Agri-food Value Chain Diagnostic Analysis

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A Methodology Developed

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Section 1 - Introduction

Value chain analysis

1. Value chain analysis looks at both effectiveness (doing the right things) and efficiency (doing things right). For a value chain to be competitive, it must do both. An efficient value chain that delivers a product valued by consumers may still lose market share to a less efficient chain that offers a substitute product which has a higher value to consumers. Accordingly, the value chain analysis assesses whether the value chain is:
   a) Effective at maximising the opportunities for adding value in the eyes of the consumer; and
   b) Efficient in adding value, producing, processing and distributing at the least cost.

   This requires that the value chain:
   - Understands what consumers value in the product, and focuses on adding value throughout the chain;
   - Develops strategic collaboration and operational co-operation throughout the value chain; and
   - Strives for continuous innovation to improve effectiveness and efficiency.

2. Many agri-food industries are facing-up to the challenge of embracing the principles of supply chain collaboration, which are becoming the key drivers of innovation and competitive advantage for most of the world's leading businesses outside of agriculture and food. A positive response to this challenge would be 'collaborative innovation', or co-innovation, in pursuit of continuous improvement in existing processes (marketing, operations management, purchasing and logistics) and the development of products and services that add value in the eyes of the final consumer. But while co-innovation is a powerful option for a value chain positioning itself in an increasingly competitive world, change of this kind does not come easily, particularly when there are deeply rooted structural, cultural and organisational barriers that need to be overcome. Accordingly, value chain analysis is based on the underlying premise that sustainable competitive advantage requires a more holistic approach to the management of the value chain, and a more focused approach to innovation, with stakeholders working more closely and in a collaborative mode to ensure maximum effectiveness and efficient resource allocation.

3. The methodology described in this guide is a diagnostic tool, and identifies opportunities for improvement projects. The aim is not the detailed quantification of process efficiency, which is the domain of process re-engineering and operations management and invariably focuses on individual functions within individual businesses and departments organisations. Rather, it is the rigorous, systematic and objective assessment of the scope for co-innovation, to improve the efficiency of existing processes along the value stream and improve the effectiveness of new product development and value-adding activities. Accordingly, the objectives of the methodology are threefold:

   1) To assess the innovation capacity of the value chain by examining its ability and potential to improve the efficiency and effectiveness of existing processes, and to introduce new products and services that the final consumer values and is willing to pay for.

   2) To identify improvement projects that would enable the chain to embrace the principles of value chain management and to work towards collaborative solutions that involve multiple stakeholders and an

acceptance of the need to change what is done, as well as the way it is done.

3) To provide a catalyst for change.

4. The management and control of the value chain is captured in an assessment of the relationships between the different stakeholders which, coupled with the effective flow of information enables the optimisation of material flows. Thus these three flows are critical to the achievement of value chain optimisation. Information and relationships, as well as understanding the distribution of value (as opposed to cost or margin), facilitates behavioural change at relevant stages in the value chain, the operation of which will always be sub-optimal when there is a lack of transparency (poor information flow) and poor communication between trading partners due to a lack of trust and commitment (poor relationships). Consequently, the methodology focuses on three key issues:

    1) The dynamics of information in the value chain from final consumption through to primary production and input genetics and back again – how inclusive, transparent and responsive are the information flows in the chain; to what extent are stakeholders' decisions (what to produce, when to produce, how to produce) pulled by the consumer?
    2) The creation and flow of value, in the eyes of the final consumer, at each stage in the value chain – how many of the production and processing activities truly add value? How much investment is being made in these critical activities? How many are necessary but do not add value (these should be completed with minimal resource allocation)? How many are unnecessary (wasteful activities must be eliminated and resources re-allocated to drive value creation and efficiency)?
    3) The nature of relationships – how much trust exists between different stakeholders? What is the nature and format of communication within and between organisations? What evidence is there of organisational commitment? How are risks shared and the assumption of risks rewarded in the chain? How is value shared along the chain?

<u>Structure of this Guide</u>

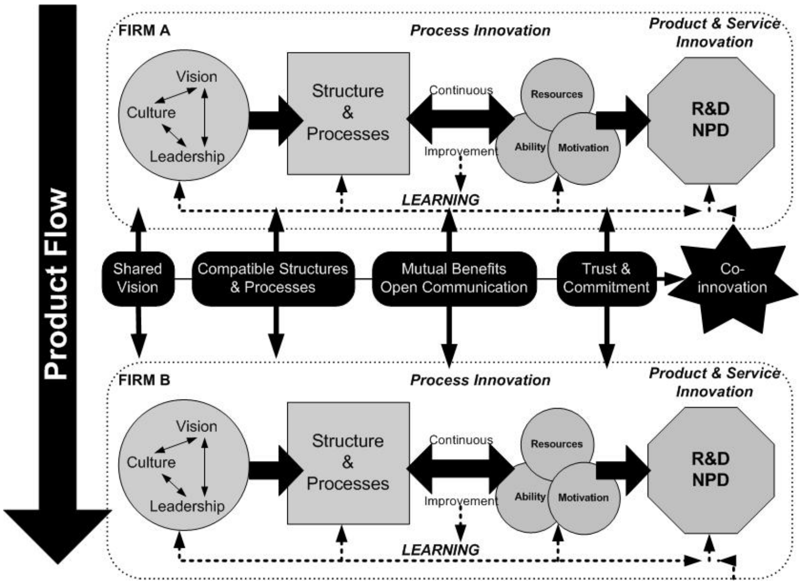
5. Section 2 of this guide summarises the theoretical framework which underpins value chain analysis and in particular diagnosing the extent of, and scope for co-innovation. It then provides an overview of the methodology, including project initiation and management. Sections 3 and 4 explain the assessment of the value chain's key links of consumer insight and innovation. Sections 5-7 cover the mapping of material and information flows and relationships.

Section 2 – Methodology Overview

Theoretical Framework

6. The theoretical framework which underpins the methodology is the Value Chain Innovation Roadmap.

The guiding framework: Value Chain Innovation Roadmap



7. The Roadmap shows that a firm's culture, vision and leadership shape its structures and processes, and these in turn provide the means by which a firm puts to work its resources, abilities and motivations. The interplay between the enabling environment (the structures and processes) and the drivers of action (resources, ability and motivation) gives rise to opportunities for process, product and service innovation through continuous improvement, R&D and new product development. This is how individual firms, independently of their value chain partners, are able to innovate.

8. In an effective value chain, however, firms do not operate in isolation. Partnerships between firms give rise to the opportunity for the second form of innovation: co-innovation. Co-innovation becomes possible when there is a shared vision between the partners; compatible structures and processes; open communication, co-operation and opportunities for mutual benefits, and the presence of trust and commitment. Critically, partners must adopt a learning attitude in whatever they do together to create an environment for co-innovation. The Roadmap shows how these factors are the precursors for co-innovation between firms in value chains. This framework is used to build a picture of the characteristics and performance of the particular value chain being studied, and thus guides the diagnostic process from its initial design through to data collection, analysis and interpretation. This process uses extensive qualitative data, combined with quantitative data such as consumer research, to give a comprehensive picture of the whole value chain. This provides the framework for analysing the material and information flows within the value chain, including the extent to which these flows are responsive to consumer behaviour, and an assessment of the relationships between and within chain partners.

9. Each project is a three stage process.

Stage One – Selecting the value stream

This involves the selection of a specific value stream as the focus for improvement, where a value stream is typically defined as a specific product family serving a specific consumer or market segment. When the number and diversity of products is high, the selection of a specific value stream is usually guided by the relative importance and/or the recognition of problems associated with specific product lines.

Stage Two – Mapping the current state

This involves the graphical representation (process map) of the material flows, information flows and relationships within and between the businesses that constitute the value stream for existing products, from inputs to primary production through to final consumption.

Stage Three – Identifying improvement projects

The generation of a current state map facilitates the identification of bottlenecks and weaknesses in the current value stream, within organisations (i.e. between functional departments) and between trading partners. The final stage in the methodology is the identification of improvement projects. In the context of co-innovation, the emphasis is on inter-organisational improvement opportunities, as these are notoriously difficult to achieve and, as a result, can deliver benefits that are difficult for other value chains to replicate, providing a potential source of sustainable competitive advantage. However, the mapping process invariably identifies opportunities for improvement at discrete points in the value stream that do not require the involvement of trading partners or outside organisations.

Overall Methodology

Securing Commitment

10. The insights from the research and the realisation of the potential benefits from the improvement projects are dependent upon participants' commitment and openness. Accordingly, the involvement of all value chain partners and/or their representative organisations is critical to gaining access to key stakeholders and ensuring effective dissemination of the results. A research group should be established at the outset, with an independent chairperson, to ensure that the project progresses according to the research plan and to facilitate the removal of barriers encountered along the way. This group should ensure that senior management from chain partners are engaged in the project, who in turn must communicate to their staff that they should be open both in interviews and with any material requested.

Confidentiality and Privacy

11. Before the data gathering begins, confidentiality agreements should be put in place with the value chain partners. These safeguard the commercial and personal sensitivity of the information provided, thus encouraging all parties to be candid during discussions and in sharing information. The researchers must recognise their responsibility to those they interview, including being conscious of the vulnerability of suppliers and staff as a result of their honesty. Sampling frameworks for interviewees and anonymising reports should minimise the traceability of comments. Where required, universities' ethical clearance must be gained prior to data collection.

12. In conducting each discussion, interviewers must explain the nature of the research, the procedures in place to protect confidentiality and, where

appropriate, ask interviewees to sign consent forms prior to an interview taking place.

Consumer Survey

13. The most critical aspect of value chain analysis is whether consumer value underpins every activity and decision. Failure to identify what value means to the final consumer results in the misallocation of resources to activities that are unnecessary or wasteful. The analysis should identify how much and where value is currently added, and the opportunities for adding more value. To do this, it is essential to establish an objective and comprehensive definition of what consumers value in the final product. Unless this information already exists, it will require consumer research to be undertaken at the beginning of the project, so that the results inform where subsequent analysis should focus. This will involve both qualitative (focus groups) and quantitative (face-to-face/telephone interviews). The focus groups identify the value consumers apply to different product attributes and the potential interest in new product variants. The relative importance of the multiple product attributes identified in the focus groups and the scale of the opportunities are quantified through the interviews.

14. Each project should also examine the use of consumer data/research which already exists within the value chain. This should cover both consumers' attitudes and actual purchasing behaviour. Value chain partners must be willing to provide examples of the consumer research they have undertaken, explain how it has been used and with what consequences, both successful and failed.

Walking the material flow

15. The project team should map the material flow, as far as practical by physically walking the chain from the provision of agricultural inputs to sale of the final product to consumers. This should involve farms, processing factories and shops/restaurants (if relevant). Depending on accessibility and the importance of different stages within the particular chain, it may also include the production of agricultural inputs and the storage at different parts of the chain. The purpose of the diagnostic approach is to identify areas for further investigation through improvement projects. Accordingly, it is not necessary to measure time, volumes or costs along the material flow.

Interviews

16. The aim of the interviews is to develop as comprehensive a picture as possible of the value chain, from the development of genetics, through the supply of farming inputs, via production, processing, logistics, retailing and finally to consumption. The interviews should be conducted in three rounds.

    - Round One involves meeting key partners in the chain; developing an overview of the chain, its structure and some of the key issues; identifying the significant relationships within and between partners and who should be interviewed in the more detailed second round, and what background material, consumer research and other reports the chain partners need to provide.

    - Round Two involves comprehensive interviewing of value chain participants. This may include:

    Agricultural input suppliers:

    - Genetics providers (seeds, seedling, livestock)
    - Agricultural advisers
    - Contractors (planting, harvesting, storage, transport)
    - Suppliers (chemicals, feed etc)

Farmers:

- A sample to reflect differing abilities, resources and motivations

Processing input suppliers:

- Any additional key ingredients
- Packaging suppliers

Processor:

- Procurement
- Processing
- Marketing
- Supply chain manager
- Quality control
- Innovation (New Product Development), process, agricultural and systems)
- Sales and forecasting
- HR

Logistics:

- Transport } account managers and
- Storage } operational staff

Retailers/Wholesalers:

- Buyer
- Ordering/inventory
- Quality Assurance
- Sales/consumer data analysts
- Outlet managers (eg, stores or restaurants)

During and after the completion of Round Two, the initial analysis should be undertaken. This should highlight what major themes are emerging, and whether these require further exploration with either new or previous interviewees. A period of reflection will also expose missing or inadequate data.

- Round Three may involve revisiting previous interviewees or triangulating emerging findings with new interviewees.

Value Chain Partners' Internal Data

17. Participants in the project must be prepared to provide a variety of background material, some of which may be commercially sensitive and/or not readily available to others in the chain. This is likely to include copies of contracts; in-house consumer research and management reports, as well as data on production, sales and waste. All material provided is covered by the confidentiality agreements.

Analysis

18. The data are explored using a content analysis approach. A coding framework should be devised to draw out the main themes from the interviews and other material, and subsequently allow the comparison of data between different interviews. Some of the power of the methodology is that participants are frank, and by looking along the entire chain, this should reveal both commonality and differences in experience or attitudes.

19. Data on both flows and the chain's relationships are assessed against a range of criteria to identify:

    - *for the Material Flow*, which activities
        - Add value; are necessary but non-value adding, or are wasteful (ie, the whole activity is unnecessary); and
        - Have scope for increased efficiency, reduced waste or more added value.

    - *for the Information Flow*, which individual flows with respect to different functional activities (eg. quality control, sales, distribution) and at different levels (eg. operational or strategic)
        - Are strong, partial or weak; and
        - Are uni-directional or two-way, and for the latter whether the information flows equally in each direction

    - *for Relationships*, whether inter and intra organisational relationships within the chain
        - Are strong, basic or weak.

20. Within all areas, the actual and potential scope for innovation and co-innovation is evaluated, along with the extent and nature of incentivisation between and within partners along the chain.

Validation

21. Two approaches can be taken to validate the findings of the analysis. With individual farmers and some other chain members, the emerging findings can be validated through repeat interviews. This ensures that all comments have been accurately interpreted, and all relevant facts unearthed. With the main stakeholders, ground-truthing presentations can be given to explain the emerging findings relevant to their part of the chain and so allow stakeholders to criticise and challenge, and accordingly provide quality assurance to the conclusions. This also provides an opportunity for stakeholders to comment on the proposed improvement projects and how much of any sensitive material can be shared with others in the chain.

Report

22. The end product is a diagnostic assessment which highlights the strengths and weakness of existing processes (for the production and distribution of existing products/services and the development of new ones) and the opportunities for improving competitiveness through the subsequent execution of improvement projects.

Section 3 – Developing Consumer Insight

23. Consumer insight is the foundation for the analysis of value chains, and in particular their scope for developing sustainable competitive advantage and the most effective innovation. Accordingly, the analysis must be informed by specific consumer research which covers both attitudes and behaviour. Focusing only on consumer attitudes risks the insight only reflecting how and why consumers believe they act, whilst they actually behave very differently.

Commissioning research

24. There are three objectives for the consumer research commissioned as part of the value chain analysis:

    1) Identifying the factors that influence shoppers' purchasing decisions. How do consumers decide when to buy the product and, having made the decision to purchase, how do they decide which product/brand to buy? The research should distinguish, as relevant, between:
        - branded and private label;
        - meal occasion (e.g. mid-week snack, weekend evening meal), and
        - shopping mission (e.g. main shop, top-up shop).

    2) Determining the importance, relative and absolute, of different product attributes. What value do consumers attach to them and why? Depending on the product, this might include:
        - Price, promotions and premium branding;
        - Taste, texture, nutritional value and freshness;
        - Packaging (appearance; product information/endorsements; benefits in convenience of use, eg pack size);
        - New products (range extensions or new ranges);
        - Convenience of preparation/cooking or interesting preparation suggestions; and
        - Provenance; organic or other environmental standards of production; fair trade status.

    3) Exploring what changes to the marketing mix for existing products and/or what additions/extensions to the existing range would be most likely to stimulate consumption of and/or increase expenditure on the family of products. Equally, what aspects on existing products deter consumers from purchasing the product, for example, how much ends up wasted, or the inadequacies of packaging (amount, design, information)?

Assessment of existing research

25. The examination of research already used by the chain should incorporate specific examples which highlight whether consumer research:
    - Is used to make strategic as well as product-specific decisions;
    - Covers consumers' attitudes and behaviour; and
    - Continuously monitors consumers or only tests new product ideas once they have been developed.

26. The analysis should assess how the research is used to inform:
    - Category strategies, product specifications and product performance measures agreed by retailer and supplier.
    - Innovation programmes, including:

- new product development, both in monitoring attitude/behaviour changes to identify new opportunities and in testing specific new product ideas, and
- extending further upstream, eg reflecting consumer insight in agricultural R&D, and in process and systems innovation.

- Raw material and packaging specifications; and
- Incentive schemes, both between value chain partners (contractual) and within companies (personnel performance management systems).

Section 4 - Innovation

Evaluating Innovation

27. The long term development of consumer value in value chains is driven by their capacity to innovate. Strong relationships and information flows give the opportunity for collaboration between chain members for co-innovation. This requires enhanced knowledge sharing, relation-specific assets, shared processes and systems and more effective forms of governance that are difficult for competitors to copy, thus conferring a more resilient form of competitive advantage.

28. Co-innovation may take two primary forms, considered in terms of outputs and inputs. Outputs refer to what chain partners actually do, including the development of new, value-added products/services for particular value chains and targeted consumer segments. Inputs refer to process improvements for existing products/services beyond organisational boundaries; how organisations go about achieving innovation. It is important to identify the scope for radical, as opposed to incremental innovation. Incremental innovation involves minor variations requiring little departure from existing practices. Radical innovation involves non-routine and re-orienting changes that produce fundamental departures from existing practices.

29. Four primary areas for innovation within agri-food value chains should be evaluated:
    - Agricultural R&D innovation;
    - Production innovation (new product development);
    - Process innovation; and
    - Systems/logistics innovation

Assessment criteria

30. The assessment of the existence and scope for innovation in the value chain is a theme which runs through the analysis of material and information flows and relationships. The analysis should look for a number of distinctive indicators:

    - Common strategies and performance measures which include the four different types of innovation;
    - Incentive structures and resource allocation systems which prioritise and reward innovation, including relative emphasis on the particular value chain by those participants who are involved in multiple value chains;
    - Mutual capacity for innovative thinking and adoption of its outcomes;
    - Communication of consumer insight throughout the chain and upon which all innovation programmes are then built; and
    - A culture of risk-taking and collective experience of, and attitude to failed innovation.

Specific issues

- Consumer attitudes/behaviour:
    - Have the key drivers and trends in purchasing behaviour been identified? Are these being used to generate NPD ideas, or just to test ideas?
    - Are there particular barriers to purchasing the product which close off some NPD options, eg consumer reluctance to try particular types of new products?
    - Are consumers more willing to try branded innovative products?

- How are ideas tested against consumer value?

- Supplier-retailer relationship:
  - How influential is innovation in category strategy? If NPD is seen as key, is this accepted as compatible with any strategy for range efficiency?
  - Is the retailer realistic about the time/investment taken for innovative products to establish a market (eg re-coup development and advertising costs)
  - Are there previous examples of co-innovation that the chain has implemented, but not viewed it as such?

- Are agricultural R&D programmes (genetics and production) reflecting consumer values, or primarily about yield and processing efficiency?

- Is innovation a mutual activity amongst chain partners with knowledge, costs, risks and benefits shared? Or do some partners in the chain see innovation as being done by others, even when it directly affects their own operations/returns (in particular farmers, but also some functions within other organisations)?

- Are the buyers of raw materials, other inputs and services, and finished goods rotated frequently? If so, do suppliers see the strategies for buying decisions, in particular towards innovative products and processes, as remaining consistent?

- Is there a strategy for dealing with innovation throughout the business/chain, or does it require a specific champion to push each idea?

Section 5 - Mapping and assessing the Material Flow

Mapping the material flow

31. The material flow should be mapped from one end of value chain to the other, from suppliers of agricultural inputs to consumers. This should result in a map of the product flow, including each activity involved in its production, and where and how much inventory is held. When there are multiple suppliers of the same input (goods or services), a sample need to be visited to glean the degree of variation in how they operate.

32. The precise activities involved in a chain will depend on the nature of both the raw materials and the final product and on the geographical configuration of the chain. The activities may include:

Agricultural inputs:
- Genetics (seeds, seedlings, livestock)
- Chemicals, feed etc

On-farm activities:
- Arable/horticulture: Land preparation, planting, growing, irrigating, harvesting
- Livestock: breeding, animal health, feeding, land management

Transporting raw material
- Carting the raw material from farm to factory, via abattoir, cold storage, elevators etc

Processing inputs:
- Additional key ingredients
- Packaging

Processing:
- In-take and preparation of raw materials
- Processing
- Packaging
- WIP and finished goods storage
- Quality control
- Dispatch

Transporting of final goods:
- Intermediary transport and storage of product

Retailing:
- In-take/transport to outlets (stores/foodservice)
- Storage
- Merchandising
- Waste and returns

Consuming
- Purchasing and storage by consumer
- Consumption
- Waste

Evaluating the material flow

33. The objective of a material flow is to deliver efficiently the required type, volume and quality of product to maximise consumer value. Accordingly, each activity in the chain is assessed against the consumer research as either:

   – **Value adding -** those activities that, in the eyes of the final consumer, make a product or service more valuable. Defining a value adding activity requires a detailed understanding of consumer attitudes, preferences and purchasing behaviour, and hence the need for the consumer research.

   – **Necessary, but non value-adding -** those activities that, in the eyes of the final consumer, do not make a product or service more valuable but are necessary unless the existing supply process is radically changed. Efficiency and the reduction of waste are essential to these activities, and in the longer term should be a target for radical change or even elimination.

   – **Wasteful -** those activities that, in the eyes of the final consumer, do not make a product or service more valuable and are unnecessary. These activities should be targeted for elimination in the short term.

34. Then the efficiency of the flow is evaluated against:

   - ***Timeliness*** in allowing continuous, efficient flow through processing; avoiding unnecessary inventory and product movements, and ultimately avoiding stock-outs in stores;
   - ***Minimising waste*** caused by unnecessary processing or by production of unusable raw material or by-products; and
   - ***Maximising scope for adding value***.

Assessment criteria

35. A number of characteristics of the material flow need to be assessed, including:

   ➢ What is optimum processing rate? How frequently does the process operate at that rate, and what are the main causes of disruption?

   ➢ Planning and control methods - is material pushed through the value chain by the rate of raw material production and/or finished good processing, or pulled through to match consumer demand?

   ➢ Evaluating the material flow against
      – Wastefulness – Are any activities wholly unnecessary? How much waste is produced, eg through over-production or unusable raw material?
      – Lead times between decisions and completion of activities, eg
         i. volume of raw material required and delivery of raw material from farms; or
         ii. retailers' orders and their fulfilment
      – Efficient layout of farm/factory/storage;
      – Efficient geographic configuration of chain (minimising transport; facilitating smooth flow of raw material)
      – Scope for more value-adding, including alternative uses for waste

Specific Issues

   ➢ ***Different types of waste***:

- Over-production (raw material and final product);
- Transport - double handling, excessive movements, which could be at:
  - micro-level, eg in factory due to poor layout, where the ideal is to have the smallest possible machine, capable of producing the required quality, located next to preceding and subsequent operations, or
  - macro-level, eg poor configuration of locations of raw material production, factories, storage and outlets.
- Inappropriate, over-complex processing; or
- Unnecessary inventory;
- Missed opportunities for using by-products;
- Waiting - for raw material, Work In Progress, finished goods, transport or people;
- Unnecessary staff effort;
- Defects; and
- DC and retail waste

- ***Benchmarking:*** Are different stages of the material flow benchmarked?

- ***Variability:*** How much do orders vary (weekly, seasonally and annually)? Do orders of raw material (and packaging and other inputs etc) vary in parallel, or does the variation become amplified upstream (ie, over-ordering of farm produce one year, and then much less the next, causing potential relationship problems)? Does this create/require buffer stock, some of which is unused?

- ***Inventory creation:*** How much inventory is being created? Is storage capacity (volume and location) being used optimally at different stages of the material flow?
  At what point of the material flow is
  - finished product no longer made according to actual demand and instead is made against forecasts alone, and
  - WIP made according to raw material push

- ***Recent/ongoing/proposed investment programmes:*** What? Why? Especially, are they driven by efficiency or value creation?

- ***Consumer complaints:*** Is material flow responding to consumer complaints?

- ***Order fulfilment:*** Of raw material or other inputs and of finished goods, are orders delivered too early or late, wrong volume or quality

- ***Market segmentation:*** Is the product family correctly differentiating between different consumers/outlets?

Section 6 - Mapping and assessing the Information Flow

Evaluating the Information Flow

36. Information should be collected, shared and used through a value chain to improve the chain's effectiveness (value adding and innovation activities) and efficiency (all activities). Accordingly, the information flow in the value chain should be assessed against the following objectives:

To improve effectiveness by:

- Identifying what consumers value in the final product; and
- Communicating and then incorporating these values in research and development programmes and in production, processing and marketing activities.

To improve efficiency by:

- Ensuring the production and processing of sufficient raw material and final product of the required quality;
- Maximising productivity of farms and any subsequent processing;
- Minimising waste on-farm, in factories and shops, and during transport and storage;
- Minimising work-in-progress and finished good inventory;
- Ensuring traceability and quality assurance to meet regulatory and consumer requirements; and
- Informing strategic management of the chain, including shared visions and decision-making; process alignment; incentives and mutual benefits; and transparency of market, cost, forecast and performance data.

Assessment Criteria

37. A number of characteristics of the information flow need to be assessed, including:

a) Minimising delay and distortion: market information (eg, demand) suffers from delay and distortion as it moves up the supply chain. This can create waste (excessive raw material or inventory). Accordingly, the flow should reduce uncertainty by limiting order magnification as information moves up the chain and retain information's value by reducing the time delay in transferring information.

b) Focusing on the value rather than volume of information, i.e is information merely communicated indiscriminately and/or in bulk, or is it managed?

c) Evaluating each flow against:

- Validity: accuracy and reliability;
- Robustness: similar interpretation by all users, repeatable, comparable across time and place;
- Usefulness: relevant, understandable, actionable, benchmarkable;
- Completeness: measurement of all relevant aspects;
- Timeliness: how often information is provided (real time or historic) and whether this is sufficient;
- Targeted: does information reach everyone who needs to know and no one else;
- Consistency with value chain's strategy;
- Economy: cost–benefit evaluation of collecting and analysing the data;

– Format: is the most appropriate communication media used (from face-to-face to electronic)

Specific Issues

- ***Value Chain Strategy*****:** Is there a strategy for the product(s) and chain? Was it informed/supported by consumer research? By whom was it agreed, and how widely has it been communicated and understood between and within partner organisations? Is there a process of review to reflect changing circumstances?

- ***Performance measurement systems:***
  i. Do the systems measure those activities which are convenient to measure, or which only that part of the chain considers significant; or do they monitor the activities which consumers value and the outcomes of which are most relevant to the whole chain's strategy?
  ii. Are systems monitoring the whole value chain's performance; the performance of each individual organisation/function and the performance of individuals?
  iii. Is there a process to review performance of individuals and chain partners? This should include the setting of objectives, evaluating performance, and agreeing and monitoring actions to improve performance.
  iv. Does current information flow support or constrain appropriate incentivisation?

- ***Dealing with uncertainty***: eg in demand; production yield/quality and quantity of supply; market competition; and changing consumer preferences. Are risks and uncertainties identified? How are they managed through flexibility and contingency plans?

- ***Forecasting***:
  – By whom (retailer; processor etc);
  – With what information (actual v estimated sales/inventory figures);
  – What is target accuracy on different time horizons and for different products? What accuracy is achieved? What are the effects of inaccuracy (cost, mistrust, stockouts, excessive storage); and
  – Supported by what modelling (eg, variation in prices either through promotion or of substitute products; impact of different prices paid to suppliers)

- ***Deficient information flows*****:** Are deficient flows caused by operational issues or based on problems in relationships, eg information not flowing because of a lack of trust, or flowing but not being used because of a lack of alignment? Is the media for information dissemination consistent with how the recipient prefers to receive it?

- ***Waste***: on farm, during processing and in transit, how is data
  – Collected (how, by whom, how frequently)
  – Monitored (how, by whom, how frequently)
  – Acted upon (examples)

- ***Consumer complaints***: How many consumer complaints are there and about what? Who collects data and how is it communicated and used?

Section 7 - Exploring and assessing relationships

Evaluating relationships

38. Relationships are the foundation of value chains' success, often driving improvement or causing stagnation in material and information flows. Relationships' strengths lie in foundations based upon:
    - Shared visions, culture and leadership;
    - Compatible structures and processes;
    - Mutual alignment of ability, resources and motivation, and
    - Commitment to continuous improvement, in particular through innovation in products, processes and systems.

    Accordingly, through interviews and other material, for all value chain partners (including for key functions within organisations), each relationship's strength and potential is assessed by identifying indicators of three characteristics:
    - Strategic alignment;
    - Trust, cooperation, commitment and a long-term orientation; and
    - Power, dependence, opportunism and conflict and its resolution.

Assessment criteria

39. A number of characteristics of each relationship need to be assessed, including:

    Strategic alignment:
    - Resources available (production/processing capacity) and investment strategy
    - Ability, expertise and motivation

    Trust, cooperation and commitment:
    - Long-term orientation, including shared visions; compatible and adaptable structures and processes
    - Contractual arrangements (shared risks and rewards for mutual benefit; formality and length of contracts; negotiation, monitoring and enforcement costs)
    - Joint ventures/investment
    - Open communication, honesty and consistency (between words and actions; and in sustaining level of effort)
    - Mutual and timely exchange of communication
    - Understand each other's businesses, and so the impact of own actions upon the other chain members;
    - Performance assessment, feedback and resultant action; pro-active suggestions for improvement

    Power and dependence; opportunism; conflict and its resolution:
    - Inter-dependence – the relative importance of the value chain to each party in the relationship in terms of volume, value or strategic significance to business growth
    - Asymmetrical power - availability of alternative customers/suppliers, and ease and history of replacement; relative size of value chain partners
    - Dysfunctional behaviour - where one partner has more power and is therefore potentially less dependent, is this position abused? How?
    - Is either party inclined to opportunistic behaviour?
    - Is information seen as power rather than shared?

- What issues cause conflict within the value chain? How are disputes resolved, and has this created or diminished trust or commitment?

Specific issues

Strategic alignment

- What is the mutually agreed strategic alignment? Are expectations aligned, eg growth in returns and market share; scope for efficiency improvements; importance of corporate social/environmental responsibility?
- Do partners accept the primacy of consumer value in principle, and have they the knowledge and skills to apply it in practice?
- If relationship/strategy is long standing, are any current problems symptomatic of changes in the commercial context which mitigate the mutual value of the original strategy? If yes, is this recognised by either or both parties, and how is this being tackled?
- Are opportunities, risks and alternatives within relationship accurately recognised and acknowledged?
- How are relationships incentivised, eg commitment, quality, volume, reliability, efficiency &/or adding value? Do incentives upstream encourage the push of material flow, and so risk creating of inventory/waste?
- Is the relationship viewed in the same light by both parties? Is one party mis-led as to how the other party considers the relationship?

Trust, cooperation and commitment

- Is sensitive/proprietary commercial/technical information shared?
- Are there any relationship-specific assets (if yes, mutually or singularly funded?) and/or exclusivity agreements?
- Where arrangements/requirements are vague or change, or contracts imprecise or difficult to enforce, is there evidence of either party taking advantage?
- Does interaction only take place when required by operational needs, or is it also pro-active and related to strategy?
- Is there evidence of:
    - Prioritisation to the customer/supplier in the value chain compared to other customers/suppliers;
    - Collaboration in innovation, consumer insight etc involving mutual commitment of time, money, data/knowledge/expertise, sharing of risks/rewards
    - Honouring of commitments; reliable delivery of performance; timely response to requests; recognition of other's competency?
- How often do personnel involved in each relationship change? Has this resulted in tangible disruption (eg inconsistency in strategy) or harmed the relationship? Or does lack of change mean inter-personal tensions persist?

Power, dependence, opportunism and conflict and its resolution

- Scale of opportunism:
    - Awareness and realistic assessment of alternatives
    - Effects on behaviour, eg reluctance to commit to long term contracts, or invest in specific assets
    - Extent of exercising options to change supplier/customer