involves autonomy, innovativeness, risk-taking, proactiveness and competitive aggressiveness. These elements may vary independently but together they give rise to an entrepreneurial-oriented business organization.

Market Orientation

Market orientation has been conceptualized from both behavioral and cultural perspectives and has been proven to enhance businesses' performance (Homburg & Pflesser, 2000). Kohli and Jaworski (1990) define market orientation as "the organization wide generation of market intelligence pertaining to current and future customer needs, dissemination of the intelligence across departments and organization wide responsiveness to it" (p.6). Alternatively, Narver and Slater (1990) take a cultural perspective. They define market orientation as "the organizational culture and climate that most effectively encourages the behaviors that are necessary for the creation of superior value for buyers and, thus, continuous superior profit for business." They view market orientation as consisting of three behav-

ioral components: customer orientation, competitor orientation and interfunctional coordination.

Brand Orientation

Brand-orientation refers to the processes of the organization that revolve around the creation, development, and protection of brand identity in an ongoing interaction with target customers for the achievement of competitive market advantages (Urde, 1994). The proper use of branding creates customer loyalty and functions as an entry barrier (Kotler and Keller, 2006). Customers more often view brands as an orientation guide for their buying decisions, especially in environments of increasing communication and information flows (e.g., agrifood industry) (Hanf and Kohl, 2005). However, creating, developing, investing in and protecting a brand (i.e., adopting a brand orientation) signals a choice of strategy (Urde, 1999). Management of brands should be approached strategically and take a long-term perspective and, thus, may facilitate the implementation of strategies and tactics (Davis, 2002).

3 Hypotheses

Following closely Kyriakopoulos, *et al.* (2004), we hypothesize that the re-engineered organizational attributes of co-ops influence market orientation and performance. We further hypothesize that entrepreneurial orientation is such a general attitudinal firm attribute that defines the context for making-up and implementing market oriented strategies and, consequently, affects organizational performance (Moorman, 1995, Kyriakopoulos, 2000). We extend this modeling framework by hypothesizing that the strategic attributes also influence co-op's performance and that particular strategic attributes influence some others. Figure 1 displays the casual relationships hypothesized for co-op attributes, entrepreneurial-, market-, brand-, -orientation and performance of attributes. In the following sub-sections each specific hypothesis is discussed.

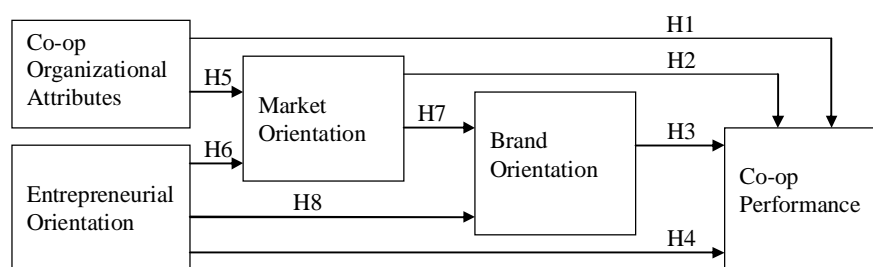


Figure 1: The Influence of Co-op Organizational Attributes and Entrepreneurial Orientation on Strategic Attributes and Performance

3.1 Organizational Attributes – Performance

Proportional voting may motivate members, in particular, large-sized producers, whose capital and patronage is instrumental for business success, to invest further in co-op activities. For instance, large-sized members (in terms of product marketed, firm-size, ownership of landholdings, etc) engaged in a traditional organized co-op structure are essential to the continued success of co-ops (Reynolds, 1997). They are often capable of investing more in co-op activities and projects which have long-term payoff, but co-op practice has shown that they may feel that their economic interests are not captured by the traditional “one-member one-vote” rule (Royer, 1995). Members of any size often lack market-expertise and management capabilities and as co-ops expand and diversify, the need for hiring professionals to deal with crucial strategic, tactical and operational decisions is increasing. Increasing the responsibilities assigned to professional management makes co-ops more viable and efficient, which allows them to better serve members’ needs (Adrian and Green, 2001). Dynamic and professional management makes co-ops efficient and competitive (Van Dijk, 1996). Therefore, we hypothesize that:

H1a: *Control arrangements in re-engineered co-ops positively influence performance*

Re-engineered co-ops relax the traditional ownership arrangements with the aim to reinforce the investment incentives of members. Increased willingness of membership to invest within co-op activities is expected to positively influence performance (Cook and Iliopoulos, 1999). That is, the establishment of internal capital markets provides investment opportunities to further invest risk capital within co-op operations. Recent empirical research has also demonstrated that re-engineered ownership features enhance co-ops’ performance (Cook and Iliopoulos, 1999, van Bekkum, 2001). More formally:

H1b: *Ownership arrangements in re-engineered co-ops positively influence performance*

Co-ops are continuously challenged to respond timely to markets with a constant supply of products that have specific quality standards. Control of supply has been discussed in co-op literature as a significant determinant of operational success for co-ops (Cook and Iliopoulos, 2000). Besides, the foodstuffs produced by co-ops are, typically, subject to value decay over time and demand a well synchronized value chain (Goldsmith and Gow, 2005). Enforceable delivery agreements and differential pricing schemes can, thus, be important means of achieving the goals of constant supply and synchronization. In traditional co-ops, members may act opportunistically and shirk on quality and deliveries because they are not held liable for such behavior (Harris, *et al.*, 1996). That is, by adopting a differentiated pricing policy in terms of volume, quality and produce content to reflect as much as possible the handling costs and market returns of each member’s pro-

duce, co-ops may better satisfy the multi-needs of different groups of members (Kalogerias, *et al.* 2006). Therefore, we hypothesize:

H1c: *Cost/benefit allocation arrangements in re-engineered co-ops positively influence performance*

3.2 Strategic Attributes – Performance

Overwhelming evidence for a positive influence of market orientation on performance has been reported and analyzed in business and marketing literature (e.g., Cano, *et al.* 2004; Kirca, *et al.* 2005). The relationship between market orientation and performance seems particularly strong for manufacturing firms, like most agricultural co-ops (Meulenbergh, 2000; van Dijk and van Boekel, 2004). We hypothesize that:

H2: *Market Orientation positively influences performance*

Brands increase performance because they create a higher price premium and higher market shares (Aaker, 1996). The chain of effects from introducing brand, however, is complicated (Chaudhuri and Holbrook, 2001). Consumers may pay more for a product/service of a particular brand because they are mostly satisfied with the merits of specific attributes and cues of this brand rather than with its alternatives. Greater market shares may result from loyal customers. Brands may even reduce costs because they reduce marketing costs, attract new customers and increase trade leverage (Chaudhuri, *et al.* 2001). Awareness of the potential of brands puts brands at the center of company strategies (Urde, 1994). This enforces brand-oriented companies to emphasize on creating and efficiently using brand equity. Brand equity is used as leverage in all aspects of business management (Wong and Meriless, 2005). Brand orientation, therefore, increases brand equity by stimulating the chain of effects from product value and brand differentiation to customer loyalty, higher prices, higher market shares and eventually higher performance (Chaudhuri and Holbrook, 2001). Moreover, research has shown that European co-ops which pursue and implement product differentiation aiming at the development of solid trade brands, perform much better than co-ops with limited branded market presence (e.g., Mauget and Declerck, 1996, MAICH, 2000). More formally:

H3: *Brand Orientation positively influences performance*

Recent advances in business research identify a positive relationship between entrepreneurial orientation and performance (Lumpkin and Dess, 1996; Naman and Slevin, 1993). Innovativeness, one element of entrepreneurial orientation, is even called a “basic function” of firms, together with marketing (Deshpande, *et al.* 1993; Drucker, 1954). Entrepreneurial orientation may be particularly important in co-ops to overcome an internal risk-avoiding member orientation (Fulton, 1995; Katz, 1997). Most co-ops have started on the understanding that their members are

independent entrepreneurs who decide on the quality and quantity of produce for which the co-op firm subsequently will have to find markets. With the re-engineering of co-op attributes, it can be said that members have to decide that they hand over the power of the market discipline to their co-op firm. That is, co-op firms may attempt to acquire subsidiaries which, although will be fully owned by the co-op, also obtain the freedom to take the entrepreneurial lead in order to increase their market shares. Such firms that create the finishing touch in value-added to either the final consumer or to final distributor are best positioned to fine-tune the marketing-mix and hence, increase co-ops' performance (van Dijk, 1999). We hypothesize that:

H4: *Entrepreneurial Orientation positively influences performance*

3.2 Organizational Attributes – Market Orientation

Voting principles of re-engineered co-ops may appeal to members' incentives. For instance, members of differing sizes may be motivated to contribute more to the collective equity because they may realize that their investments strategy is now represented and rewarded proportionally to their patronage and financial contribution. Members' willingness to further invest in co-op activities have important implication for co-op's attempts to achieve a timely and well-organized response to rapidly changing demands of final markets and, therefore, allow for the creation of more market-driven governance structures of co-op firms (Royer, 1995). Moreover, the assignment of decision rights to hired managers is expected to stimulate market orientation in co-ops. The decision-making in traditionally organized co-ops is more time consuming than in other organizational forms, reduces flexibility, and creates inertia with respect to the reaction to changing market circumstances (Hendrikse and Veerman, 2001). Professional managers are expected to be aware of the importance of being market oriented. Powerful managers retain more resources for the co-op (Russo, *et al.* 2000). Sufficient resources and an awareness of its importance seem enough to make the co-op more market-oriented (Meulenberg, 2000). Furthermore, re-engineered co-ops are expected to be more flexible and if they wish to be market-oriented, they have to allow more entrepreneurial freedom to their management (van Dijk, 1999). Flexibility stimulates market orientation (Jaworski and Kohli, 1993). More formally:

H5a: *Re-engineered control processes positively influence market orientation*

Producers have to be willing to fund market-oriented activities, such as market research, branding, new product development and product differentiation that only generate revenues in the long-run (Narver and Slater, 1990). Although investment in marketing is necessary to gain distribution on grocery store shelves and, thus, consumer awareness, co-op members are often reluctant to provide significant equity capital for investments in their co-op's marketing program. The introduction of re-engineered ownership principles reduces apathy among members to make long-term investments (Hardesty, 2005; Nilsson, 2001). The nature of the ownership structure of a co-op significantly affects members' incentive to invest in their

organizations (Cook and Iliopoulos, 2000; Kalogeras, *et al.* 2007). Moreover, re-engineered co-ops allow non-members investments, particularly, in projects which maintain a long-term focus (e.g. through preferred stock offerings and subsidiaries). This additional capital may increase co-ops potential to implementing ambitious marketing plans. We hypothesize that:

H5b: *Re-engineered ownership principles of co-ops positively influence market orientation*

Hendrikse and Bijman (2002) argue that, depending on the market valuation for specialty product, a self-selection process may develop among the members of a large heterogeneous co-op. Members of generic products maintain their membership of the co-op to benefit from countervailing power. Producers of specialty product may abandon the co-op and set up new small co-ops to benefit from improved innovation. This situation results in leaving co-ops with less innovative members leading to production- than market-oriented practices (Kyriakopoulos, 2000). The establishment of obligatory delivery agreements and individualized pricing mechanisms (e.g., paying a premium to members who deliver products of higher quality) may help co-ops to deal with members' opportunistic behavior (Cook and Iliopoulos, 1999). They may enhance members' loyalty and operational efficiency and, thus, guarantee resources and control mechanisms which enable a coop to engage in market-driven, value-added activities (e.g. market-oriented activities) and to develop products of a good reputation. Therefore, we hypothesize that:

H5c: *Re-engineered cost/ benefit allocation processes of co-ops positively influence market orientation*

3.3 Strategic Attributes

Despite arguments that market orientation may inhibit an entrepreneurial orientation (Christensen and Bower, 1996), most authors find a positive relationship between entrepreneurial orientation and market orientation (Matsuno, *et al.* 2002; Verhees and Meulenber, 2004). Entrepreneurial firms – characterized by high levels of innovation, proactiveness and risk attitude – are likely to fully exploit new ideas that emerge from market orientation processes (Bhuan, *et al.* 2005). This also means that opportunities to meet latent customers' needs may not be missed (Slater and Narver, 1995). The co-op firm is used to unfold new entrepreneurial activities with the aim to give value added to the production of its members (van Dijk, 1999). Co-ops entrepreneurial perspective may increase co-ops ability to pursue aggressive market-oriented activities to better serve various market segments (Meulenber, 2000; Kalogeras, *et al.* 2006) More formally:

H6: *Entrepreneurial Orientation positively influences market orientation of co-ops.*

Market orientation stimulates brand orientation because market orientation capabilities are important to build brands. Successful branding can be associated with the understanding of the three dimensions of market orientation, namely customers, competitors and organizational processes (Noble, *et al.* 2002). The agribusiness industry may benefit from creating brands that allow final consumer to use as an information and purchasing guide (Hanf and Kohl, 2005). Hardesty (2005) discusses how US agrifood co-ops could become more customer-focused through adaptation of a brand-oriented focus. She argues that co-ops marketing branded products have to be particularly resourceful in creating strong brands. Thus, we expect a positive relationship between market orientation and brand-orientation of co-ops. More formally:

H7: *Market orientation positively influences brand orientation of co-ops.*

Entrepreneurial orientation positively influences brand orientation because innovation is important for brands' creation (Weerawardena, *et al.* 2006). 'Getting there first' is important to build brands (Doyle, 1990). For example, being the first to exploit a new market segment, a new positioning or market trend. The entrepreneurial co-op firm has to function in a globalized food industry where the top brands as well as in the standard and private label products (van Dijk, 1997). It is expected that the entrepreneurial orientation of co-op firms results in a beneficial interaction with their target customers when investments in branding are made (Hardesty, 2005). More formally:

H8: *Entrepreneurial Orientation positively influences brand orientation*

4 Research Design

4.1 Sample

Our study's objectives demanded a prominent decision context within which our hypothetical framework could be tested. That is, we selected all the marketing cooperatives (second-order co-ops - ACOs) in Greece. The sampling was derived from relevant information provided through the official list of co-ops from PA.SE.GES. Besides ACOs, only first-order co-ops that commercialize all or part of their production themselves were included in the sample. Based on that stratified criterion, a total of 155 co-op associations were selected (45 first-order co-ops and 110 ACOs) Respondents were the general managers of selected co-ops.

A mail survey was used to collect data from respondents through a formal structured questionnaire. The response rate was 82%. Only respondents without missing values were included in the analyses and 18 respondents were therefore excluded. One hundred and eight respondents were used in all the following analyses.

4.2 Measures

The survey contained multiple-item scales to measure the strategic attributes and performance and direct questions to measure the likely re-engineering of co-op attributes. The survey measures as used in the final questionnaire are available to everyone who may concern upon request to the authors. Below we discuss in more detail these measures for each variable.

Co-op attributes are measured using direct questions that determine whether control principles, ownership principles, and cost/ benefit allocation principles are traditional or re-engineered. For re-engineered co-ops these questions are answered with yes (1) and for traditional co-ops these questions are answered with no (0).

Control attribute was measured using two questions: one about the element of voting rights and one about the element of decision-making responsibility. *The voting principle* is traditional “one member one vote” (0) or re-engineered “proportional voting based on patronage” (1). The element of decision-making responsibility was measured by employing the scale of Andrian and Green (2001) adopted in the context of this study. Managers were provided with 11 activities and asked to determine whether responsibility for these activities falls upon the BOD or the manager. Each activity is scored on a 5-point scale ranging from 1 “board most responsible” to 5 “manager most responsible”. These 11 variables were included in a Principal Component Analysis (PCA). The screen-plot suggests that a one-component solution is appropriate. All items had a loading higher than 0.563 on the first component and the first component accounts for 59 % of the variance. Cronbach's Alpha found equals to 0.93. The mean score of the 11 activities was used for further analyses.

The elements of the *ownership attribute* were measured using 7 questions about alignment of equity with patronage, transferability of ownership rights, 2 questions about appraisal of ownership rights, exit barriers, and 2 questions about outside capital. For re-engineered co-ops these questions are answered with yes (1) and for traditional co-ops these questions are answered with no (0).

Finally the elements *cost/ benefit allocation attribute* were measured by asking 4 questions: two about prices paid to members and two about obligatory delivery agreements. The obligatory delivery agreements were determined by asking whether members are obliged to deliver their entire production to the co-op (based on contractual arrangements) and by asking whether members face sanctions when they do not deliver the quantities set by the agreement. The answers to these 2 questions are highly correlated ($r = 0.645, p < 0.01$). If co-ops have adopted either of the two arrangements, the newly formed variable is assigned a value of 1 (re-engineered), while if co-ops have adopted neither, this variable is assigned a value of 0 (traditional) (Kyriakopoulos, *et al.* 2004).

Entrepreneurial orientation captures three elements: innovativeness, proactiveness and risk taking. The 9-item scale was developed by Covin and Slevin (1986). These 9 items were slightly modified (e.g., wording) to be comprehensible for the

respondents. All items are scored on a 7-point Likert-type scale. The screen plot in a PCA suggests that a one- or two-factor solution is appropriate. In line with the original conceptualization of Covin and Slevin (1986) we chose the one factor solution. Based on the PCA 2 reverse coded items were excluded from further analysis. Afterwards, all items had a loading higher than 0.50 and the first factor accounts for 53% of the variance. Cronbach's Alpha was found equal to 0.85. The mean score of the 7 items was used for further analysis.

Market orientation pertaining to the cultural perspective on market orientation was measured using 7 items. The cultural perspective on market orientation has been conceptualized as a one dimension construct (Hult, *et al.* 2005; Narver and Slater, 1990). The screen plot in a PCA suggests that a one-factor solution is appropriate. Almost all items had a loading higher than 0.67 and the construct found sufficiently reliable. The Cronbach's Alpha was found equal to 0.81. The mean score of the seven items was used for further analysis.

Brand orientation was measured using 5 items adopted from Matear, *et al.* (2004). An additional item was added to measure how much co-ops invest into new brands based on the perceptions of their member. According to Matear, *et al.* (2004) those different parts should be in harmony to serve as a basis for a brand-oriented company. The screen plot in a PCA suggests that the one-factor solution is appropriate. All items had a loading higher than 0.79 and the first factor accounts for 65% of the variance. Cronbach's Alpha was found equal to 0.89. The mean score of the items was used for further analysis. The brand orientation scale was also checked for consistency with co-op's existing marketing of branded products. The correlation between the percentage of branded products and brand orientation is good (Pearson's $r = 0.41$, $p < 0.001$).

Performance was measured by a 3-item scale developed by Cadogan, *et al.* (2002). This scale measures respondents' level of satisfaction with respect to three performance indicators in the last three years: sales volume, new market entry and market share. The items of the scale were slightly modified for the purpose of this study because the original ones relate to export activities. We generated 4 additional items: organizational performance as perceived by the management, organizational performance as perceived by members' performance in relation to growth in turnover, and performance in relation to profitability. PCA indicated two underlying components. One reversed item had a low loading on both components after rotation and was excluded from further analyses. We re-ran the PCA, which again yielded two underlying components. In the un-rotated solution, however, all items load higher than 0.65 on the first component and the first component explains 57% of the variance. Cronbach's Alpha for the 6-item scale was found equal to 0.84, which could not be improved by deleting one more item. The mean score of the 6 items was used for further analysis.

4 Model Estimation and Results.

In table 1 the percentages appear next to each element corresponding to specific each of the three co-op attributes reveal that the vast majority of agribusiness co-ops in Greece have only partially adopted the proposed organizational innovations introduced by the NHA 2810/2000. Table 2 shows the results for the hypothesized relationships developed in the previous section. The results of analyses were obtained by ordinary least squares regression. An F-test is used to test specific hypotheses regarding groupings of explanatory variables (i.e. co-op attribute elements) (Maddala, 1989).

Table 2. Model Estimation Results; Explanatory Variables for Performance, Brand orientation and Market orientation in Greek Agribusiness Co-ops.

	Performance	Brand Orientation	Market Orientation
Brand orientation	0.26***		
Market orientation	0.32**	0.57***	
Entrepreneurial orientation	0.26***	0.40***	0.29***
<i>Control- Attribute</i>			
Voting rule	0.08	0.44	0.06
Decision-making	0.12#	-0.01	-0.07
<i>Ownership Attribute</i>			
Claim 1(preferred shares)	-0.05	0.13	-0.50*
Claim 2 (subsidiary)	-0.29	-0.02	-0.11
Equity-patronage alignment	0.29	0.16	-0.07
Transferable ownership rights	-0.15	0.37	-0.14
Appraisal 1/interest	0.87#	-0.65	0.43
Appraisal 2/change in fee	-0.02	0.25	0.09
Exit barriers	-0.13	-0.16	0.24#
<i>Cost/Benefit Allocation Attribute</i>			
Nature of delivery agreement	0.27#	0.02	0.25#
Differentiated pricing	-0.37*	-0.09	0.25#
Differentiated cost	0.27	0.08	-0.21
R ²	0.48	0.36	0.36
F statistic	5.67***	3.73***	4.05***
N	108	108	108

$p < 0.1$ (one-sided test), * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$ (two-sided tests)

In the first column of table 2 the explanatory variables used in this model are presented. The second column in table 2 shows the coefficients for the variables in our model, which explain performance. H1a, which states that elements of re-engineered control attribute of co-ops positively influence performance, is not supported by our results ($F = 0.97$, $p > 0.1$). Decision-making responsibility is marginally significant, however, if we perform a one-sided significance test ($b=0.12$, $p=0.09$). H1b, which states that the elements of re-engineered ownership attribute positively influence performance, also is not supported ($F = 0.79$, $p > 0.1$). Only the element of appraisal of ownership rights (interest) is marginally significant if we perform a one-sided significance test ($b= 0.87$, $p = 0.07$). H1c, which states that re-engineered elements of cost/ benefit allocation attribute posi-

tively influence performance, is not supported ($F=1.28, p>0.1$). Obligatory delivery is marginally significant if we perform a one-sided significance test ($b=0.27, p=0.09$) but price paid to members (differentiated prices) even has an unexpected negative effect on performance ($b = -0.36, p = 0.10$). H2, stating that market orientation positively influences performance, is supported ($b = 0.32, p = 0.02$). H3, stating that brand orientation positively influences performance, is also supported ($b = 0.26, p < 0.01$). Finally, H4 is supported because entrepreneurial orientation positively influences performance ($b = 0.26, p < 0.01$).

The third column in Table 2 shows the coefficients for the variables in our model that explain brand orientation. Brand orientation is influenced by entrepreneurial orientation ($b = 0.40, p = < 0.01$), which supports H8. Market orientation also influences brand orientation ($b = 0.56, p < 0.01$), which supports H7. The fourth column in table 2 shows the coefficients for the variables in our model that explain market orientation. H5a, which states that the elements of the re-engineered control attributes of co-ops positively influence market orientation, is not supported by our results ($F = 0.55, p > 0.1$). H5b, which states that re-engineered ownership principles of cooperatives positively influence market orientation, also is not supported ($F = 1.20, p > 0.1$). Exit barriers is marginally significant if we perform a one-sided significance test ($b = 0.24, p = 0.09$). Outside capital (preferred shares) also explains market orientation ($b = -0.50, p = 0.09$) but has an unexpected negative sign. H5c, which states that the elements of the re-engineered cost/ benefit allocation attributes influence market orientation, is marginally supported ($F = 2.17, p < 0.1$). Particularly, the obligatory delivery agreements ($b = 0.24, p = 0.07$) and price paid to members (differentiated prices) ($b = 0.25, p = 0.07$) have a positive influence on market orientation if we perform one-sided significance tests. This offers some support for hypothesis 5c. Finally, the entrepreneurial orientation is the single most influential variable that explains market orientation ($b = 0.29, p < 0.01$), which supports H6.

5 Discussion

The findings indicate that the re-engineered co-op attributes do not influence the performance of Greek coops directly. Only a few among the examined elements of re-engineered attributes have a direct marginal positive influence on performance (i.e., managerial decision-making responsibility, appraisal of ownership rights, and obligatory delivery agreements). However, the results clearly show that cultures and processes within co-ops, such as entrepreneurial orientation, market orientation and brand orientation have a much greater influence on the performance of co-op than the re-engineered co-op attributes.

The re-engineered co-op attributes does, however, influence market orientation. It seems that the re-engineered co-op structures have, therefore, an indirect influence on co-ops' performance. Particularly, obligatory delivery agreements, exit barriers, and price paid to members (differentiated prices) have a positive influence on market orientation. Hence, it could be argued that the obligatory delivery agreements set-up the synchronized conditions for a stable supply flow to the market. This situation implies that member investments are tied-up contractually

with long-term agreements within a co-op setting. Building a market orientation requires continuous development of strategies and tactics of co-ops which may, subsequently, result in reductions of members' proceeds for several years (Hardesty, 2005; Nilsson, 2001). These type of investments often reinforce co-ops' performance in the long-run. Further, the findings reveal that differentiated pricing stimulates market orientation but has a negative direct influence on performance. For a true market orientation pricing mechanisms need to be transparent and free from cross subsidization (Kyriakopoulos, 2000), which may explain the positive influence of differential pricing on market orientation. The negative direct influence on performance could be attributed to the fact that adoption of a differentiated pricing mechanism incurred costs.

Our findings provide evidence for positive influences of entrepreneurial-, market-, and brand- orientation on co-ops' performance. They also demonstrate the key-influence of entrepreneurial orientation on market- and brand-orientation and the influence of market- on brand-orientation. The findings are consistent with the dialogue and past empirical and analytical work in business literature regarding the role that these strategic attributes play out with respect to the business performance (e.g., Lumpkin and Dess, 1996; Kohli and Jaworski, 1990; Urde, 1994; 1999; Verhees and Meulenber, 2004) Within the context of this study, one may argue that these results may signal to that Greek co-ops are challenged to pursue and implement a market- and a brand-oriented focus no matter how difficult or expensive to achieve.

On balance, the results confirm and extend previous analytical and empirical work on the influences among organizational attributes, strategic attributes and performance of co-ops (Meulenber, 1979, 2000; Peterson and Anderson, 1996; van Dijk, 1999; Kyriakopoulos, 2000; Kyriakopoulos, *et al.* 2004). The exploration of these influences may provide fruitful thought to co-op researchers to include more strategic management processes in their agenda when study co-ops' structuring and competitiveness. The choice to create a classification scheme of traditional vs. re-engineered attribute elements of co-ops aimed to dispense with the need to include all the re-engineering elements relating to organizational attributes. This allowed for a more detailed investigation on the influences of each attribute's element on strategic attributes and performance of co-ops. In addition, the use of the particular classification scheme redeems the inherent weakness of the cross-sectional nature of our empirical study. Cross-sectional empirical research, unlike longitudinal research, does not allow for the investigation of causal relationships. Nevertheless, the actual scheme used partly compensates for the inability to establish causality between the various relationships, as they aren't only well-grounded in theory, but also anchored to empirical evidence and, thus, to changes which did occur in reality. At this juncture, future research may focus on the empirical investigation of the hypotheses put forward in this study and test whether they are supported within other empirical contexts as well.

Several other research challenges should be mentioned. We contended that businesses that are more market- and brand-oriented are best positioned for success under all environmental conditions. However, this study did not aim to study whether the hypothesized relationships (e.g., the relationship between market-

orientation and performance) are moderated by market conditions or not. Future empirical research may consider accounting the influence of other environmental conditions (i.e., internal – heterogeneity in member preferences- or external competitive forces) associated with the inherently re-engineering process and strategic orientation of co-ops. For instance, it may be challenging within an appropriate decision context to attempt the exploration of the concept of export market-orientation under conditions of low and high environmental turbulence.

EndNotes

ⁱ Several discussions that took the form of in-depth interviews were conducted during winter-spring 2006 with various co-op experts and policy-makers. An incomplete list includes: Dr. G. Baourakis (MAICH/CIHEAM, Greece-GR); Prof. G. van Dijk (Wageningen Univ. The Netherlands-NL); Dr. C. Iliopoulos (NAGREF, GR); Drs. P. Kalaitzis (Research Fellow of The Netherlands Institute for Co-op Ent/ship, NL); Prof. C. Papageorgiou (Agr. Univ. of Athens, Greece); Dr. P. Sergaki (Aristotle Univ. GR); Prof. R. Westgren (Univ. of Illinois at Urbana-Champaign, IL, USA)

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