

Enhancing Competitiveness with Value-Adding Business Initiatives:

Economics and Strategy Issues

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Abstract

Although value-added agriculture has received significant support, there is no framework available for conceptualizing opportunities and selecting ventures. This paper attempts to fill this gap in the value-added business development process by providing a categorical definition of value-added business initiatives and how this definition helps define a broader opportunity consideration set for those contemplating such ventures as well as provide them with a framework for selecting the venture that has the greatest probability of meeting their economic objectives.

Keywords: Value-added, strategy, competitiveness

Introduction

For most individual producers, value-added business development is a means to dealing with the increased strategic uncertainty confronting primary agriculture. The thinking is that by *integrating* forward, they will be able to improve their net revenue and overall profitability situation. Supposing this is true, the question is how does one go about identifying the opportunities for development that can improve producer net revenue and profitability situations? This question is relevant because a review of the initiatives that have thus far been implemented all seem to focus on a limited definition of value-added business development which force producers to select their initiatives from a smaller opportunity consideration set. However, the literature suggests that a broader

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opportunity consideration set enhances the probability of entrepreneurial performance (Ardichvilia, Cardozo and Ray, 2003).

This paper is premised on the observation that there is a poor understanding of value-added agriculture businesses and their boundaries and this constrains the cognitive framework potential investors and entrepreneurs use in identifying value-added business opportunities and determining the economic and strategic foundations of their decisions. These may explain some of the observed challenges that have confronted producer-driven value-added business ventures.

This paper's overall objective is to identify and address the economic and strategic issues that need to be considered if value-added business initiatives in agriculture are going to enhance the competitiveness of agricultural producers. The specific objectives of the paper are as follows: (1) To provide a framework for thinking strategically and economically about value-added businesses in agriculture in a dynamic and uncertain marketplace; (2) To show how appropriate thinking engenders a broad opportunity slate for consideration; and (3) To provide a process for identifying, selecting and implementing successful value-added business initiatives.

We use multiple methodologies in this paper. The first objective is achieved using an assessment of the literature to develop an effective working definition of value-added. The developed definition and literature review provide the tools for developing a framework that categorizes the different opportunities in value-added agriculture. We show that the development of these categories expands the opportunity slate for value-added agriculture, which can alter the perception of entrepreneurs and decision-makers about their choices in the development of value-added businesses. Finally, we develop a

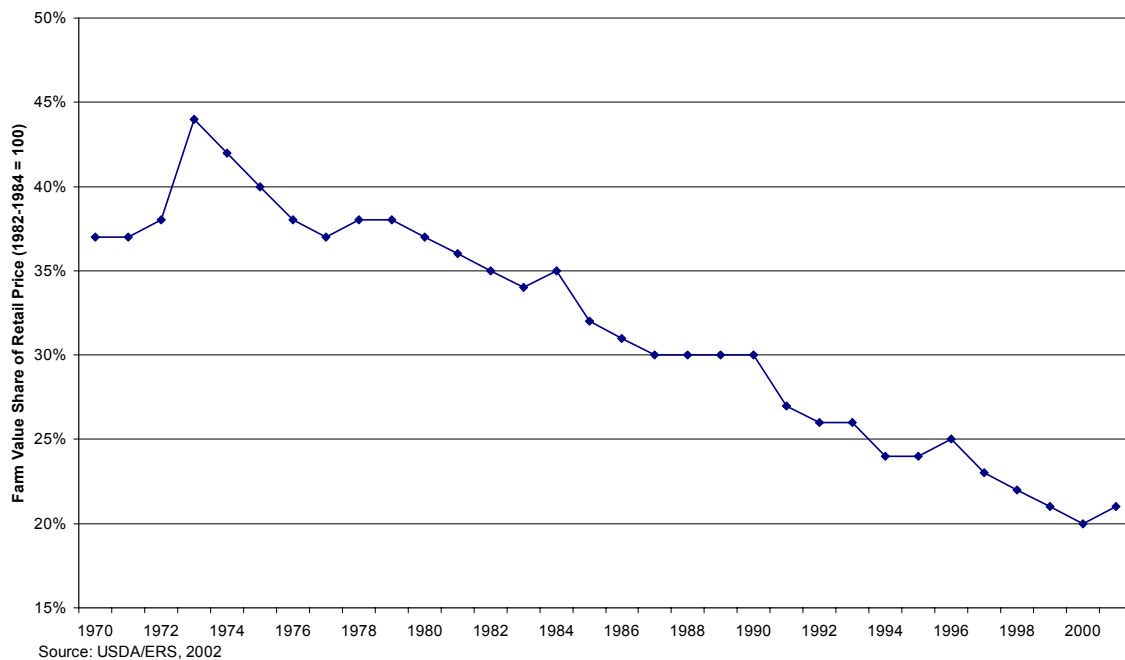
decision flow model to facilitate the identification, selection and implementation of ideas that have gone through the rigor of entrepreneurial assessment.

Motivations, Competitiveness and Strategy

Farm share of retail value has been used as a reason for embarking on value-added agriculture. The reasoning goes thus: Since firms and organizations further downstream in the supply chain are receiving and increasing share of the consumer's food budget, integrating forward and towards the consumer will increase the share of the consumer's food budget received by producers. The data supports the fact that producers are receiving a declining share of the retail value of food (Figure 1). For example, the farm share of retail value has been declining at an average annual rate of 2.3 percent since 1970. However, since the data collected by the Economic Research Service/USDA focuses on distribution of retail value and not profitability along the food chain, we are unable to say anything about how integrating forward will translate into creating higher net revenues or profitability for producers.

Others are looking at industrial products as a means to enhance profitability even as farm commodity prices are perceived to be declining over time. These initiatives cover such product classes as starches and sugars, fats and oils, natural fibers, animal products and forest products. Here too, the motivation has been to ameliorate the lower prices that producers receive for agricultural commodities by investing in processing facilities that allow them to create and expropriate rents that have hitherto been expropriated by others downstream in the supply chain. Like the food rationale, it is not clear if the overemphasis on price disguises the strategy's true value in the value-added venture.

Figure 1: Farm Share of Retail Value of Market Basket of Food Products (1970 - 2001)



While other motivations may be purely strategic in nature (e.g., securing market access by acquiring a customer, enhance supply chain power, etc.), the evidence of these have not been observed in value-added agriculture. However, if these motivations exist in agriculture, they are very rare given the opportunity cost of investment capital and the real economic pressures confronting producers. For these reasons we believe the motivations for value-added agriculture business development are primarily economic, making it relatively easy, one may think, to structure opportunity consideration sets and select and implement the opportunities that maximized the venture's economic outcomes.

Competitiveness, the ability to profitably gain and maintain market share (Agri-Food Competitiveness Council, 1992), is the ultimate test of relevance in the marketplace. Although it can be applied at the firm, industry and national levels (Amanor-Boadu and Martin, 1994), we use competitiveness in this paper within the context of a firm. If a firm's services and products consistently meet or exceed the value

profile of its customers, then they will reward the firm by choosing its products/services over those of its competitors. Thus, competitiveness is dynamic rather than static since the firm has to constantly renew its value proposition in its marketplace to maintain its superior relevance to its customers. When a firm slacks in this effort of renewing its value proposition and allows competitors to make superior offers to its customers, reduce their switching costs and appropriate its market share, its relevance deteriorates and its competitiveness becomes obsolete. This explains the changes that occur in the dominant firm position in many industries. For example, in the retail industry, companies such as Sears Roebuck and Ames dominated the competitiveness scale for a long time until Wal-Mart entered the marketplace with a superior value proposition that resonated with consumers. The same is true in the personal computer marketplace where IBM's inability to renew its value proposition led to the emergence and dominance of Dell Computers. In the food industry, Ocean Spray Cranberries lost its ability to offer superior value propositions to the marketplace, creating Northland Cranberries in the process with its "100 percent juice" value proposition.

While the definition of competitiveness applied in this paper suggests profitability as the relevant metric, profitability itself is a difficult construct to specify. For example, it suffers from potential level bias since it can be measured at the product level, customer level, enterprise level or whole firm level which can cause errors of overabstraction (Castrogiovanni, 1991). There is no theoretical framework specifying which measure of profitability provides a better picture of competitiveness. However, it can be argued that the market environment is a major determinant of the profitability metric to use in assessing firm competitiveness. For example, when dealing with customer selection, it

may make sense to assess profitability on a customer basis to determine the impact of the firm's value proposition on different customers as well as the firm's ability to service these customers effectively. On the other hand, when dealing with multiple products, looking at profitability at the product level may make sense. It is important to determine the appropriate metric of competitiveness in assessing the need to undertake value-added initiatives aimed at enhancing competitiveness because of the need to benchmark it for comparison with the competitiveness engendered by the value-added initiative. Unfortunately, many entrepreneurs do not develop this simple benchmark and are therefore unable to assess the effectiveness of new strategies vis-à-vis old ones to help maximize their economic objectives.

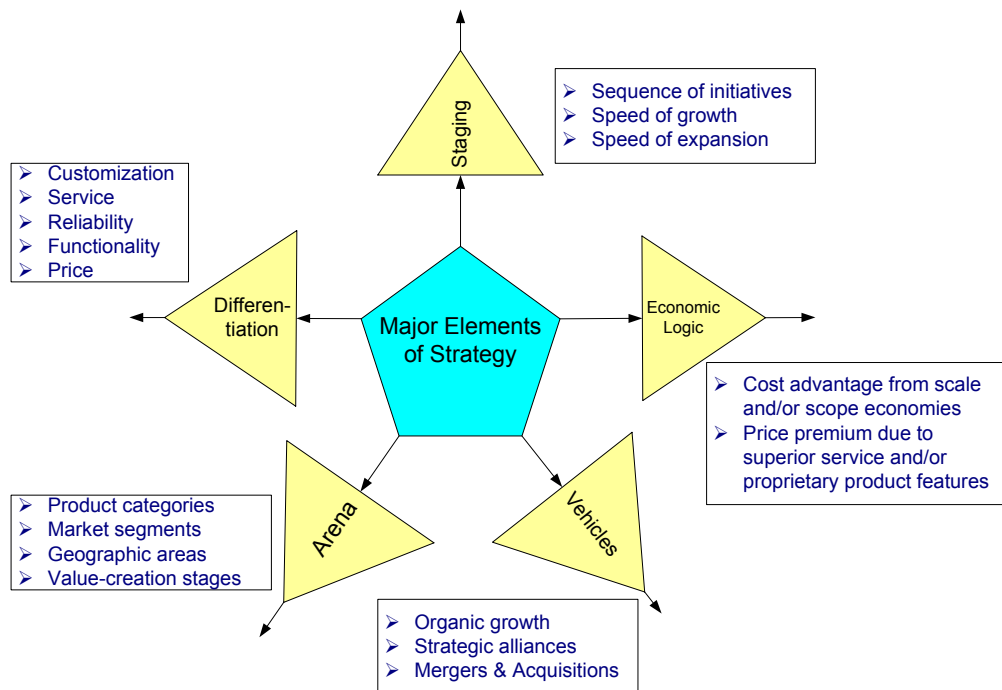
Value-added businesses developed to enhance the economic and financial situation of producers must be strategic in nature and construct. The nature of strategy has been under debate because, like competitiveness, it has become a cliché in the popular press and anything and everything is described as "strategy (Hambrick and Fredrickson, 2001). Strategy is the context in which decisions are made (Bower & Doz, 1979) in the continuous search for rent (Bowman, 1974). Markides of the London Business School argues that the essence of strategy is to make choices on three critical issues: whom to target as customers and whom not to target, what to offer these customers and what not to offer, and how to do all this – what activities to perform and what not to (Mang, 2000). All organizations, including value-added businesses, therefore need to clarify explicitly their decisions on these three issues because these strategic choice decisions determine operational parameters for the organization.

Hambrick and Fredrickson (2001) define the five elements of strategy as follows:

(1) Arenas – where the firm intends to be active; (2) Vehicles – how the firm intends to achieve its objectives; (3) Differentiator – how the firm will win in the marketplace; (4) Staging – the sequence of moves and speed with which the firm will move into its arena; and (5) Economic logic – how the firm will be rewarded in the marketplace (Figure 2).

Agricultural production firms that decide to be active in their supply chains through value-added businesses may seek to develop new product categories, market segments, or geographic areas. Similarly, they may need to use organic growth as the vehicle or develop some form of horizontal and vertical strategic alliances. Their economic logic could be developing a cost advantage either from economies of scale and/or scope or extracting a price premium due to idiosyncratic services or proprietary product features. The combination of these elements constitutes the firm’s strategy.

Figure 2: The Major Elements of Strategy (Adapted from Hambrick and Fredrickson, 2001)



Understanding Value-Added Business

Like competitiveness and strategy, the concept of value-added has become a cliché and has thus evaded the normal reflective intermission when concepts are subjected to scrutiny and assessment. Value-added has been used to describe almost anything and everything that is deemed superior from what has traditionally prevailed except that how superior and by how much is never explicitly stipulated or even implied. Its application in agriculture has not escaped these limitations. Ware (1996), for example, defined value-added agriculture as “the processing of raw materials in both food and nonfood areas to add further value to a product,” stating that its goal is to help producers receive a larger share of the consumer’s dollar. This view appeals to the share of retail value perspective of value-added agriculture and overemphasizes processing as the principal arena for strategy. Moulton (1986, p. 61), on the other hand, applied the concept to agricultural exports, stating that “Value-added exports is a generic term often used to classify exports of semiprocessed and processed products and of unprocessed high-value products.” In the sense that Moulton uses the concept, value-added products are considered substitutes for bulk products, which use labor and other inputs to increase economic activity in the producing regions. This perspective of value-added activities is still processing oriented and its objectives, instead of meeting individual entrepreneurial economic objectives, are orientated towards economic development. Thus, Moulton’s view of value-added fails to fit into the firm level construct presented in Figure 2.

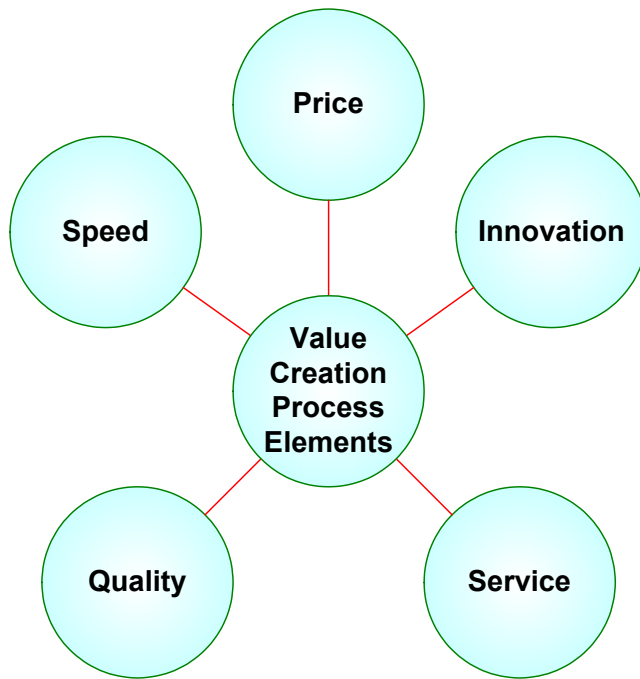
The USDA (2002) indicated that value-added agriculture occurs whenever a change in the physical state or form of an agricultural product or the adoption of a production method or handling process leads to an enhancement in the customer base for

the product and a greater portion the consumer's expenditure spent on the product accruing to the producer. While this perspective on value-added agriculture is still process-oriented, it provides the foundation for thinking about what a useful definition of the concept might be. We may define value-added business initiatives as those in which particular members of a formal or informal supply chain are rewarded for performing activities that have hitherto been performed by downstream firms in the supply chain, or for performing activities that are deemed valuable but have thus far been overlooked by the supply chain. Additionally, this definition bounds value-added initiatives to those involving the current operations of the entrepreneurs. Thus, if the activity does not directly impinge on the current operations of the supply chain, it fails to be a value-added initiative and a plain venture opportunity.

Value, according to Trischler (1996), is the perceived balance between what people receive and what they must give up to get them. Thus, value-added activities encompass all activities that increase what people are willing to give up in exchange for a product or service within their supply chain. The increased willingness to give up more is a measure of the reward customers are prepared to offer suppliers who have, in their eyes, created value. The reward may be in the form of increased prices, increased certainty of demand and/or increased access to market. The size of the reward is directly proportional to the customer satisfaction engendered by the activity and not by the work or effort on the part of the performing organization. The reward forms the underlying economic logic associated with the firm strategy to embark on a value-added business initiative and it comes from one or more value creating elements (Figure 3). The activities that are performed must lead to recognizable value by the customer who

provides the reward. The reward may be higher prices because of activities that reduce the customer's cost such as quality improvement or standardization through presorting, or improve customer's operational efficiency such as an innovative service or speed of service. The relevant focus depends on the adopted strategy but it is important for the firm to be competitive in every dimension of the value creation elements. This implies that the firm must possess the capabilities in all the five elements to either differentiate itself or maintain a competitive position against its rivals in the marketplace.

Figure 3: Elements in the Creation of Value in Value-Added Businesses



The economic logic underlying the reward requires that the reward be large enough to yield a higher total profitability of the performing organization in the post value-added activity state vis-à-vis the pre value-added activity state, whatever the appropriate profitability metric is. For sustainable rewards, the value created has to be sustainable within its cycle time, i.e., the customer's value perception must not dissipate before the supplier has successfully implemented an enhanced value activity.

Value-Added Business Opportunity Consideration Set

Coltrain, Barton and Boland (2000) suggest that there value-added initiatives can occur in two dimensions: innovation and coordination. In its most technical sense, innovation is the introduction of new products, new processes and/or the opening of new markets, and the routinization of innovation, Baumol (2002) argues, is the primary engine of growth in free market economies. Gjerding (1997) opines that the technical perception of innovation limits its usefulness in economics and management, pointing to the expansion of the term to cover organizational change since technical changes in processes usually require an adaptation of new organizational configuration of firms (Gjerding, 1996; Christensen, 1992). Within this framework, then, innovation-type value-added initiatives can be defined to encompass activities that improve “existing processes, procedures, products, and services or creating new ones” (Coltrain, Barton and Boland, p. 5) using existing or modified organizational configurations.

Coordination is the harmonious functioning of all parts of a system. Significant opportunities often exist in enhancing the coordination of products, services and information along the supply chain to create rewards and enhance value along the chain. Chopra and Meindl (2003) note that a lack of coordination can create a bullwhip effect, i.e., fluctuations in orders that exacerbate as we move from retailers through processors to producers. This bullwhip effect causes the cost of fluctuation to increase with its amplitude, and this cost is highest for upstream firms because downstream firms are usually able to transfer all or part of their cost upstream (Cyrenne, 1997). The implication from this is that upstream firms, such as agricultural producers, have greater incentives to enhance coordination systems in their supply chains since the adverse

effects of coordination are highest on them. Thus, coordination-type value-added initiatives focus on the vertical and horizontal relationships among the producers, processors, handlers, distributors and retailers. In the spirit of the reward-focus framework we are using for value-added initiatives, the progenitor of the coordination process must be capable of extracting a rent from the effort if value has been created in the supply chain

We have identified six dimensions in which innovation and/or coordination may occur to generate value-added initiatives. The dimensions are time, location, product/service, process or methods, incentives and information (Exhibit 2). For example, innovating under the time dimension could lead to enhancing the speed with which a particular product or service is provided to increase its value for someone downstream in the supply chain. Png and Reitman (1994), looking at service time competition, observed that on average, consumers are willing to pay 1 percent more in gasoline prices for a 6 percent reduction in congestion. The benefits of creating rewards on speed is additive because it could also lead to a higher turnover in resource utilization and inventory. An example of coordination under the time dimension is just-in-time delivery which is an inventory control system that replenishes and delivers products to a customer just as a current supply is depleted. It requires flexibility, efficiency and precision in the transportation and handling system and an understanding of the bottlenecks creating current inventory patterns.

It is increasingly becoming evident that certain segments of the consumer market are interested in product credence (production methods such as organic and non-biotechnology, ethical issues such as fair trade, animal welfare, environmental and

corporate responsibility, etc.) and are willing to reward suppliers who provide them with evidence that they meet these credence criteria. The information dimension offers opportunities to develop innovative and/or coordination mechanisms to create value in the marketplace and extract rewards for it.

Incentives are the factors that modify behavior in the supply chain, the most common being price and market access. Innovative pricing mechanisms, for example, can be developed to trigger particular demand patterns by customers which may enhance operational efficiencies in logistics or inventory management, and create value in the supply chain. For example, by structuring a productivity pricing agreement with a processor, a producer group can enhance its total net revenues while increasing the competitiveness of the processor. Similarly, enhancing transparency in the incentive implemented systems could facilitate horizontal alliances because of an enhanced sense of fairness in the exchange process in the supply chain.

Figure 4: Opportunity Consideration Set of Value-Added Initiatives

VALUE-ADDED OPPORTUNITY SLATE		
DIMENSION	INNOVATION	COORDINATION
TIME	Speed	Just-in-time Delivery
LOCATION	Convenience	Efficiency
PRODUCT/ SERVICE	Form	Logistics
PROCESS/ METHOD	Technology	Strategic Alliances
INFORMATION	Safety, Ethics	Information Systems
INCENTIVES	Motivators	Transparency

Although Figure 4 has been presented in a 2 dimensional format to aid discussion, types of value-added initiatives can encompass more than two dimensions. For example, an initiative may combine both innovation and coordination with time and location to present a value proposition that the market finds valuable and rewards. Similarly, innovation may be combined with information, process and incentives to create valuable products/services that create value in the supply chain.

Opportunity Scoping in Value-Added Business Development

Because of the cognitive biases surrounding value-added businesses in agriculture, the producers' reference frame for opportunities are limited to processing. Therefore, grain producers tend to focus on the transformation of grain into ethanol or feed while livestock producers often limit themselves to building processing facilities to process their livestock. The opportunities consideration set resulting from these cognitive biases is inefficient because producers limit the opportunities that are possible to them. By using the definition of value-added business initiative presented in this paper and the opportunity consideration set of value-added opportunities discussed, producers can address the cognitive biases that constrain their reference frame. The remainder of the paper illustrates how this may be accomplished.

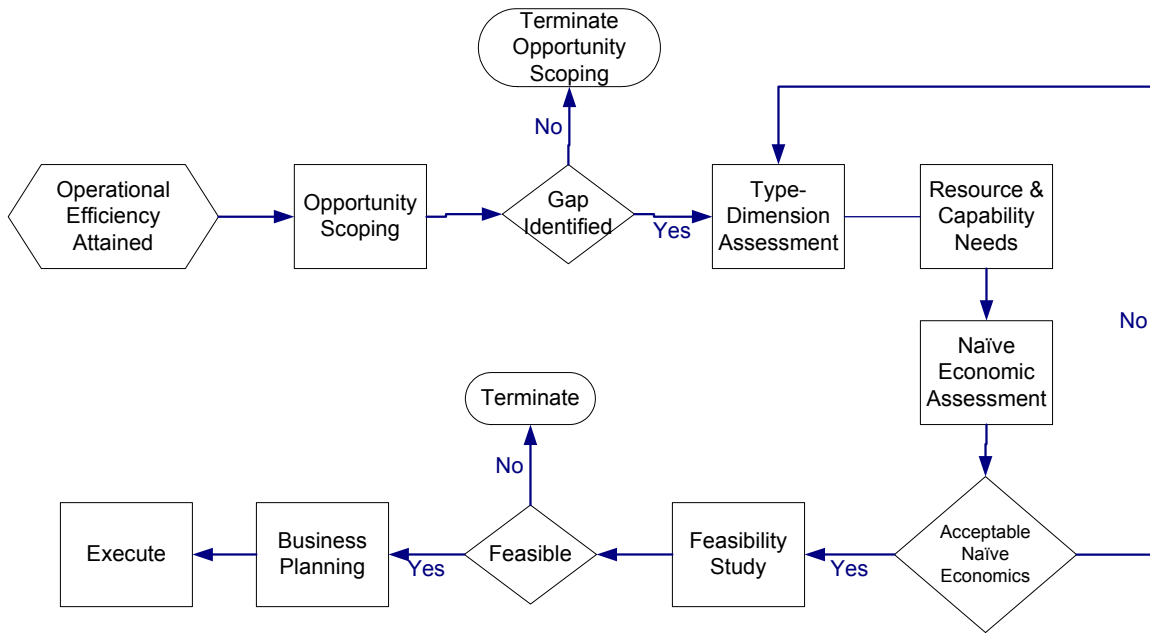
Opportunity scoping is the search for tangible and economically viable opportunities that may be implemented as value-added business initiatives. It begins with gap identification: "What is that a downstream firm does that I can do more efficiently to create value?" or "What is it that I would have loved to have if I were further downstream in the supply chain?" This framing of the gap identification emphasizes the market and

not current resources and capabilities possessed by the person conducting the gap analysis. It allows the opportunity to define the requisite resources and capabilities and prevents resource liability constraints, i.e., opportunities are defined to fit available resources. The process also provides an incentive for the entrepreneur to use a broad lens to assess all available opportunities within the framework, searching for the one that best meets the stated strategic objectives for venture. The economics, i.e., the stated objectives, of the alternative opportunities provide a decision framework for selection and defines the strategy that is implemented to fill the identified gap in the marketplace (Figure 5). The process assumes that the current operations that provide the leap-off for any potential value-added initiative is operationally maximized and all efficiencies exploited (Amanor-Boadu, 2003).

The ability of the selected opportunity to secure the objectives is critical in the opportunity scoping process because it provides the metric indicating whether the initiative is a value-added initiative, i.e., the net benefits emanating from its execution are positive. When filling the gap requires investment in new resources and capabilities, the entrepreneurs must go beyond positive net benefits as an indicator to consider maximization of the raw return on investment as the appropriate economic objective. While accurate economic assessment is probably unwarranted at this time, a naïve assessment to inform the initiative selection process is paramount. Also, at this point, the critical variables of interest are market size and marginal improvement in realized net price. The two together provide an indicator of the relevance factor – i.e., the threshold net benefit that warrants investment in filling the identified gap. If the naïve economic assessment does not provide acceptable results, the entrepreneur may go back to assess

the type-dimension opportunity slate to determine if there is another combination that provides acceptable naïve economic results. Once an acceptable naïve economics is found for a particular initiative, then a full feasibility study is suggested and if the project is found to be technically, operationally and economically feasible, then a business plan may be developed to facilitate the execution.

Figure 5: Decision Process in Developing a Value-Added Business



Conclusions

This paper was deemed necessary because of the absence of a clear framework for assessing the role value-added ventures could play in enhancing the competitiveness of agricultural production operations. We set out to address this gap in the value-added business development domain and showed that by defining value-added initiatives as a reward-driven activity within the supply chain, potential participants in value-added

initiatives are able to develop a broader scope of activities to pursue beyond the processing alternative that most definitions suggest. We showed that the expansion of the opportunity scope enhances the potential of achieving the strategic objectives of value-added initiatives, i.e., enhanced profitability or increased shareholder value. We provided a process for identifying opportunities, selecting viable ventures and proceeding to implementation of value-added initiatives. We noted that value-added initiatives are not a panacea for enhanced profitability because successful value-added initiatives must begin with organizations that have maximized their operational efficiencies. Failing to do this only transfers the inefficiencies at the current level to the value-added venture, depleting any ability to profitably gain or maintain market share over time.

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