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Achieving Strategic Fit in a Food Value Chain: Further Evidence and the Link with Strategic Scope

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Abstract

Maximising value in a food value chain requires the achievement of a strategic fit of services applied to the transfer and sale of heterogeneous products in different channels to meet the varying requirements of customers. However, the approaches offered in the supply chain management textbooks do not provide rigorous analytical tools to achieve that optimal mix. To overcome this deficiency, an approach based on the standard microeconomic framework of the production possibilities frontier and the iso-revenue curve has been used to demonstrate the optimal mix of attributes from responsive and low-cost strategies, applied on a whole-of-chain basis. The optimal mix depends on both the technical feasibility of production and the relative unit returns from each product. In this paper, further real-world examples are provided, and the evidence suggests that commercial decisions on the cost-responsiveness mix have been made in accordance with the proposed framework. The relationship between strategic fit and strategic scope is also explored.

Keywords**:** efficiency; strategic fit; supply chain management; value chain

Introduction

Chopra and Meindl (2016) explain the importance to performance of achieving strategic fit between a company's competitive strategy and its supply chain strategy. They further discuss the "importance of expanding the scope of strategic fit from one operation within a company to all stages of the supply chain" (p. 31).

Their distinction between responsive chains – those that react quickly to market uncertainty and to meeting changing consumer demands – and chains that operate at the minimum cost, which they termed "efficient chains", is valuable in understanding decisions on the best strategic fit for a chain facing demand uncertainty. However, this distinction is subject to analytical confusion by conflating the terms, efficient and low-cost, and it is of limited use in making an analytical decision on how much product to supply through a chain or its channels with different attributes of responsiveness in an uncertain environment. Their approach is offered with minor variation in several of the other supply chain management textbooks.

In a previous paper (Mounter et al., 2016) we have criticised the approach offered by Chopra and Meindl (2016) on four counts: confusion between efficient and low-cost chains; limited analytical usefulness; inability to account for technical inefficiency; and establishing the appropriate extent of strategic scope.

An alternative and, in our view, preferable approach is to represent the two different attributes of a chain as responsiveness and low cost, and to analyse them in terms of the food product or products emanating from them. That is, to structure the decision framework to determine how much responsiveness to include in a particular chain, given that it is rare that a chain possesses all possible responsiveness attributes or is completely devoid of such attributes. To keep the exposition simple, the curve of the production possibilities frontier (PPF) can be used to determine the extent of scope economies between responsiveness and low cost for two value chains in the same network (Porter, 1985) or two channels within a value chain, or for a single value chain with different levels of value-adding activities. The standard iso-revenue curve (IC) can be used to portray the returns available from the market for products with differing levels of responsiveness. This approach overcomes the first three criticisms that have been levelled at the Chopra and Meidl (20016) model.

In Mounter et al. (2016), this approach was formally developed and applied to decisions in the Australian beef value chain in relation to the provision of Meat Standards Australia graded beef, as an indicator of a highly responsive output from that value chain. The approach is summarised in the next section.

In the remainder of the paper we then discuss two further examples of industries which appear to have used a similar framework to determine the optimal level of responsiveness for their value chains. The two examples are the United Kingdom fresh potato value chains, and the Australian wheat industry value chains. They are described and discussed based on existing literature in demonstrating some of the responsive attributes that currently exist in the value chain or which could be added if the expected additional revenues exceed the additional resource costs of providing them. These mini case studies demonstrate how decisions have been made in practice in different circumstances in accordance with the principles enunciated. Diagrams used in the studies are presented in a stylised manner for illustrative purposes, and are not based on empirical evidence. The paper concludes with some comments on the relationship between strategic fit and strategic scope.

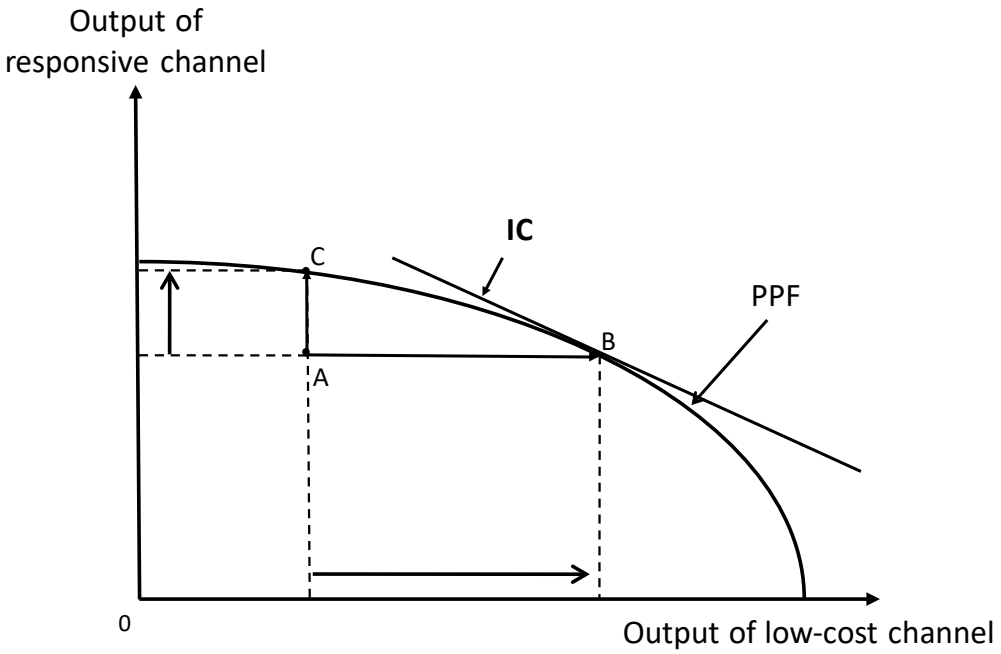
The Suggested Approach

An unsatisfactory aspect of Chopra and Meindl's (2016, pp. 37-41) treatment of implied demand uncertainty is that they do not present a method to determine the optimal mix of products from responsive and low-cost channels within a value chain or the optimal level of responsiveness attributes in a particular value chain. They just say that higher levels of demand uncertainty imply the need for more responsiveness, and lower levels imply the need for a focus on lower cost. To paraphrase: If demand uncertainty is low, a low-cost value chain is the best strategic fit; conversely if demand uncertainty is high, a responsive value chain is the best fit. A poor fit means lower chain surplus to be shared among the chain participants.

We propose using the standard microeconomic framework of the production possibilities frontier (PPF) and the iso-revenue curve (IC) to determine the optimal mix of attributes. The PPF reflects the maximum attainable combinations of output of two products, which may be produced from the same set of inputs (see for example, Gans et al., 2012, Part V). In the current context, the PPF can be used to ascertain the extent of trade-offs between responsiveness and low cost channels within a value chain or trade-offs in the level of responsiveness attributes in a chain with different levels of

value-adding activities (Figure 1). The IC shows all possible combinations of sales of the two products that generate a given level of total revenue. Both the PPF and IC curves are configured as whole-of-chain concepts. The optimal mix occurs where the IC is tangential to the PPF (Gans et al., 2012) – the maximum level of output from a given set of resources receiving the maximum amount of revenue, such as at point B in Figure 1. Thus, the optimal mix depends on both the technical feasibility of production and the relative unit returns from each product. Consistent with the observations made by Chopra and Meindl (2016), the slope of the IC needs to reflect the fact that a value chain is likely to achieve higher prices for its product when it is more responsive.

Figure 1. Technical inefficiency in a food value chain



An expected iso-revenue curve (EIC), as demonstrated by Mounter et al. (2016), is used to reflect the important issue of demand uncertainty influencing strategic fit decisions for a value chain. As noted by Chopra and Meindl, there is likely to be a strong correlation between implied demand uncertainty and the need for responsiveness in the value chain. Hence, a way around this problem is to treat the IC as an EIC, based on the probabilities of achieving a range of product prices with varying levels of responsiveness.

To demonstrate, we initially concentrate on one product whose throughput flows along two separate channels within a value chain, one being a responsive channel and the other being a low-cost channel. The decision facing value chain members is to choose the optimal mix of the two channels. Because the probability of achieving a high price would be greater in a responsive channel in the value chain, an EIC would favour producing more product from such a channel (Mounter et al., 2016). The optimal mix of channels in the value chain reflects the fact that responsiveness is rewarded by the greater likelihood that consumers would be willing to pay for the attributes delivered by the more responsive channel. Where there is no extra pay-off from being responsive, it pays a firm to produce primarily at low cost.

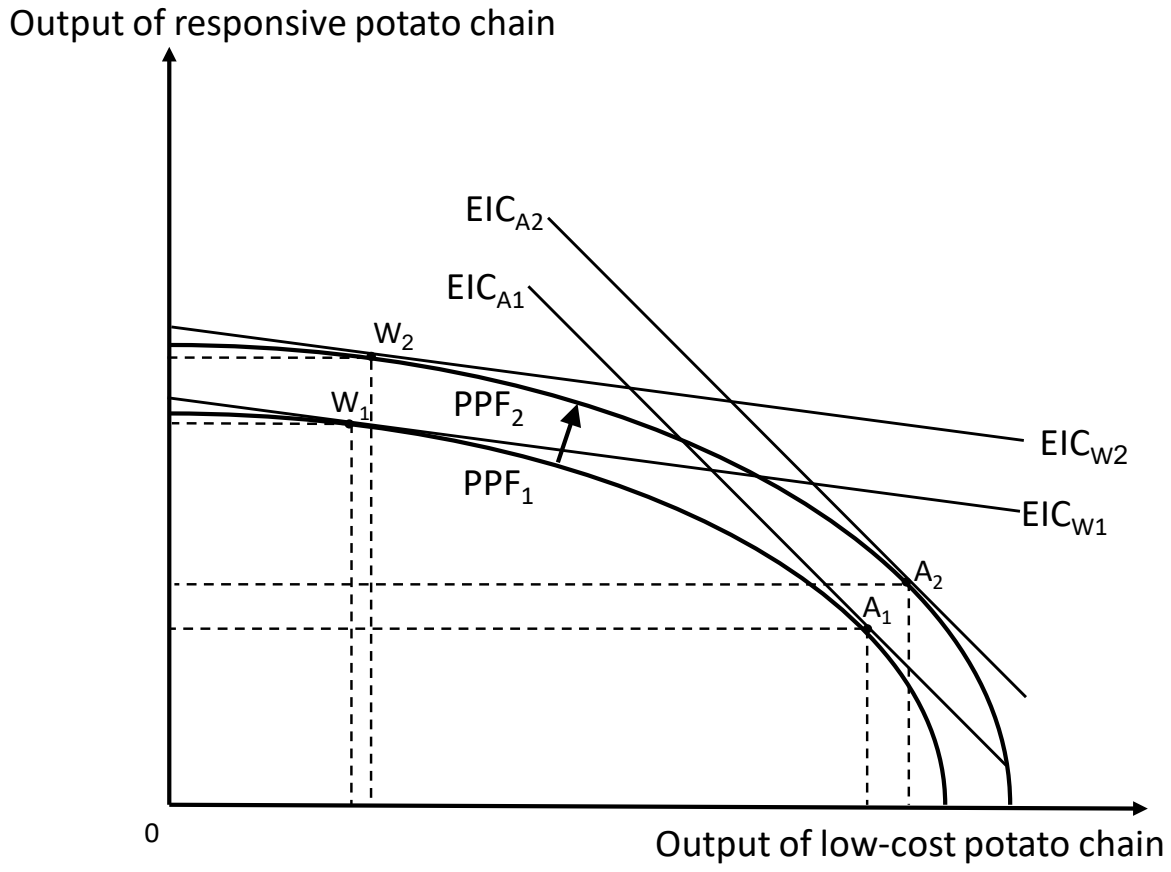
The framework also allows consideration of technical efficiency (Figure 1). Consider a channel within a value chain that attempts to become more responsive but its members do not have the capability or skills to accomplish the necessary responsive activities in a technically efficiently manner. Chopra and Meindl (2016, p. 37) recognised that chain members are often unable to meet the challenges

thrown up in a responsive value chain. A chain operating at a point inside the frontier (at A) would face the same relative prices as an efficient chain operating on the frontier. However, the revenue that the chain inside the frontier earns is much less than that earned by the chains on the frontier, such as at B or C, with B generating the highest revenue.

Market Segmentation in the United Kingdom Fresh Potato Value Chain According to Consumers' Willingness to Pay

Duffy and Fearne (2004) demonstrated how two United Kingdom supermarket firms, Asda and Waitrose, have successfully operated dedicated channels within the value chain for fresh potatoes. Consistent with their competitive and value chain strategies, Asda operates a low-cost channel while Waitrose operates a niche strategy based on service and choice. Asda's strategy is one of simple and transparent supply chains that provide customers with products at the best prices (Asda, 2015). Asda's purchase of potato supplier Fenmarc provides recent evidence of this strategy (further discussed in relation to Figure 3). Waitrose on the other hand prides its reputation on the quality, safety and provenance of the food it sells (John Lewis Partnership, 2015). Hence, Asda and Waitrose operate "at opposite ends of the retail spectrum" (Fearne, 2009). Each firm forms a different price set for its products, reflecting the differences among consumers in willingness to pay for service and choice in the supply of fresh potatoes at the retail level. In Figure 2, the relevant expected isorevenue curve is EIC_{A1} for the Asda customer segment and EIC_{W1} for the Waitrose customer segment.

Figure 2. Responsive-low cost mix of Waitrose and Asda supermarket channels for fresh potatoes



Keeping the case study simple by assuming both supermarkets operate efficiently, that is they are operating at points on the production possibilities frontier, Figure 2 shows the different value propositions that each supermarket offers to customers for fresh potatoes. The optimal throughput from the base private PPF_1 is at point W_1 for Waitrose and point A_1 for Asda. Waitrose has a throughput of potatoes with a high degree of responsiveness and Asda has a throughput of potatoes that is predominantly low-cost.

The proposed approach allows value chains to change their optimal mixes as circumstances change within or outside the chain. The example that follows is one of positive chain externalities. Griffith et al. (2014) and Fleming et al. (2019) define a positive chain externality as a benefit received by a third party who is not directly engaged in producing, trading in or consuming the good providing the benefit, but this third party does not compensate the participant in the value chain who provides the benefit. Where such externalities exist, chain surplus is less than it could be. In the case of Asda and Waitrose, both firms had identified the existence of a positive chain externality in that the level of coordination along the value chain was sub-optimal and could be improved by engaging strategically with other firms in the chain (that is, the externality could be internalised).

Applying the Coase theorem, the two supermarkets found private solutions to the problem of chain externalities through joint action within the value chain. Rather than rely on a whole-of-chain solution to internalise this externality, both Waitrose and Asda independently chose Coasian bilateral solutions that entailed closer cooperation with their suppliers, as reported by Fearne (2009, p. 17):

> Solanum [the supplier of potatoes to Waitrose] has a desk in the Waitrose head office and the account manager spends two days per week working directly with the Waitrose team, who encourage open communication with their supply base. Fenmarc [the supplier of potatoes to Asda at the time of Fearne's paper] is entrusted to get it right over time and Asda trust them to take difficult decisions on their behalf. A trusted source of supply translates into fewer inspections, fewer rejects, better availability and fewer customer complaints.

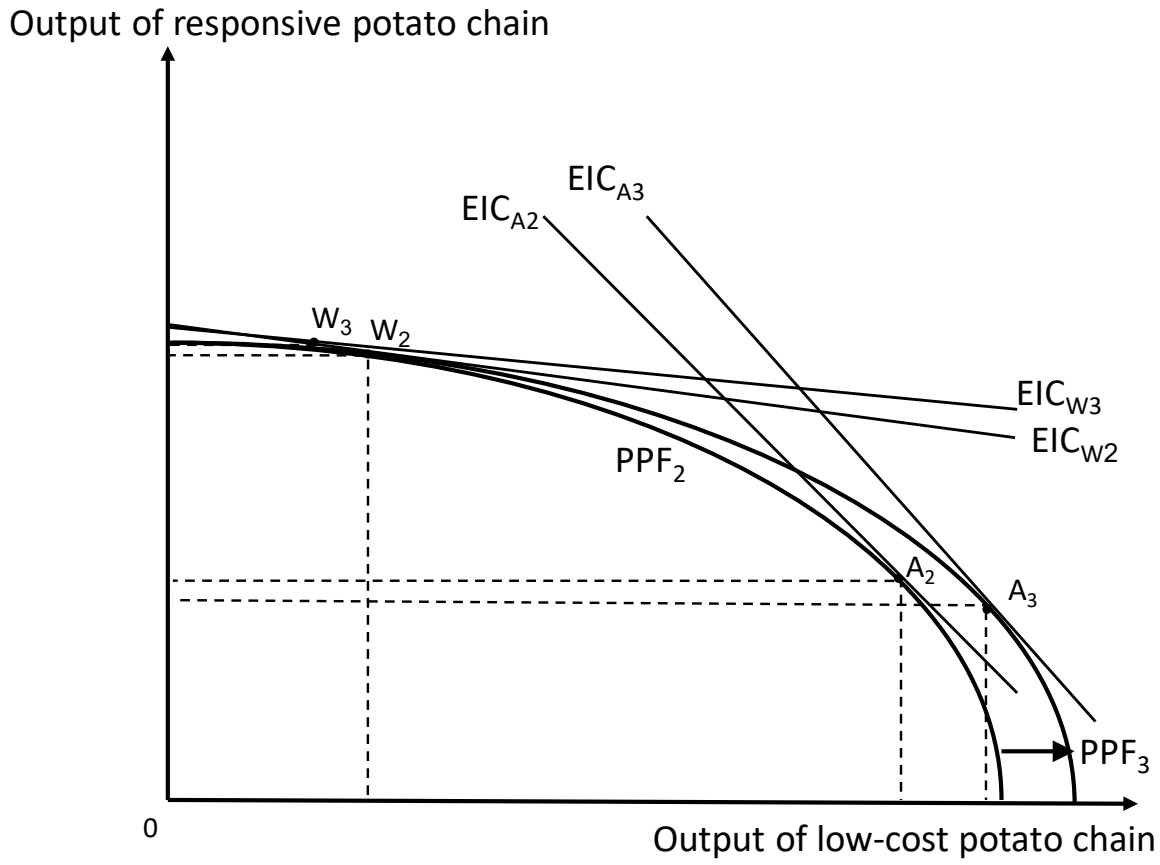
Through closer cooperation with their suppliers, both supermarkets were able to become more efficient and responsive, and improve performance as exemplified by the shifts to point W_2 and A_2 for Waitrose and Asda, respectively, on the higher PPF_2, which was originally the chain PPF above their private PPF (reflecting the existence of a positive externality), but one they were initially unable to reach by private action. The throughputs increased to meet increased demand and/or demand at the expense of other channels in the value chain for fresh potatoes, and revenue increased to EIC_{W2} and EIC_{A2} for Waitrose and Asda, respectively.

Solutions obtained by applying the Coase theorem are likely to be more feasible within value chains than in society at large because of the shared interest of members in making the chain work better, as in this case study. Nevertheless, three limitations are commonly encountered when applying the Coase theorem in a value chain. First, the involvement of a large number of chain members in bargaining makes the process unwieldy and consensus more difficult to achieve. In the United Kingdom fresh potato case, the number of chain participants is small, simplifying the bargaining process. Second, unreasonable demands may be made by chain members, especially those with market power. Given the substantial market power of supermarkets, it is interesting that the firms in this case study managed to establish close working relationships with their suppliers that appear to satisfy both parties. Third, all chain members must have full information about the costs and benefits of taking action to internalise the externality, which again appears to be the case given the close working relationships between the supermarket firms and their suppliers.

Now consider what would happen if there were to be exogenous changes in consumer demand, given the differences in responsive capabilities of the two supermarket firms and differences in their abilities to minimise costs. First, with greater wealth comes a greater willingness by consumers to pay for the product of the more responsive channel arising from a growing preference for choice and services. This change would be represented by a swivelling of the EIC to favour the Waitrose channel in which throughput would increase while throughput in the Asda channel would decrease. Second, an alternative scenario in times of economic recession might be a swivelling of the EIC in favour of the Asda channel as consumers experience tighter budgets and opt for the cheaper product that Asda is better placed to supply.

Recent changes in the procurement of fresh potatoes by Waitrose and Asda provide examples of other ways in which value chains, or channels within value chains, can be improved according to the preferred channels that the supermarkets use. Solanum is still supplying potatoes to Waitrose. Waitrose stresses the importance of building relationships based on trust and respect with farmers, growers and suppliers, but also the importance of provenance and traceability along the chain (John Lewis Partnership, 2015). The emphasis on quality and increased attention to value is likely to have swivelled the isorevenue curve, EIC_{W2} in Figure 2, even more in favour of the responsive potato chain to EIC_{W3} in Figure 3. This would lead to an increase in channel surplus at W_3 (increased price for better quality using a constant level of resource use) to be shared between Waitrose, Solanum and the potato growers.

Figure 3. Responsive-low cost mix of Waitrose and Asda supermarket channels for fresh potatoes updated for recent changes



Fenmarc is no longer the supplier of potatoes to Asda: its potato division was bought out in January 2015 by International Procurement and Logistics (IPL), Asda's wholly owned direct sourcing

subsidiary. The managing director of IPL said that one of the aims of the buyout was to "simplify supply chains" (Anon., 2015). It would, according to IPL, "take money out of the supply chain, which could then be passed on to shoppers" (White, 2014). The change in ownership represents a shift in this channel of the value chain from vertical coordination to vertical integration, and towards greater private control over activities. Assuming no other changes in the chain, isorevenue curve EIC_{A2} in Figure 2 would become steeper (becoming EIC_{A3} in Figure 3) as potatoes become cheaper in Asda supermarkets given the statement above by the IPL managing director. Asda would expect to sell more potatoes for a given level of resource use at A_3 in Figure 3 as PPF_2 in Figure 2 shifts outwards to PPF_3 in Figure 3. The revenue increase from greater output outweighs the revenue loss from a reduced retail price, resulting in an increased chain surplus.

Past and recent events in the United Kingdom fresh potato value chain reported above bring into sharp relief the trend, noted by Ketchen and Hult (2007), from inter-firm competition to inter-chain (we would add inter-channel) competition. But the intensity of the competition can vary depending on differences in the value propositions of firms in the chain, the types of strategies adopted and the nature of strategic alliances between firms. If the above recent events are the only changes that have taken place in food value chains, Figure 3 shows that it is possible for surpluses to expand in both fresh potato channels under consideration as the supermarkets have different value propositions. These increased surpluses may be partly at the expense of other fresh potato channels or even other value chains if customers shift their purchases to fresh potatoes in these channels from the value chains of competing products. But it would be expected that the net change would be an increase in surplus for food value chains as a whole.

Responsive-Low Cost Mix in the Australian Wheat Value Chain: Chain and Public Goods

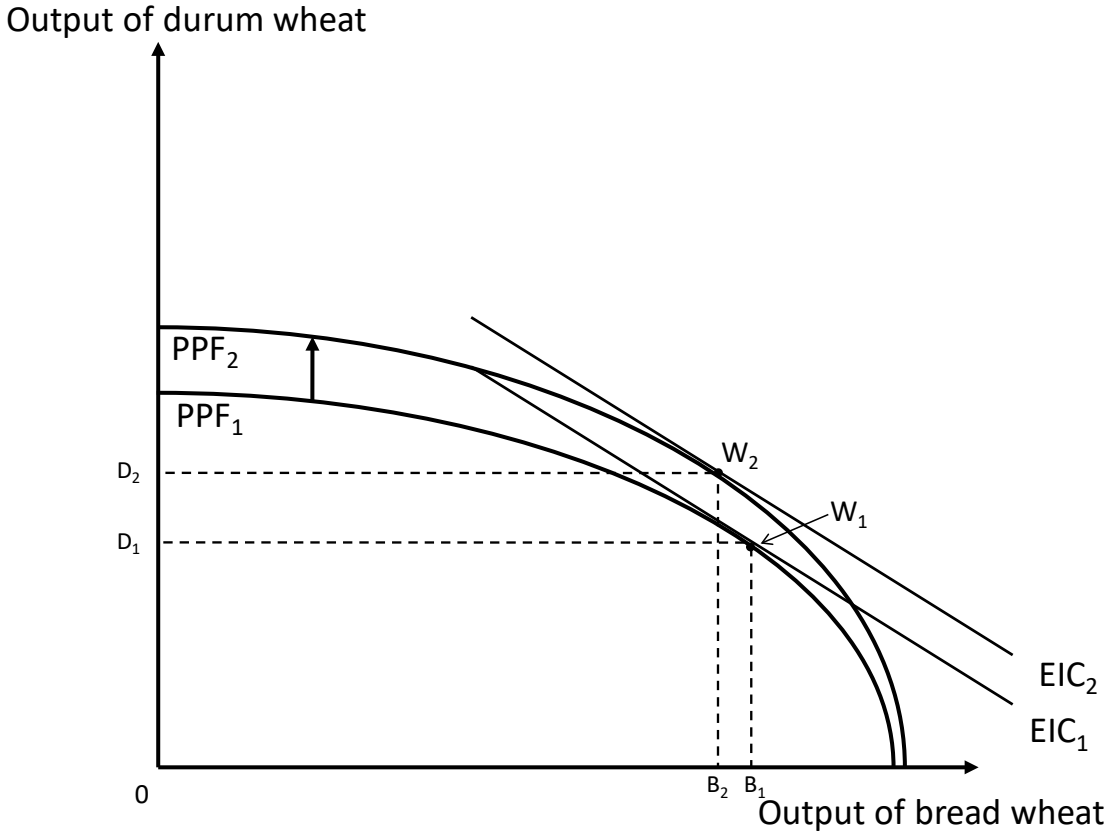
Participants in the Australian wheat value chain are faced with a choice between producing, processing and marketing types of common bread wheat (*Triticum aestivum*) or durum wheat (*Triticum durum* or *Triticum turgidum durum*), which are generally destined for different end uses. Durum wheat is considered to be of high quality because of its low moisture content, low screenings and high protein and test weight. Producers began to grow more durum wheat in Australia from the 1990s, attracted by the fact that high-quality durum wheat was fetching premiums of $30 per tonne over prime hard wheat and as much as $60 per tonne over premium white wheat (Connell, 2004).

In Figure 4, the slope of EIC_1 is slightly less than that of a line 45° to the axes and hence depicts a premium for durum wheat. The optimal point of operation for the value chain is initially at point W_1, comprising throughput of $0D_1$ in the durum wheat channel and $0B_1$ in the bread wheat channel of the wheat value chain.

Durum wheat production poses additional challenges to farmers in the growth stages and hence is a riskier crop for growers than bread wheat varieties (Connell, 2004). Figure 4 shows an asymmetric PPF skewed in favour of the production of bread wheat varieties (PPF_1). The potential to develop the durum wheat channel of the wheat value chain was being held back by these difficulties in farm production, creating a positive chain externality. That is, all participants in the durum wheat channel of the chain would benefit from improved production conditions on the farm but the RD&E needed to improve production conditions was not profitable for individual wheat producers to undertake.

Changes have occurred to the wheat PPF and EIC at different stages in the value chain over the past three decades, reflected in Figure 4 by the upward shift of the frontier to PPF_2, above the private PPF_1 (assuming a much smaller change in bread wheat production possibilities). As a result, the optimal position for the wheat value chain in responsive-low cost space in Figure 4 moved from W_1 to W_2. Farm-level RD&E – internalising positive chain externalities associated with superior wheat

Figure 4. Mix of durum wheat and bread wheat channels in the wheat value chain



production technologies – was crucial in overcoming the farm-level constraints to achieving a high-quality and stable throughput in the durum wheat channel of the wheat value chain. These improved production technologies are expected to have lessened the degree of skewness in the PPF through productivity gains leading to quality improvements, enhancing the competitive position of the durum wheat channel relative to the bread wheat channel. The outcome in Figure 4 is that the throughput of durum wheat increased to $0D_2$ and the throughput of bread wheat declined slightly to $0B_2$ despite the small improvement in production possibilities in the bread wheat channel.

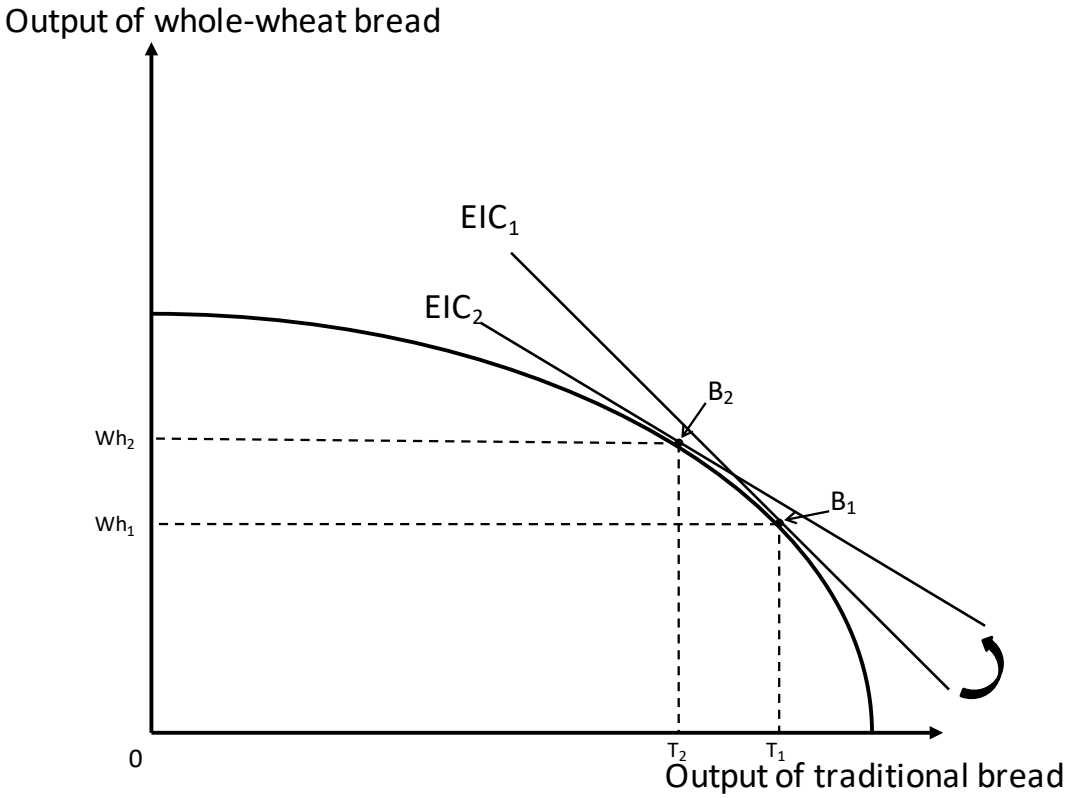
Unlike the situation with the United Kingdom fresh potato value chain, the Coasian solution to sub-optimal performance in the durum wheat channel of the wheat value chain partly required outside assistance to internalise the positive chain externalities because, as noted above, it was not profitable for a single participant, or small group of participants, to do so. Kneipp (2008) outlined the breeding programs that led to the release of new durum wheat cultivars by the New South Wales Department of Primary Industries from 1982. These cultivars enhanced yields, protein content, pasta-making quality, disease resistance and tolerance to climatic variability. Kneipp also noted that essential durum wheat agronomy considerations included careful management of soils on which to grow durum wheat, crop rotation and disease control methods, especially for crown rot. These combined factors contributed to higher yields and more stable output thereby reducing asymmetry in the PPF.

Production has not been the only stage at which progress has been made in altering the shape of the PPF. Other stages in the value chain are also important, especially in influencing the quality of the end products and changing the slope of the EIC in favour of durum wheat. Most of these processes proved privately profitable but relied on past RD&E work, some of which had been publicly funded.

Troccoli et al. (2000) explained how the quality of durum wheat changes according to the processing technology and end use. They reported on quality aspects evaluated at different levels from the farm to the consumer. Durum wheat has proved particularly receptive to quality improvements from debranning prior to milling (Dexter and Marchylo, 2000), a process of adaptation that was built on previous technological advances in processing other grains.

As in the fresh potatoes case, exogenous factors have altered consumer demand for wheat products. One such change has been a switch in consumer preferences from traditional white bread (made from white refined flour) to whole-wheat bread (made from whole wheat – bran, endosperm and germ), despite the higher costs in the value chain of the latter. This trend has partly been a response to growing awareness of the nutritional merits of whole-wheat bread. The trend in consumer preferences towards whole-wheat bread is represented in Figure 5. The shift in consumer preferences is shown by the swivelling of the EIC from EIC_1 to EIC_2, and the consequent reduction in throughput of traditional bread from T_1 to T_2 and an increase in throughput of whole-wheat bread from Wh_1 to Wh_2. EIC_1 could be construed to be the private isorevenue curve while EIC_2 may be regarded as a chain (and, more broadly, social) isorevenue curve that reflects the social benefits of better diets from consuming whole-wheat bread.

Figure 5. Change in the mix of whole-wheat bread and traditional white bread channels in the wheat value chain



Establishing the Appropriate Extent of Strategic Scope

Our final point of disagreement with Chopra and Meindl (2016) concerns the appropriate extent of strategic scope. They present a typology of different levels of strategic scope for a value chain, the widest of which is the intercompany scope for maximising chain profit (Chopra and Meindl, 2016, p. 45). We argue that this scope is not sufficiently wide because it ignores the potential for chain failure, as discussed by Mounter et al. (2016) and as mentioned in the case studies above. Chopra

and Meindl's view is that all firms in the value chain will work together and share information frequently to maximise chain surplus (profitability). This situation may well exist in fully vertically integrated (manufacturing) value chains that are the cases examined by Chopra and Meindl, but it seldom exists in other forms of value chains, especially in agricultural and food products, because of various forms of chain failure that make chain profit an inadequate measure of performance.

To keep matters simple, consider positive chain production externalities as a form of chain failure (Fleming et al., 2019). Chain participants can get together to internalise such chain externalities and thereby expand chain surplus by shifting the PPF outwards, by turning the EIC more in favour of the production of valuable goods, or both. Examples of these positive outcomes are given in the case studies above and also in Mounter et al. (2016) in the example of value chain responsiveness with differences in eating quality between Meat Standards Australia (MSA)-graded and non-MSA-graded beef.

The feedback on carcass quality received by registered producers combined with adherence to MSA standards facilitates product consistency in both production and consumption. The MSA process is thereby able to create a new source of value by delivering guaranteed eating quality, capturing and transmitting that value back through the chain. It has been estimated that the net value added by MSA was more than $200 million according to Griffith and Thompson (2012). The evidence compiled by Mounter et al. (2016) shows that all participants in the value chain for MSA-graded beef share in the additional value it creates. The MSA grading system has allowed the internalisation of the positive chain production externality. This would not be accounted for if just an intercompany scope was used.

This argument can be taken further as in the second example presented by Mounter et al. (2016). It makes use of the concepts of EIC and PPF to show how greater responsiveness can be achieved in the Australian beef value chain by "paddock to plate" marketing systems (Polkinghorne et al., 2008). This is a more ambitious way than the MSA grading system to capture additional benefits by better satisfying consumer demand, leading to further whole-of-chain improvement (Doljanin et al., 2016). Consumers who become aware of improved eating quality consistency are willing to pay more, represented as a rotation of the EIC and resulting in a new optimal point on the PPF.

Conclusion

There are several aspects of the approach to strategic fit in supply chain management promoted by Chopra and Meindl (2016) and similar texts that do not accord well with standard microeconomic principles. These aspects can be summarised as (a) the manner in which a distinction is drawn between responsive and low-cost chains, (b) enhancing analytical usefulness, (c) accounting for technical inefficiency, and (d) establishing the appropriate extent of strategic scope.

An outline is provided of how the optimal level of responsiveness should be determined for a food value chain and examples are given from the Australian wheat industry and the United Kingdom fresh potato industry. The proposed framework is based on the well-tested concepts of PPFs and EICs. The mini case studies reported above demonstrate that actual commercial decisions on the mix of responsive and low-cost value chains, and responsive and low-cost attributes within a chain, appear to have been made in accordance with this framework, in a range of circumstances. They confirm other case studies as reported in Mounter et al. (2016).

If such decisions are influenced by the shape of the PPF and the slope of the EIC, the next challenge is to undertake the detailed empirical work necessary to define these curves across different channels within food value chains, and across food value chains, regions and governance structures.

A particularly testing challenge, given the variations in quality between responsive and low-cost channels or chain, will be in developing objective measures of quality change.

Another challenge broached by Chopra and Meindl (2016, p. 41) is to develop a model to optimise the responsiveness-low cost mix at each stage in the value chain as well as for the whole chain, and to analyse the distribution of rewards between stages. This would entail extending Weaver's (2009) microeconomic model to incorporate the modifications to the PPF that take place as products move along the channels within a value chain.

The representation of technical inefficiency above is a simple one, as can be seen when comparing it with Weaver (2010) who provides a framework for analysing efficiency in the context of a value chain. Technological progress, reductions in transaction costs, greater flexibility of product composition and enhanced responsiveness to external change have altered the view of the decision maker when measuring inefficiency. Boundaries have been widened and performance has become "conditional on the decisions of other DMUs [decision making units] and management of these interdependencies through relational rather than asset-based command-control mechanisms" (Weaver, 2010, p. 57). Weaver (2010) established a conceptual framework for measuring the performance of networks of interdependent and collaborating DMUs that coordinate decisions across various sub-DMUs and are subsidiary to more centralised decision making in a value chain. Unfortunately, efforts to provide empirical analyses of whole-chain efficiency have so far foundered on methodological limitations and lack of a comprehensive data set to undertake such analyses.

It has meant that empirical studies of efficiency in food value chains have been mainly restricted to single-stage analyses using standard efficiency methods. The path-breaking paper by Fare and Grosskopf (2000), in which they introduced the method of network data envelopment analysis (DEA), removed the methodological barrier to a considerable extent by enabling two stages in a process to be simultaneously analysed. The application of network DEA to supply chains has been well reviewed by Chen and Yan (2011). Accordingly, it is now possible to submit the internal structure of a value chain to performance evaluation, taking into account complex interactions between stages in the chain.

Chaowarat and Shi (2013) provide an example of the application of network DEA in a food value chain. The authors measured the efficiency of export frozen vegetables from Thailand, basing their model on the Chen and Yan (2011) framework. They assumed decentralised management whereby firms in each component of the chain made their own decisions and managed their own operations. Despite shortcomings in terms of a high level of aggregation (only two stages of suppliers and manufacturers), a small sample and difficulties in measuring inputs and outputs in each stage, Chaowarat and Shi (2013) were able to demonstrate the importance of measuring efficiency after taking into account interactions and feedbacks between chain stages. Future work using network DEA that focuses on pairs of chain stages featuring strong interactions and feedback will hopefully improve the application of microeconomic principles to measure efficiency across firms within and across stages of food value chains.

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