

Interdependencies between competitive strategies and activities within sustainable development in the food industry

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Abstract

In strategic management literature, there are only few works considering competitive strategies as well as sustainable development. The contribution extends existing work by a systematic analysis on the interdependencies between competitive strategies and activities for sustainable development in the food industry. The purpose is to theoretically examine the interdependencies between competitive strategies and activities for sustainable development in order to derive practical guidance for strategy executives. Porter's concept of generic competitive strategies as well as the idea of hybrid strategies are applied to systematically analyze these interdependencies. According to Porter's concept, a company's management should dedicate itself to only one of the two main generic competitive strategies – cost leadership or differentiation strategy – in order to generate a sustainable competitive advantage. This is called alternative hypothesis. A company attempting to combine the two generic competitive strategies will end up “stuck in the middle”. According to Porter's so-called U-curve, a company in this position has a low return on investment. The work contradicting the alternative hypothesis has led to the so-called simultaneity hypothesis. According to this simultaneity hypothesis, hybrid strategies, which set out to pursue cost leadership and differentiation strategy simultaneously, are promising and can be successful. Moreover, it is revealed that there is presently a lack of empirical findings regarding the potential success of hybrid strategies in the food industry within the context of sustainable management. The contribution provides guidance on choosing competitive strategies and appropriate supporting activities within the context of sustainable development. It is shown that companies who follow the idea of sustainable development uncompromisingly will often have problems to establish the strategy of cost leadership.

Keywords: competitive strategies, cost leadership, differentiation strategy, generic strategies, hybrid strategies, simultaneity hypothesis, sustainable competitive advantage, sustainable development

1. Introduction and Literature Review

Over the past several years, considerable research effort in the area of economics and management has been devoted to ecological topics and aspects of sustainable development (Bansal, 2005; Elkington, 1994; Gladwin et al., 1995; Keong, 2005; Molina-Azorín et al., 2009; Porter and van der Linde, 1995; Shrivastava, 1995; Yu et al., 2009). In particular, Porter's concept of generic competitive strategies is discussed both in the context of environmental management (Orsato, 2006) and of sustainable development (Cruz et al., 2006; Shrivastava, 1995). Orsato (2006) considers the environmental perspective of sustainable development and proposes a concept of four environmental

strategies. Cruz et al. (2006) ascertain that companies cannot immediately shift from a traditional economic and financial approach to one of sustainable development, since they must first undergo a learning process. Shrivastava (1995) also focuses on the environmental perspective and converts Porter's competitive strategies into ecologically sustainable strategies. Moreover, Porter and Kramer (2006) discuss interdependencies between companies and society within the concept of corporate social responsibility (CSR), as well as how to gain competitive advantages by helping to solve selected societal problems.

Furthermore, Porter's concept of generic competitive strategies has been used extensively to analyze food industry practices (e.g. McHugh et al., 1993; Ottesen, 2006). However, there has still been no comprehensive analysis of interdependencies between Porter's generic competitive strategies in the food industry and activities within sustainable development. The contribution made by this paper is to show which activities for sustainable development are suitable for which generic competitive strategies in the food industry. Moreover, the research that has been done on competitive strategies within the context of sustainable development does not address the so-called simultaneity hypothesis (Corsten and Will, 1993), and especially not hybrid strategies (Corsten and Will, 1993; Miller and Dess, 1993).

Furthermore, it should be noted that this paper sets out to analyze the interdependencies between competitive strategies in the food industry and activities within sustainable development, and not to analyze the interdependencies among a company's activities, since that has already been done elsewhere (e.g. Porter and Siggelkow, 2008).

2. The concept of sustainable development

The prevailing understanding of sustainable development mainly derives from the definition by the World Commission on Environment and Development. They defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987). This definition has been widely accepted in the literature (e.g. Crals and Vereeck, 2005; Spangenberg, 2010; Tsai and Chou, 2009).

Sustainable development and sustainable management are often viewed from an ecological or environmental, an economic and a social perspective (e.g. Biloslavo and Trnavčević, 2009; Porter and Kramer, 2006). The social and also the environmental perspective are regularly considered within the concept of CSR (Paul and Siegel, 2006). The following analysis concentrates mainly on the ecological perspective. From a macroeconomic point of view, this perspective has the character of being a necessary condition for the two other perspectives, since destruction of the environment re-

moves the basis for economic and social action. However, the economic perspective is also considered in order to determine which activities within sustainable development are appropriate for superior competitive strategies.

3. Porter's concept of generic competitive strategies

The two essential strategies in Porter's concept of generic competitive strategies (Porter, 1980/2004) are overall, i.e. industry-wide, cost leadership and overall differentiation strategy.

The aim of cost leadership is to realize lower costs than all competitors. A prerequisite for achieving this industry-wide lowest cost level is to capture a high market share and thus produce large quantities. This permits cost degression on the basis of experience curve effects, spreading fixed costs among a large number of products, and exerting market power.

By contrast, differentiation strategy is usually confined to a small market share. A company pursuing a differentiation strategy differentiates itself from its competitors by offering a unique benefit to its customers and thus establishing a unique selling proposition (USP). Examples of such benefits include high product quality (quality leadership), high innovation intensity (technology leadership), low time-to-market (time leadership) or a special image (image leadership). Differentiation strategy, in contrast to cost leadership, is thus not a homogeneous strategy but a bundle of different strategy types.

The third strategy in Porter's concept of generic competitive strategies is focus (Porter, 1980/2004) or niche strategy (Nielsen, 1987; Shrivastava, 1995). A company may focus on a geographic market, a customer group or a product group in order to better serve this niche market. This strategy is not a distinctive strategy, since it is a focused application of either cost leadership or differentiation strategy to a niche market. This is why focus is neglected in much of the work dealing with Porter's concept of generic competitive strategies (e.g. Arendt et al., 2005; Parnell and Wright, 1993; van der Wurff, 2004; Wiese, 1994).

According to Porter's concept, a company's management should dedicate itself to only one of the generic competitive strategies in order to generate a sustainable competitive advantage. This is called inconsistency hypothesis (Corsten and Will, 1993). A company attempting to combine two generic competitive strategies will end up "stuck in the middle". According to Porter's (1980/2004) so-called U-curve, a company in this position has a low return on investment. A common explanation for the inconsistency hypothesis is that creating a USP to establish a differentiation strategy raises costs, and these costs are an obstacle to achieving the strategic aim of cost leadership to realize lower costs than all competitors. In strategic management literature, there is some older work generally supporting the inconsistency hypothesis (Dess and Davis, 1982, 1984; Hambrick, 1983) as

well as work contradicting it (Hall, 1980; Hill, 1988; Kim et al., 2004; Miller and Dess, 1993; Miller and Friesen, 1986; Murray, 1988; Parnell, 1997; Parnell and Wright, 1993; White, 1986). The work contradicting the inconsistency hypothesis has led to the so-called simultaneity hypothesis. According to this simultaneity hypothesis, so-called hybrid strategies, which set out to pursue cost leadership and differentiation strategy simultaneously, are promising and can be successful. An example of an activity supporting such a hybrid strategy is employing computer integrated manufacturing (CIM) systems (Corsten and Will, 1993). CIM systems can enable a company to cut costs and simultaneously achieve higher quality. It is beyond the scope of this paper to discuss the controversy surrounding these hypotheses and its implications in depth. This has been done elsewhere (e.g. Corsten and Will, 1993; Parnell, 1997, 2006). The controversy nevertheless raises the question of whether hybrid strategies can be successful within the context of sustainable development in the food industry.

4. Categorization of activities for sustainable development

Activities for sustainable development could be categorized according to the two dimensions of “effects on costs” and “effects on food product quality”. Activities which bring about a reduction in food product quality are not considered in the following, since it is assumed that companies do not usually undertake such activities to support a competitive strategy.

First of all, four activity categories are developed on the basis of the two dimensions. A fifth activity category is then introduced. This fifth category is a residual category for activities whose effects on costs and on food product quality can only be determined case by case.

The first category contains activities that increase costs in the long term but do not affect food product quality. Examples of activities within this category are the utilization of renewable energy and the investment in emission filters that are not required by law. Activities in this category are usually undertaken only by companies that consider environmental care to be important or by ecologically sustainable companies.

The cost of undertaking activities in this category may make it difficult for companies in the food industry to achieve cost leadership, since a competitor who is also pursuing cost leadership realizes lower costs *ceteris paribus* by neglecting such activities. Moreover, successfully pursuing a differentiation strategy could prove difficult because activities in this category do not increase food product quality and hence do not lead to a higher willingness to pay. Producing food using renewable energy has no effect on the quality of the food. A company must therefore undertake additional activities to communicate the unique benefit and convince customers that higher prices for the food products are justified. Customers must be persuaded to pay higher prices for the food products be-

cause renewable energy is used in their production, or low-emission means of transport such as rail or inland waterway are employed. The classical way to communicate the USP is to use advertising. Another way of communicating the USP of a product to customers is to place a statement on the package or on the product itself that it is produced sustainably. A company could also think about putting a sustainability label on the packaging (De Boer, 2003). Examples of such sustainability labels are some of the Green Tick™ labels (Harris, 2007), and the label of the organic cultivation association Bioland (Bioland e.V., 2009). However, it might be difficult to gain customers attention with sustainability labels due to a growing number of such labels.

The second category encompasses activities that increase costs in the long term and have a positive effect on food product quality. An example of an activity within this category is refraining from using chemical fertilizers. Refusal to use chemical fertilizers increases unit costs, but food product quality rises because the processed food is less burdened with pollutants.

Given the costs of these activities, cost leadership is not normally a strategic option. However, differentiation strategy suggests itself because the high quality of the food products can be used to establish a USP.

The third category contains activities that decrease costs in the long term but do not affect food product quality. The activities in this category aim at reducing input, especially costs, at the same output in terms of quantity and quality. For example, old machines can be replaced by new resource-efficient or eco-efficient machines to save electricity, water and gas. This has already been discussed extensively (e.g. Porter and van der Linde, 1995; Orsato, 2006) and is actually happening within the trend of green information technology (e.g. Branker et al., 2010; Sturdevant, 2008). At present, many Chief Information Officers (CIOs) are replacing old information and communication technology systems with new more resource-efficient ones (“green computing”). In the short term, fixed costs of investments in new machines incur. However, lower resource consumption is synonymous with lower variable costs, so that in the long term costs can be reduced, and the break-even-point of the investment is exceeded.

The activities in this category are suitable for cost leadership, since they positively affect attainment of the strategic goal of realizing lower costs than all competitors. If a company in the food industry chooses ecological leadership as a type of differentiation strategy, activities in the third category are also suitable on account of the congruence of the goals of reducing resource consumption and cost. In the case of differentiation strategy, the ecological USP must be communicated to customers, which is possible using sustainability labels, for example. However, a problem may be that communication of the ecological USP generates costs, making it difficult for a company to realize lower

costs than all competitors if it intends to establish a cost leadership and a differentiation strategy simultaneously.

The fourth category includes activities that reduce costs and improve food product quality. An example of an activity in this category is the replacement investment in new machines that both consume fewer resources and guarantee higher food product quality.

Activities in the fourth category are suitable for achieving the strategic aim of cost leadership as well as that of a differentiation strategy. Following the simultaneity hypothesis and contradicting Porter's inconsistency hypothesis, it makes sense to carry out activities in the fourth category to support a hybrid strategy, or especially a hybrid sustainability strategy. However, empirical analyses are required to study the efficacy of hybrid strategies within the scope of sustainable development in the food industry, since so far there are no known hybrid strategies that cover all three perspectives of sustainable development. Nevertheless, there are examples from other industries of activities or bundles of activities that directly affect the ecological as well as the economic perspective of sustainable development. Porter and van der Linde (1995) describe an example from the Dutch flower industry. In this particular case, the flowers are cultivated in closed-loop systems in greenhouses. Since the flowers grow in rock wool and water, no soil is contaminated, and the need for pesticides and fertilizers is reduced, which is desirable from the ecological perspective. Moreover, Porter and van der Linde point out that the quality of the flowers is improved because of the more stable growing conditions in the closed-loop-systems; at the same time, because the flowers are raised on special platforms, the handling costs are reduced, which directly and positively affects the economic perspective. There is also a possible indirect effect on the social perspective of sustainable development. The avoidance of soil pollution could have positive social effects such as a healthier living environment. In the same way, the reduction in costs could lead to improved incomes. However, as stated above, further research is needed to analyze hybrid strategies within the scope of sustainable development.

The fifth category is for activities whose effects on costs and food product quality can only be determined in each individual case. One example is training employees to act in the best interests of sustainable development. Initially, employee training generates costs. It can also continue to generate costs in the long term if employees engage in cost-intensive activities as a result of the training. Such training falls into the first or second category. Training employees can also lead to a reduction of costs in the long term if, for example, employees begin to use resources more efficiently. In this case training can be assigned to the third or fourth category.

Further examples of activities within the fifth category are sourcing from regional suppliers and self-restriction to regional markets in order to limit the consumption of resources in the transport of

intermediate and end products, and keeping emissions as low as possible (Stephens et al., 2003). Such activities are discussed within the food miles concept (Stagl, 2002). Indeed, transport costs could be reduced by such regionalization activities. However, whether the limitation to regional suppliers leads to higher costs due to higher purchase prices must be determined in each individual case. Furthermore, lower production outputs are possible, since the capacities of regional suppliers may only be sufficient for a limited quantity of intermediate products, or the potential of regional markets may not justify higher production outputs. Lower outputs could mean that economies of scale are not generated and cost degression effects therefore not realized. Moreover, in each individual case it should be checked whether the regionalization-induced reduction in production outputs has a negative effect on efficiency, wiping out both resource consumption savings and emission savings. In this extreme case, it is worth asking whether regionalization is a wise activity within the context of sustainable development, at least from an economic and an ecological perspective. However, from the social perspective of sustainable development, regionalization could be seen as a wise activity even in this extreme case. Ensuring transparency regarding the conditions of production along the entire value chain may prove difficult if the suppliers' sites are located far away from the company's sites. It may also prove difficult to control the labor conditions sufficiently to ensure good treatment of employees.

It is also important to check in each individual case whether regionalization affects food product quality. A lack of transparency regarding the production process can be a reason for regionalization. For example, regionalization can be used to reduce the risk of substances which are prohibited by law or dangerous to health being used in the production process. A further argument for regionalization is that long transport distances could adversely affect food product quality. Certainly, there are many food products – instant food products for example – whose quality is not usually affected. Yet long-distance transport can be a problem for fresh food products, since fruit and vegetables especially may lose vitamins and taste en route. Moreover, food can be polluted with harmful chemical substances. For example, poultry meat produced outside the European Union (EU) may be encumbered with antibiotics not allowed in the EU.

The restriction to regional suppliers and the focus on regional markets are decisions implying a niche strategy. Whether a company in the food industry chooses a cost leadership, a differentiation or a hybrid strategy for the niche needs to be decided in each individual case, and also on the basis of the effects on transport and production costs as well as on food product quality.

5. Strategic Consequences for ecologically sustainable companies in the food industry

Activities within the first and the second category and potentially some activities in the fifth category generate costs and thus conflict with the strategic aim of cost leadership to realize lower costs than all competitors. This is why companies pursuing cost leadership are recommended to focus on activities within the third and the fourth category, and on those activities in the fifth category that enable them to cut costs in the long term.

Companies steadfastly pursuing the idea of sustainable development and thus implementing activities from all five categories should choose a differentiation strategy to operate successfully on the market. In the case of a differentiation strategy, the company must take into account that the costs and especially the additional costs of differentiation are covered by the expected revenues. Furthermore, the company must take care to differentiate itself from competitors who offer bio or eco food products without considering sustainable development in a consistent way. If these competitors refrain from activities within the first category, they can produce at lower costs than the companies who consistently follow the idea of sustainable development, and they can still promote their food products as bio or eco food products. A convenience food producer, for example, who produces frozen vegetables cultivated without the use of chemical fertilizers can distribute them as bio or eco food products (activity from the second category), even if nuclear energy is employed in the production process. However, a convenience food producer uncompromisingly following the idea of sustainable development would have to utilize renewable energy (activity from the first category) and would thus incur higher costs. Food producers who pursue the idea of sustainable development without compromise can essentially use two instruments to differentiate themselves from competitors selling bio or eco food products. The first is to put sustainability labels on the packages of their food products, and the second is to conduct information campaigns on sustainable development. Companies could consider utilizing the internet to provide information on their sustainable development activities at low cost (Biloslavo and Trnavčević, 2009).

Companies in the food industry focusing on activities from the third and the fourth category could possibly realize a hybrid strategy. This contradicts Porter's inconsistency hypothesis, but could be theoretically justified with the simultaneity hypothesis.

Basically, a differentiation strategy must be recommended for companies in the food industry who uncompromisingly follow the idea of sustainable development, since some activities within sustainable development increase costs in the long term and thus make it difficult to establish cost leadership. A further strategic option for such companies in the food industry is to employ hybrid strategies. However, up to now there has been a lack of empirical findings regarding the potential success of hybrid strategies within the context of sustainable development.

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