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Emerging business models

By

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ABSTRACT: Magretta (2002) suggests, using the example of American Express in the nineteenth century, that: " a successful business model represents a better way than the existing alternatives. It may offer more value to a discrete group of customers. Or it may completely replace the old way of doing things and become the standard for the next generation of entrepreneurs to beat". Adding substance with:

"... all new business models are variations on the generic value chain underlying all businesses. Broadly speaking, this chain has two parts. Part one includes all the activities associated with making something: designing it purchasing raw materials, manufacturing and so on. Part two includes all the activities associated with selling something: finding and reaching customers, transacting a sale, distributing the product or delivering the service. A new business model's plot may turn on designing a new product for an unmet need ... Or it may turn on a process innovation, a better way of making or selling or distributing an already."

KEY WORDS: *New economy; value chain management; new approaches to traditional decision making*

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1. Introduction

Social, economic and technological change accelerated in the second half of the twentieth century. The segmentation of markets in the 1970s and 1980s was followed by fragmentation during the 1990s. Fragmentation in particular required a flexible response to increasingly sophisticated customer expectations for quality and variety. In this regard Davidow and Malone (1992) suggested:

‘The complex product-markets of the twenty first century will demand the ability to deliver, quickly and globally a high variety of customised products. These products will be differentiated not only by form and function, but also by the services provided with the product, including the ability for the customer to be involved in the design of the product a manufacturing company will not be an isolated facility in production, but rather a node in the complex network of suppliers, customers, engineering and other 'service' functions’.

Traditional responses to market pressure, such as Standard Oil and Ford’s vertical integration, are no longer adequate because they are slow and centre on the organisation rather than the customer. As Drucker (2001) observed, strategic responses need to be customer centred.

There has been a considerable international debate concerning the future of manufacturing and the impact of a rapidly changing business environment. The *Manufuture*-European Technology Platform was launched in December 2004 from which emanated a recommendation for the preparation of a more detailed Strategic Research Agenda, identifying research priorities to be implemented.

In the subsequent “Agenda” a number of concerns were expressed. From a European perspective manufacturing employs around 34 million people, produces an added value of in excess of €1500 billion from 230000 enterprises with 20 or more employees. The report identifies two major threats to European manufacturing. In the high value/low volume sectors the threat is emerging from developed countries; in the high volume/low value sectors the threat is from the industrialised Asian countries. However it is arguable that countries such as India and China now compete in both sectors.

The *Strategic Research Agenda* identifies a number of important drivers:

- Competition from emerging economies
- Shortening product life cycles
- Environmental and sustainability issues
- Socio-economic environment
- Regulatory climate
- Values and public acceptance

The report continues to suggest countermeasures for competitive and sustainable reaction to these challenges are:

New high added-value product services

New business models

New manufacturing engineering

Emerging manufacturing science and technologies

Transformation of existing RTD and education structures to support world class manufacturing, researcher mobility, multidisciplinary and lifelong learning.

Manufuture considers the changing characteristics of the marketplace suggesting the market increasingly demands products that are customised, yet available with short delivery times. The business focus must shift from designing and selling *physical* products to supplying a *system* of product-services that meet end-user demands while they also reduce total life-cycle costs and environmental impact. A fundamental concept of the *Manufuture* vision is one of “innovating production” which embraces new business models, new modes of “manufacturing engineering” and ability to profit from ground breaking manufacturing sciences and technologies. The report suggests a dominant business model that will emerge:

“The “virtual factory” of the future will manufacture in adaptable networks linking medium and large-sized OEMs with value chain partners and suppliers of factory equipment/services selected according to needs at a given time. Its composition will not be limited by the presumption of physical co-location, nor by a need to maintain long-term relationships” Executive Summary, Manufuture-EU, 2006

Papers at the IMS (Intelligent Manufacturing Systems) Vision Forum 2006 were making similar points. Jason Myers (Canadian Manufacturers & Exporters, Canada) identified three ‘agents of change’ for *Next Generation Manufacturing*:

Customised solutions – integrating capabilities through products, services, and information to meet individual customer requirements.

A lean approach – minimising waste and emphasising resource utilisation

The Competitive Batch of One – creating individual solutions in a cost-effective (and profitable) way; and

Time – instant delivery of service to all customers

Myers suggests that manufacturing responses are already operating in the context of value chains that compete against each other; suggesting further that the extended businesses of the future will be virtual enterprises in which business units continuously reconfigure their operations, collaborative partnerships, and supply chain relationships, forming and reforming networks on a project by project basis, relying upon networked information systems and virtual engineering to ensure *concurrent* design, production, marketing, service and sales support. They will operate as if their firms are members of a single and flexible enterprise.

Some companies are learning how to take a more creative approach to mobilizing resources. Bruce Grey (M.D., the Bishop Technology Group) discusses the holistic business model from a resource management perspective. Grey argues that rigid resource based systems (typically highly automated factories operating with rigid and standardised processes that apply resources to specific places at predetermined times. IT systems specify activities to be carried out and resources required to meet anticipated demand). Grey’s argument. By contrast resource mobilisation (the increasing

externalisation of tasks and a corresponding increase in cooperative arrangements or networking.) is; “a necessary response to fragmenting less predictable demand. Vatne^o (1995) reports a Scandinavian empirical study of the internationalisation of SMEs, their use of external resources, and in what sense local resources are mobilised in the process of internationalisation. Grey cites a McKinsey Quarterly article describing Li and Fung, a Hong Kong based clothing manufacturer and distributor (see below) that works with some 7500 partner organizations in 37 countries manufacturing a range of apparel products from high quality woolen sweaters to synthetic slacks:

“Traditional supply chain managers focus on limiting the number of suppliers and creating tightly integrated operations – the OEM automotive approach. Innovators like Li and Fung are rapidly expanding the range of participants in order to gain access to more specialised skills, as well as nurturing and developing relationships that help all parties build their capabilities more quickly.”

Li and Fung sit at the hub of a network of specialist enterprises that mobilize resources in different combinations depending upon the rapidly changing demand.

Another model finding support is the original-design manufacturer (ODM), a model that is based upon product innovation. Taiwan's Compal and Quanta Computer, offer equally compelling examples of distributed product innovation. These ODMs creatively pull together highly specialized component and subsystem suppliers in order to generate ideas for delivering higher performance at lower cost in a broad range of digital devices, including digital still cameras, mobile telephones, and notebook computers. Instead of designing products in detail from the top down, ODMs specify ambitious performance targets and then rely on this diverse network of technology partners to find new ways of meeting them. It has been suggested that the recently introduced iphone by Apple follows this principle.

There are other examples; companies such as Eli Lilly, Nokia, and P&G, are also deploying informal open-innovation techniques. In 2001, for example, Lilly created a wholly owned subsidiary—InnoCentive—that has recruited a distributed network of more than 80,000 research participants (called "solvers"), in over 170 countries, to help its clients find solutions to difficult R&D challenges. InnoCentive has more than 30 such clients (called "seekers"), including Dow Chemical, P&G, and its own parent, Lilly. When seekers confront a particularly difficult research challenge, they post their requirements to InnoCentive's solver network and offer a bounty to anyone who finds a solution. InnoCentive's success rate is roughly 50 percent—not bad for research problems that the seekers' internal R&D staffs couldn't handle. Most interesting of all, InnoCentive's solver network is beginning to self-organize, with diverse solvers coming together to address a specific seeker's needs. This is a classic pull system: when needs can't be easily determined in advance, companies can create platforms to mobilize distributed resources readily.

The Bishops Technology Group (Bruce Grey's company) collaborates with partners across the world to develop new innovative products. Grey suggests that an important facet of this activity is the relative ease with which information that flows between ODMs, suppliers, logistics providers, distributors, wholesalers and retailers can be captured providing giving valuable input about the efficacy of product design, and distributor and customer response. This suggests a major difference between rigid resource systems and mobilised resource systems. Mobilised systems use demand chain

analysis to identify opportunities and then identify the resource base required to compete successfully, and, in doing so expand (or contract) the resources network. This extends to the end-user customers who become co-creators by participating in the design process.

This approach does not infer that the final output of the mobilised resources model is a highly customised, unique product; it is suggesting that customer satisfaction can be more closely achieved by using product and process platforms as modular systems that can be combined in a number of ways to meet end-user demand. Examples of product platforms are seen in the automotive industry where platform components are shared on an intra- and inter-organisational base. Examples of process platforms are seen in Internet merchandisers such as Amazon and e-Bay.

The underlying principle of these customer-focused organisations is to create additional value for their customers by building *value chains* that identify, produce, deliver and service customer needs. They create a multi-enterprise organisation that integrates supply chain efficiencies with demand chain management processes that anticipate customer expectations and ensure the availability of products and services in the right place, at the right time, at the required level of service and at the lowest possible supply chain cost.

There are other examples. In a study of the UK Aerospace Industry by Johns et al (2005) it was suggested that:

“In the business model of the future, value chains compete rather than individual companies, and the connectivity and process excellence are key challenges.”
(AeIGT: 2003 cited in Johns et al (2005))

However, it would be somewhat trite to assume there to be no difficulties here such as coordination, communication and overall control. Johns and his co authors have identified “co-ordinating management” as a common theme in the literature. They suggest that organisational structures that are functionally organised have difficulties in meeting the primary requirements of value chain management – defining and meeting end-customer needs, and ensuring these are transparent throughout the value chain organization. Johns et al are suggesting that it is connectivity (and communication) that is the problem; however, both connectivity and communication are based on value optimization and managed equity throughout the value chain.

An additional advantage of the value chain concept is that by using added value as a basis for assessing market opportunities and opportunity to increase ‘value capture’ it enables an organisation to monitor *value migration* and to re-assess its involvement and location within the demand chain/supply chain (value chain) structure. Mark Levin, (Champion: 2001) describes how perspectives of value have changed in the pharmaceutical industry:

“Value has started to migrate downstream, toward the more mechanical tasks of identifying, testing, and manufacturing molecules that will affect the proteins produced by the genes, and which become the pills and serums we sell. At Millennium, we’ve anticipated this shift by expanding into downstream activities across several major product categories. Our ultimate goal is to develop capabilities and a strong presence in every stage of the industry’s value chain—from gene to patient”.

It follows that close monitoring of the value chain identifies significant changes in value and value delivery opportunities. It also suggests that a fixed view of an organisation's supply chain could result in significant problems and financial difficulties. Levin's comments reflect the resources mobility of the holistic business model discussed by Grey (op cit) earlier.

1.1 A "new logic" a new business model

The holistic organisation or networked business model is not a new concept. McHugh et al (1995) identified them as:

"...a set of companies that acts integratedly and organically; it is constantly re-configured to manage each business opportunity a customer presents. Each company in the network provides a different process capability and is called a holon" McHugh et al (1995)

Holonic networks are not hierarchical structures – rather, each business within the structure is equal to each of the others. The network is in dynamic equilibrium and it is self-regulating. Access to, and exchange of, information throughout the network is open, as is access to and exchange of information across the network boundaries. The network is evolutionary and is constantly interacting with its environment. It is a knowledge network, a learning organisation. The authors suggest a number of advantages accrue to holonic networks:

- Asset Leverage; increased utilisation from distributed operations through synergy
- Speed; specialist inputs enhance time-to-market
- Flexibility; the ability to meet requests for product and service changes within existing response times
- Faster growth and increased profitability; through improved response (time) rates
- Increased customer loyalty; longer and more profitable customer relationships
- Shared assets and lower total capital investment; investment by partner organisations is limited to its core processes and working capital requirements are influenced by a 'just-in-time' approach
- Shared risk at reduced levels; risk is reduced by being dispersed among network members *and* because of the high aggregate level of expertise that is deployed.

It follows that a 'net work' or value chain design should reflect these advantages. To do so will result in:

- Lower investment in fixed costs and working capital.
- Lower operating costs due to optimal economies of production and increased customer response (reducing customer acquisition costs and increased transaction values)
- Reduced business risk (defined here as fluctuations in planned market volume (and market share(s))
- Reduced financial risk (defined as the probability of failure to achieve a target return on net assets)

- Decreased response times (both time-to-market a strategic consideration and operationally, the order cycle time)

Operational roles are occupied by specialists each of who bring a core capability that combines with others to produce or to deliver the product that the end-user buys. Examples include manufacturing and logistics etc. A second role supplies a support process, such as procurement or customer service management and or facilities, McHugh and his co-authors suggest this is a functionally oriented role and that typically there is only one member supporting the value chain. Emerging examples of this can be seen in the large B2B buying exchanges appearing in industries such as the automotive industry. The third role is that of resource provider to the operational role members. Resources include skilled labour (such as designers), information/data management services and, increasingly important, customised facilities (such as those required for computer chip manufacturing). An 'integrator' role completes the structure. The integrator has one of two functions (and may well perform both): one is to provide the initial 'strategic vision' around which the virtual organisation is structured. The other is a coordinating role within the value chain, identifying, matching and directing resources. Piore and Sabel (1984) provide an example of the integrator roles taking place in the Italian textile-apparel industry located around Prato. Small specialist companies have developed long-term relationships with one another along the value chain. An "impannatore" undertakes a strategic visionary role, together with an organising and coordinating role. The result is a very competitive value chain that offers currency and competitive prices in a fashion led industry.

1.2 Current evidence

The value chain offers quite a different approach. It has applied network thinking to the evaluation of strategic alternatives together with a radical approach to the role of partnerships. The business model has often taken second place to strategy in management thinking and focus. Normann (2001) discusses "a new strategic logic". He suggests that: "...managers need to be good at *mobilizing, managing, and using* resources rather than at formally *acquiring* and necessarily *owning* resources. The ability to reconfigure, to use resources inside and particularly outside the boundaries of the traditional corporation more effectively becomes a mandatory skill for managements".

More recently a significant transformation in Australian manufacturing has become significant. Lloyd (2007) reports on a dramatic shift in the type of business now becoming successful in areas that were once dominated by "high volume – low value" manufacturing such as textiles (apparel and footwear) are now being replaced by food processing, advanced aero space, pharmaceuticals and medical devices. Lloyd quotes the Greater Western Sydney Economic Development Manager who reports significant statistics: "while manufacturing has fallen from 21 per cent of the regional economy two years ago to 19 per cent today, in value terms it has risen from \$14.4 billion to \$15.5 billion. This compares with the NSW total of \$33 billion." It is developments such as this that suggests further challenges (and opportunities) exist for logistics management, but equally it suggests that logistics managers need to adjust their approach to these developments if they are to be successful.

Developments such as these offer opportunities for logistics management. For "high-value low volume" companies there are new expertise requirements. It will be recalled (**Figure 6**) that logistics management concerns the effective and efficient management

of stocks and flows of materials, information and cash flows. We are now seeing the importance of the selective application of these skills in quite different industry situations. The “high-value low volume” companies will require an emphasis on the confidential management of the transfer of information flows while the “high volume-low value” organisations will need to focus on the cost and time efficient management of materials flows and of transactions flows as cash management becomes increasingly important in industries in which margins are constantly under pressure.

If the organisation is to identify with a role within the range of value chain processes it is sound business sense to establish itself in that role and to monitor potential competition that may attempt to undermine its positioning. This requires rigorous self analysis and takes a prospective view of product and process developments together with a similar long-term view of competitive activities. Often this suggests to an organisation that possibly due to value migration or perhaps an external shift in the industry characteristics due to changing technology, or may be relationships structures a company may consider it timely to shift its positioning within the value chain. Internal factors may also suggest this to the organisation’s management as the organisation develops new skills. See **Figure 1**.

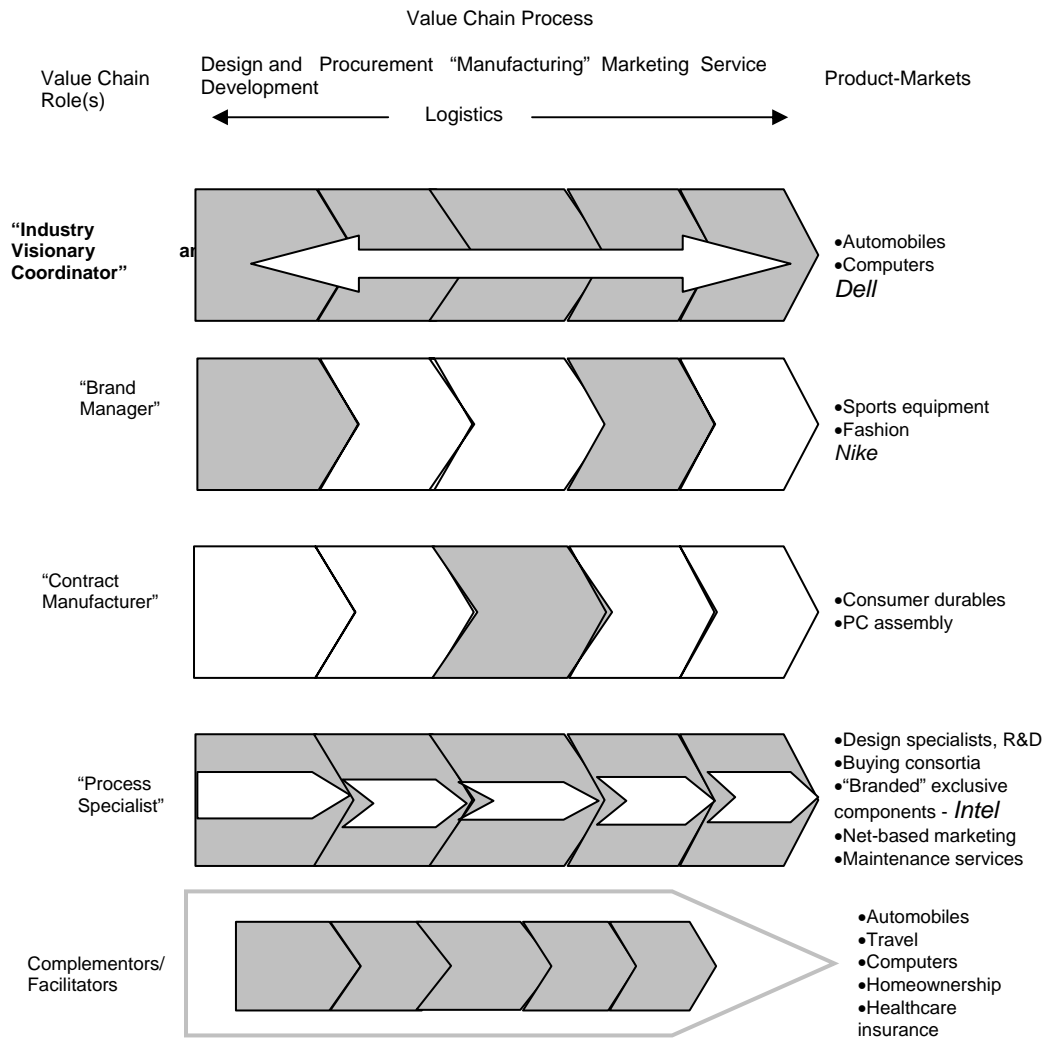


Figure 1: Positioning Alternatives in the Value Chain

Each of these value chain roles brings a different perspective of the economics of production; the managerial skills that were required to manage scale have been replaced by the skills needed for integrating and coordinating inter-organisational activities. One of the companies cited in Lloyd's report *op cit* is owned by Carlos Broen whose Ingleburn factory is supplying tools to Boeing for use in the manufacture of the carbo fibre wings of the Boeing 787 (The Dreamliner). Broen comments: "The world of manufacturing has changed. Any thing to do with non-sophisticated, value-added manufacturing has moved offshore to cheaper labour markets. The companies that survive will be those dealing with intellectual property or knowledge."

Figure 2 offers examples of Australian organisations that have repositioned themselves in their respective industry value chains.

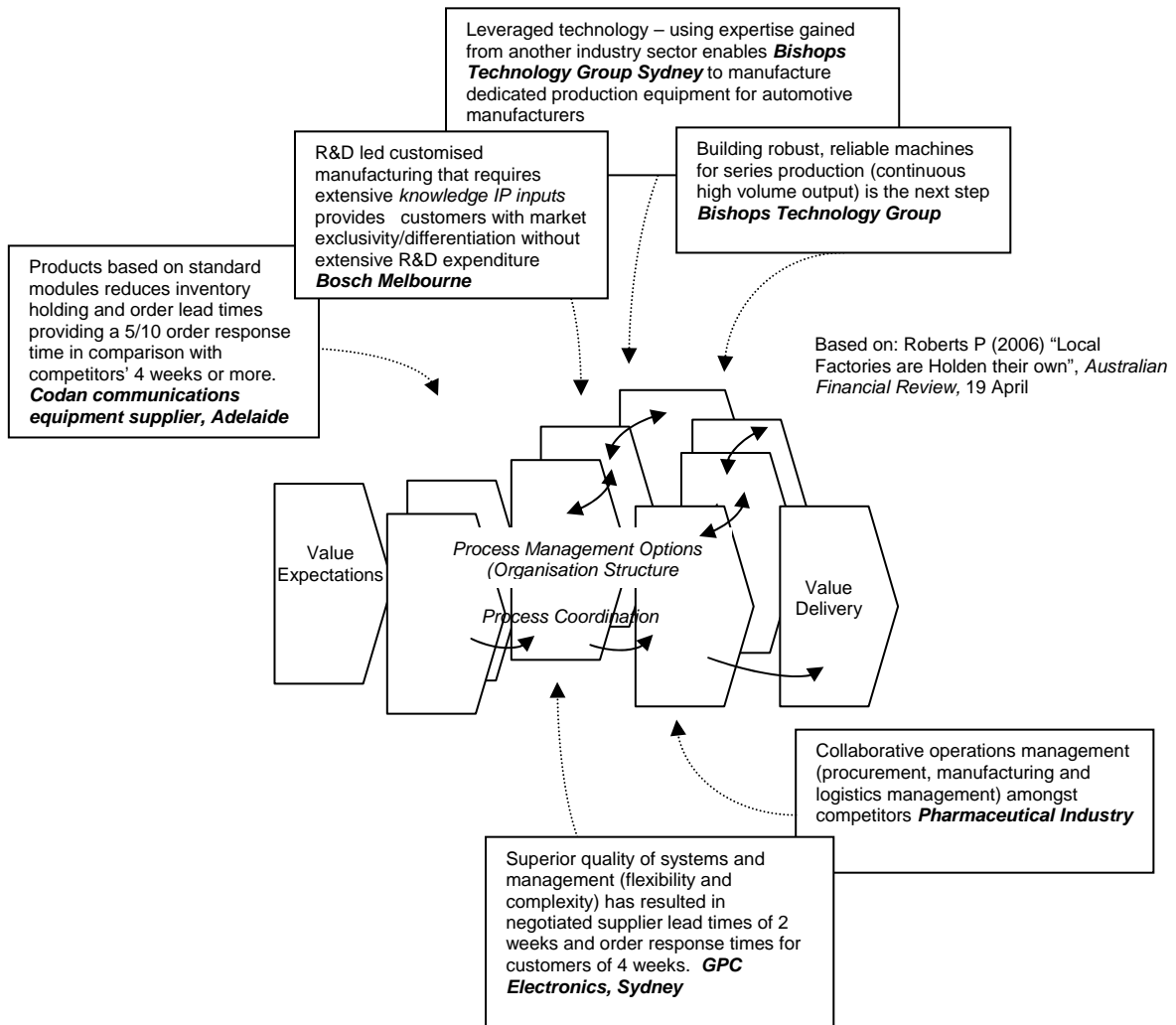


Figure 2: Examples of Australian companies have adapted to the value chain approach

1.3 Performance expectations and measurement

The move towards virtual organisation presents the individual firm with a complex decision matrix. It has (and always has had) long-term and short-term performance decisions to deal with. For many firms the long-term was an extrapolation of the short-term. However, for most, that somewhat doubtful luxury no longer exists as increasingly they have become components in value creating networks. They work within the network in a strategic direction that has been identified by other (often larger) partners and their short-term decisions focus on contributing component input into a product-service that may well be completed and delivered to an end-user literally on the other side of the world. Given that “value chains now compete with value chains” their immediate focus is on short-term efficiencies and performance is prescribed by their partner and investors in terms of *economic value added*. Stern Stewart developed this concept into a performance measure that has become widely accepted as a financial performance metric. EVA (economic value added) uses a similar approach to Kay

(1993); the EVA concept of *applied capital* takes the view that in an operating period (typically an accounting year) an amount of capital is consumed in the outputs of the organisation and as such should be deducted from the operating profit of the business.

The advantage of both measures is that they provide a realistic measure of value creation in the short term. However care is required when calculating the cost of applied capital because strictly it should only be the capital expenditure directly involved in generating the period profit, other measures are required if a longer period is to be considered. The notion of capital is a comprehensive calculation including tangible fixed assets, working capital and *could include intangibles*, such as capitalised expenses to maintain brands, specific customer/period focused R&D and management development expenditure where this too is relevant to the period operating profit.

A positive EVA indicates management is creating value for the shareholder, while negative values suggest value is being destroyed. Essentially EVA measures a company's success over the previous year; other measures are required if longer term time periods are under consideration *and* particularly if strategic alternatives are to be evaluated. Typical information inputs are those that can be managed in the short/medium terms and show responses. Within the context of this discussion it is clear that outsourcing decisions can have a significant impact on the EVA performance in the short/medium term time period.

In the longer term the individual firm is a resource component and its contribution is typically determined on the ability it demonstrates as a specialist input, one that adds specific value to the product-service. Knight and Pretty (2000) offer an interesting model of the business capable of being adapted to the needs of the virtual business. They suggested that the value of a quoted company *has three components: tangible value, premium value, and latent value*. *Tangible assets* will sustain the company's value in times of crisis (typically its tangible core assets, capabilities and processes). *Premium value* represents the value in excess of book value at which the company trades in the open market (comprising intangible assets such as brands, intellectual property, etc) and; *latent value* that represents value that might include operating efficiencies yet to be realised due to productivity increases and potential consolidation. Given the extent of partnership structures it is reasonable to assume that the resultant virtual organisation is one that will seek to *maximise* its growth potential, and *minimise* the overall risk by identifying specialist partners who command the fixed tangible and intangible assets required for success. Another assumption that is made is that *all* partners will be determined to operate efficiently by minimising wasteful activities. The *Enterprise Value* model can be expressed as:

$$\text{Enterprise Value} = f \left(\begin{array}{ccc} \text{Latent Value} & + & \text{Tangible Value} & + & \text{Premium Value} \\ \text{(Consolidation \& Productivity)} & & \text{(Tangible assets)} & & \text{(Intangible Assets)} \end{array} \right)$$

or:

$$\text{Enterprise Value} = f \left(\begin{array}{ccc} \text{NPV of} & & \text{NPV of} & & \text{NPV of} \\ \text{returns on} & + & \text{returns on} & + & \text{returns on} \\ \text{existing asset} & & \text{fixed and} & & \text{intangible} \\ \text{efficiency} & & \text{working capital} & & \text{assets} \\ \text{improvements} & & & & \end{array} \right)$$

It follows that given a number of growth options the innovative organisation will identify an option (or perhaps a combination of options) that offers the highest aggregate NPV. Again an assumption is required; by identifying specialist partners the financial and market risks are lowered because the cost of capital for each (should further investment be required) will be lower than for an organisation without the specialist resources. The major benefit of the model is that it encourages the search for strategic alternatives that may create significantly larger opportunities for competitive advantage.

Figure 3 is a financial model of the firm based upon current thinking concerning long and short-term performance and competitiveness. The model identifies where competitive necessity is essential, where competitive advantage is desirable and where sustainable competitive advantage may be developed. The model emphasises those resources that have an impact on performance and the organisational structures and systems that are relevant. The long and short term performance measures are cash flow based and therefore will be influenced by logistics management decisions. There is logic in this proposal; as the dominant business model is likely to be a virtual structure (or at least contain a number of virtual components) free cash flow is a more logical measure than aggregate profitability.

Free cash flow can be planned and monitored in a number of ways. The conventional accounting method is to add depreciation back to operating profit; however this is primarily a method favoured for taxation reporting rather than for strategic and operational planning. An alternative approach is one that reflects the conventional cash flow components but does so in a more easily manner. **Figure 3** identifies four decision making points and facilitates decisions among alternative options at each stage; it also encourages a scenario approach by suggesting that “what if?” questions should be asked of each of the other decision making points. For example, a decision to outsource manufacturing and distribution completely will clearly have implications for the fixed asset requirements (*cash flow from assets*) and for entry and exit costs (*strategic cash flow*) as well as equity and debt funding. These are the short and long term performance objectives, the resources management portfolio policy and the investment policy to pursuer these objectives.

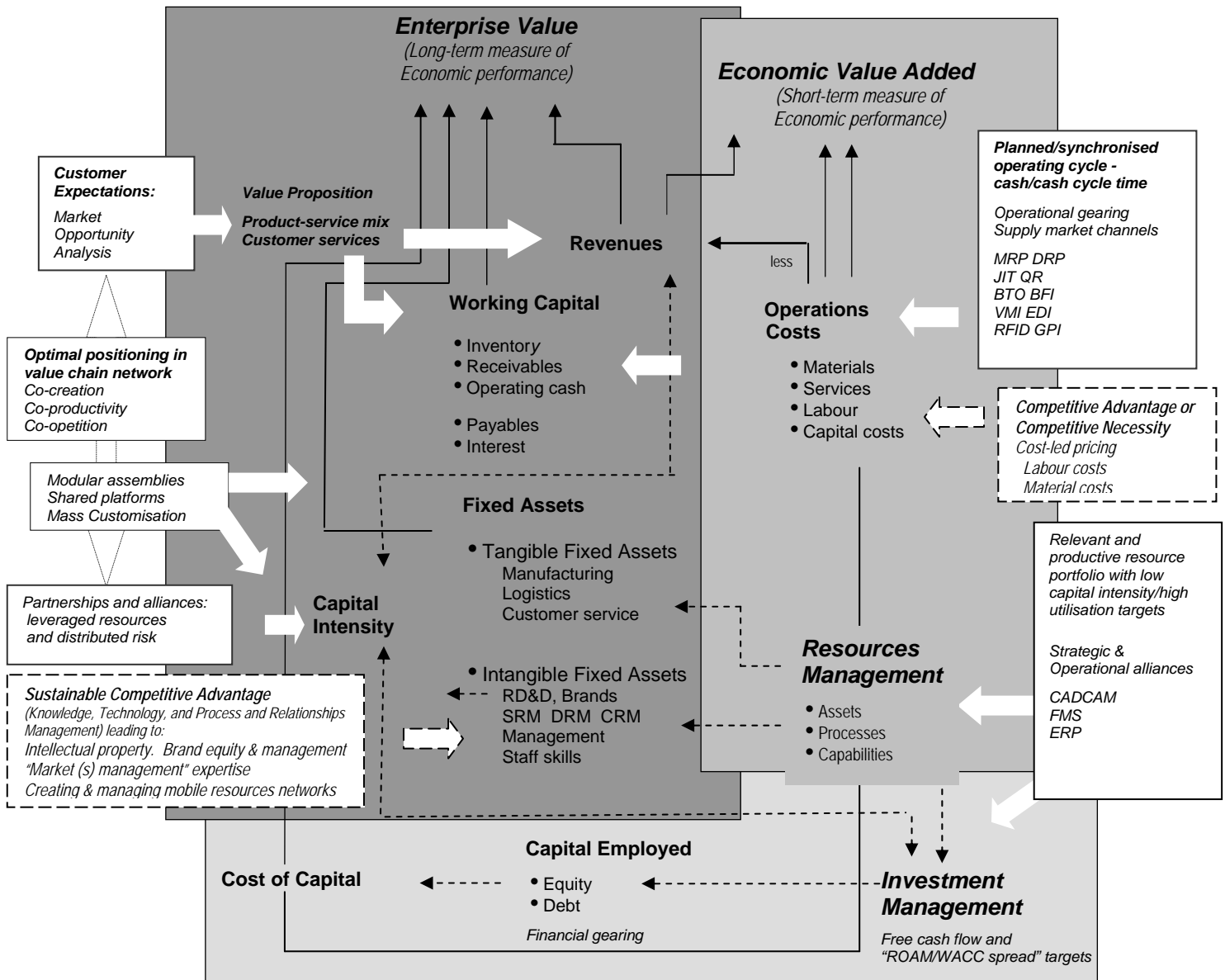


Figure 3: Virtual or networked organisations plan for the short-term as an individual firm and the long-term as a value network component

Within each of these decision areas there are a number of alternatives to consider, these will be influenced by the time horizon of the performance expectation and the competitive positioning the organisation seeks to achieve; these in turn will be influenced by how the firm interprets the *value drivers* (necessary to compete in the current industry) and the *value builders* (customer expectations characteristics in current and potential industries).

Figure 4 identifies value drivers and value builders from the customers' perspective; the value network (and the component organisations) need to interpret these in the context of *how*, with *who*, and *when* they respond.

The *value drivers* in any business depend on the specific setting, competition and the market structure. Their time perspective is clearly short-term given they are factors that “drive present value” and as levers of present value. Focus on adjustments to the value drivers results in short-term improvements in performance. Value drivers include strategic adjustments and operational implementation characteristics such as:

- Integrated and networked procurement and production operations
- Synchronised cash and operating cycles
- Access to relevant process and capabilities management
- Agile/flexible production facilities and networks
- Proactive and reactive service response networks
- Market entry and management networks
- Share of market value

Value drivers are measured by: the NPV of free cash flow, EVA (economic value added) and ROI.

Value builders help build future value. They give an organisation the ability to plan to take advantage of opportunities as they arise and help avoid threats and risks. For this to be effective *value builders* are built on *positional characteristics* (strategy, investment levels, and partnerships), the ability to *capture value* in a dynamic market environment, *building and strengthening relationships* externally and internally, and *expanding (or at least maintaining) shareholder value*. Among the characteristics are:

- The ability to capture value in a dynamic market environment: “value led” management
- Customer aligned
- Innovative product-service solutions
- Innovative processes
- Adaptive organisational structure
- Network modularity • Network orchestration
- Develop value chain loyalty relationships that encourage increased comprehensive customer cooperation & commitment

Value builders are measured by the ‘value’ of future growth (the NPV of anticipated free cash flow), share of market added value, customer perceptions and sales response, market reputation

Figure 4: Value drivers and value builders in virtual (networked organisations)

Underlying the performance management of the network enterprise is the initial decision taken concerning the precise nature of *sustainable competitive advantage* that is sought in the long-term and that for *competitive advantage/necessity* required in the short-term. These both depend upon the interpretation of customer expectations and where the organisation sees opportunity, and in turn, where the organisation locates within the value chain. As **Figure 3** suggests the long-term may involve an investment in building relationships (supplier, distributor and/or customer relationships) that reinforce the effectiveness of network owned resources. Alternatively the review of value builders may suggest that more resource flexibility will be required and urge the organisation to favour a strategy of *managing* rather than seeking to *own* the necessary resources. A novel approach to this decision has been suggested by Olve et al (1997) who describe an approach that derives a *resources balance sheet*. Given that traditionally organisations have been evaluated by an analysis of a financial balance sheet, Olve et al suggest that the same process is extended to its capabilities. **Figure 5** extends the notion yet further to address the organisations’ resources.

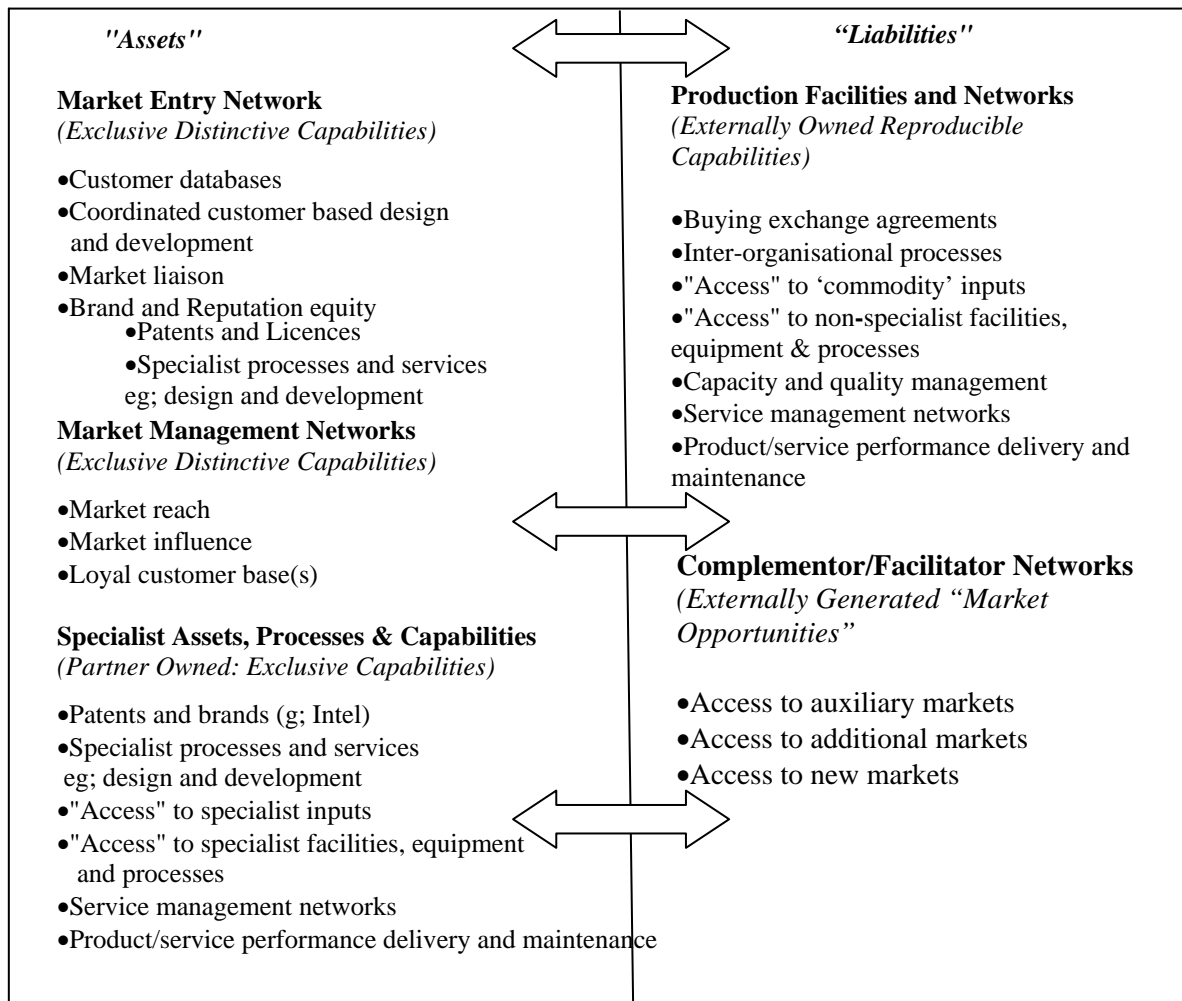


Figure 5: "The virtual enterprise" balance sheet

Based upon Olve, N, J. Roy and M. Wetter, (1997),
Performance Drivers, Wiley, Chichester.

The key "balance sheet" items are product market *and* resource based. The analogy of planning capability requirements uses the principles of financing for growth. The capabilities required for success may be identified as *assets* that may be owned or as *liabilities* that are owned or leased from external sources. *Liabilities* may also include access to networks that offer opportunities to expand product-service sales – without the attendant competition; examples were given in **Figure 1** and include travel, healthcare, large consumer durable ownership etc all of which are made easier to own or purchase because of financial and insurance service products.

Figure 3 also identifies a number of *process facilitators* that can have an impact on the *Resource Management* and *Investment Management* decisions that drive the performance of the organisation and the component enterprises. Decisions that are influenced by time, cost, or quality (typically operational decisions) may be *facilitated* by, MRP (materials requirements planning), DRP (distribution resources planning), JIT (just in time inventory management), QR (quick response –FMCG suppliers to retailer customers), BTO (build to order - an application of postponement theory), BFI (build for inventory – an application of speculation theory), VMI (vendor managed inventory),

EDI (electronic data interchange), RFID, (radio frequency identification), and GPS (global positioning systems). Other applications of particular relevance to *Investment Management* decisions are CAD/CAM (computer aided design/computer aided manufacturing software), FMS (flexible manufacturing systems), ERP (enterprise resources planning) systems.

Enterprise Value and *Resources Management* decisions will be influenced the appropriate choice of *Sustainable Competitive Advantage characteristics*, these, in turn being based upon *Industry Value Builders*. Traditional views of corporate strategy suggested that key (critical) success factors, were required for success in an industry. (Leidecker and Bruno: 1984) Furthermore it was implied that these were areas to be considered for investment as they offered pathways to sustainable competitive advantage characteristics; for example, investment in large plant facilities were seen as essential as economies of scale (and the cost advantages they provided) were considered to be critical to achieving competitive advantage. More recently the changes to the competitive business environment (discussed earlier) have brought with them a change in thinking. The dynamic nature of the “new economy” business model has resulted in a need for rapid change in organisational responses. These changes have been apparent in the drive for flexibility and agility in organisational structures. One such change has been the growth of virtual businesses with their focus on core assets, processes, and capabilities and the growth of “service-organisations” that support industry value chains.

Research suggests that four “drivers” are responsible for the success of the “new economy” business models; these are knowledge management, technology management, process management, and, relationship management. See Rumelt (1987) Blumentritt and Johnston (1999) Zineldin (1997), Irani and Love (2001) Jarillo (1993) Hagel and Singer (1999). **Figure 6** provides examples of *industry value builders*.

Some examples may help. Initially, when personal computers and mobile telephones reached the market both were perceived as innovative products, it was the function of *knowledge management* and *technology management* to provide the leading companies with competitive advantage. The early markets were dominated by price-insensitive customers. Subsequently, as price began to become an important marketing consideration the management of both supplier and customer and supplier *relationship management* became more important in managing the changed value delivery expectations. It is interesting to note that increasingly *value propositions* are *product-service* oriented. The product-service approach becomes a cost-effective proposition because both “product and “service” expectations of customers can be designed into the product and into the production process in the knowledge that the *organisation* is a *collaborative network* of specialists.

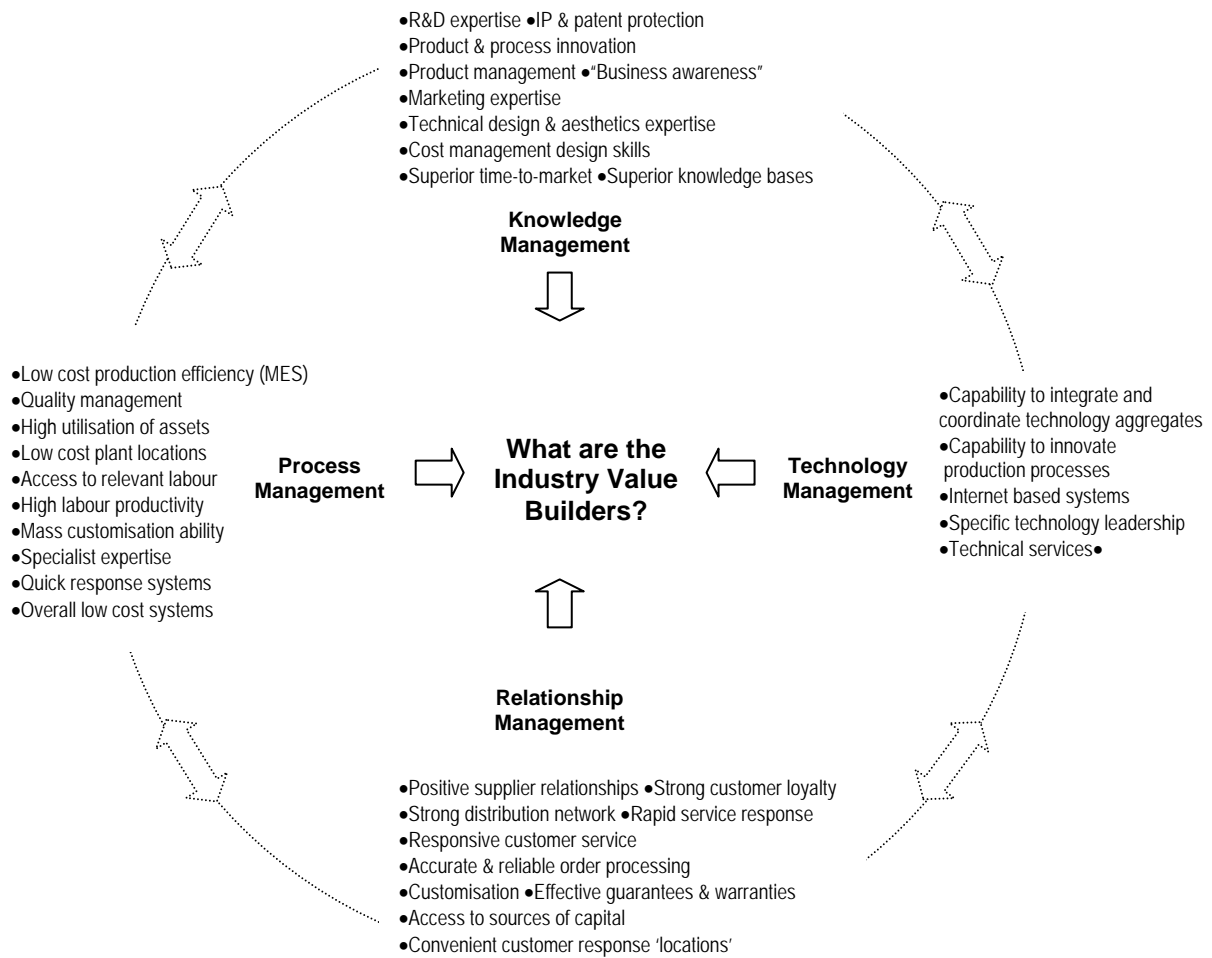


Figure 6: Knowing what drives an industry can lead to sustainable competitive advantage

The linking of information communications technology (ICT) with automated distribution and manufacturing processes to reduce order response times in the FMCG industry is an example of a *technology management* based critical industry success factor. The strong relationship bond between Caterpillar and its distributor network is an example of creating a *relationship management* approach. Using product technology (a remote serviceability diagnostic), ICT networks and a committed dealer network the “total” Caterpillar network offers a guarantee of reliable and rapid global serviceability to end-users. Dell is a prominent example of a process network. In its early days Dell decided to avoid the burdens of asset ownership, preferring to create partnerships with component suppliers. The *process management* skill of the Dell model is the coordination of customer “designed” products with the “just in time” delivery of the components required to meet the assembly of the computer to meet the order. The model minimises inventory holding but meets two very important, customer expectations – product specification and availability. Examples of two industry situations are shown as figures seven and eight.

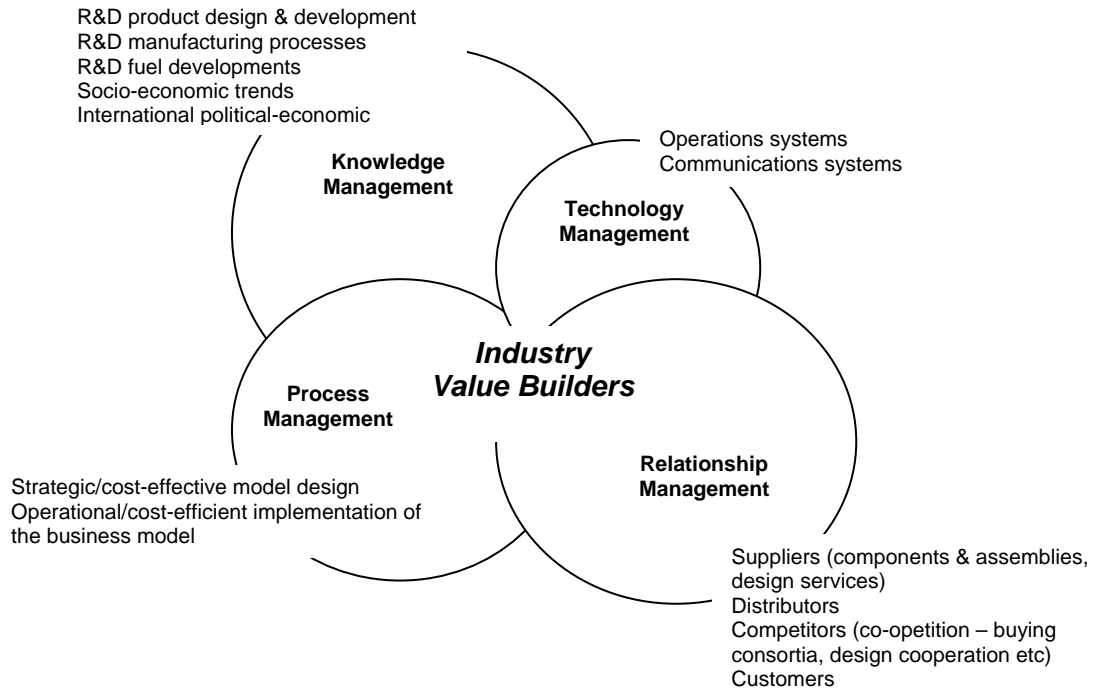


Figure 7: Automotive industry value builders

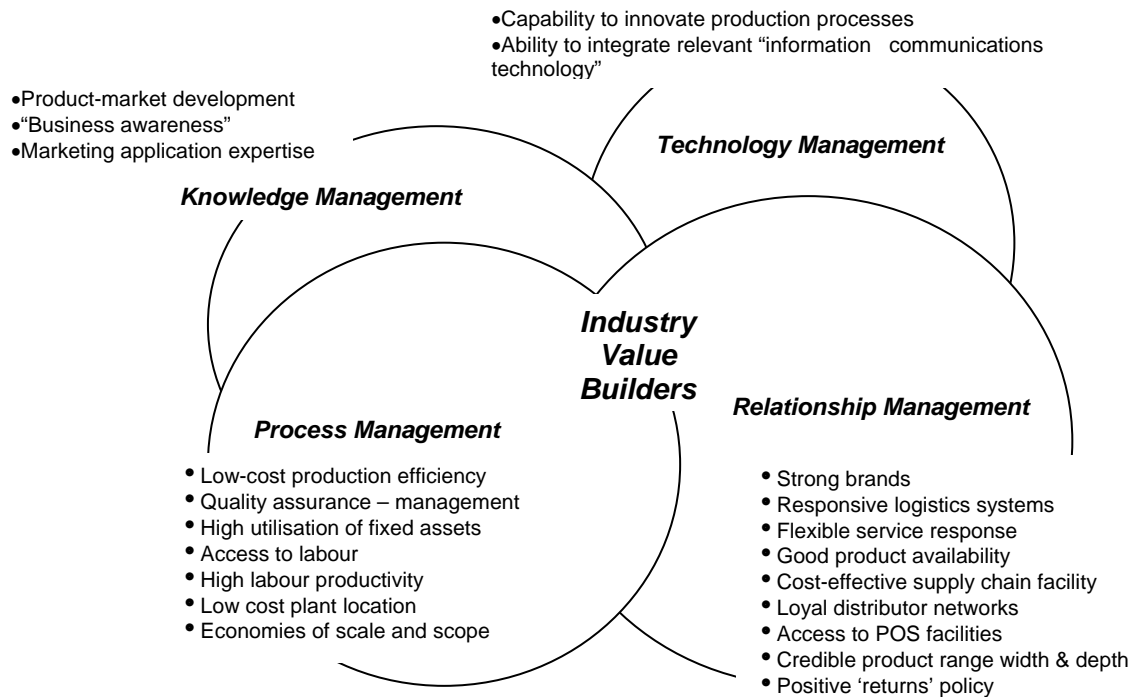


Figure 8: Industry value builders in the FMCG industry value chain

2. A closer look at approaches to financial management

2.1 *Free cash flow as a primary business driver*

Even within the confines of traditional accountancy it is clear that the notion of “profit” is quite an artificial one, being derived from the application of various rules, and having potentially different meanings in different contexts. In this text it is generally proposed that to the extent “value” is measured in purely monetary terms then, as has often been quoted;

“profit is a matter of opinion, cash is a matter of fact”. (Ellis: 1999).

Simple cash measures have however often failed to take into account the fact that cash is generated in different ways over different timeframes. This has particular implications when considering what a firm's key success factors are and how these should be managed.

For current purposes it is proposed that in quantitative terms value in a firm is best measured in terms of Anticipated Free Cash Flow (“AFCF”).

Operating Cash Flow, which is the traditional measure of cash flow starting with the firm's earnings from which direct and indirect costs associated with performing its activities are deducted.

Cash Flow from Assets, which takes into account the short-term working capital and capital structuring or investment costs, required to perform the firm's activities.

Strategic Cash Flow, encompassing the cost of fixed assets, long-term working capital requirements and entry and exit costs associated with performing the process.

One important qualification needs to be added to any formulation of a firm's anticipated free cash flow and that is taxation, which is not a constant and which varies from jurisdiction to jurisdiction not only in quantum, but also structurally in how it is levied.

2.1 *Managing cash flow*

A strategic operations approach to managing cash flow is shown as **Figure 9**. The traditional accounting approach to cash flow has been a reporting necessity to meet the requirements of taxation authorities. The approach taken in **Figure 9** is one that seeks to identify strategic (cost-effective) and operational (cost-efficient) business model structures. The model offers a series of alternatives to meet market opportunities; some of which would otherwise be inaccessible without access to network partners.

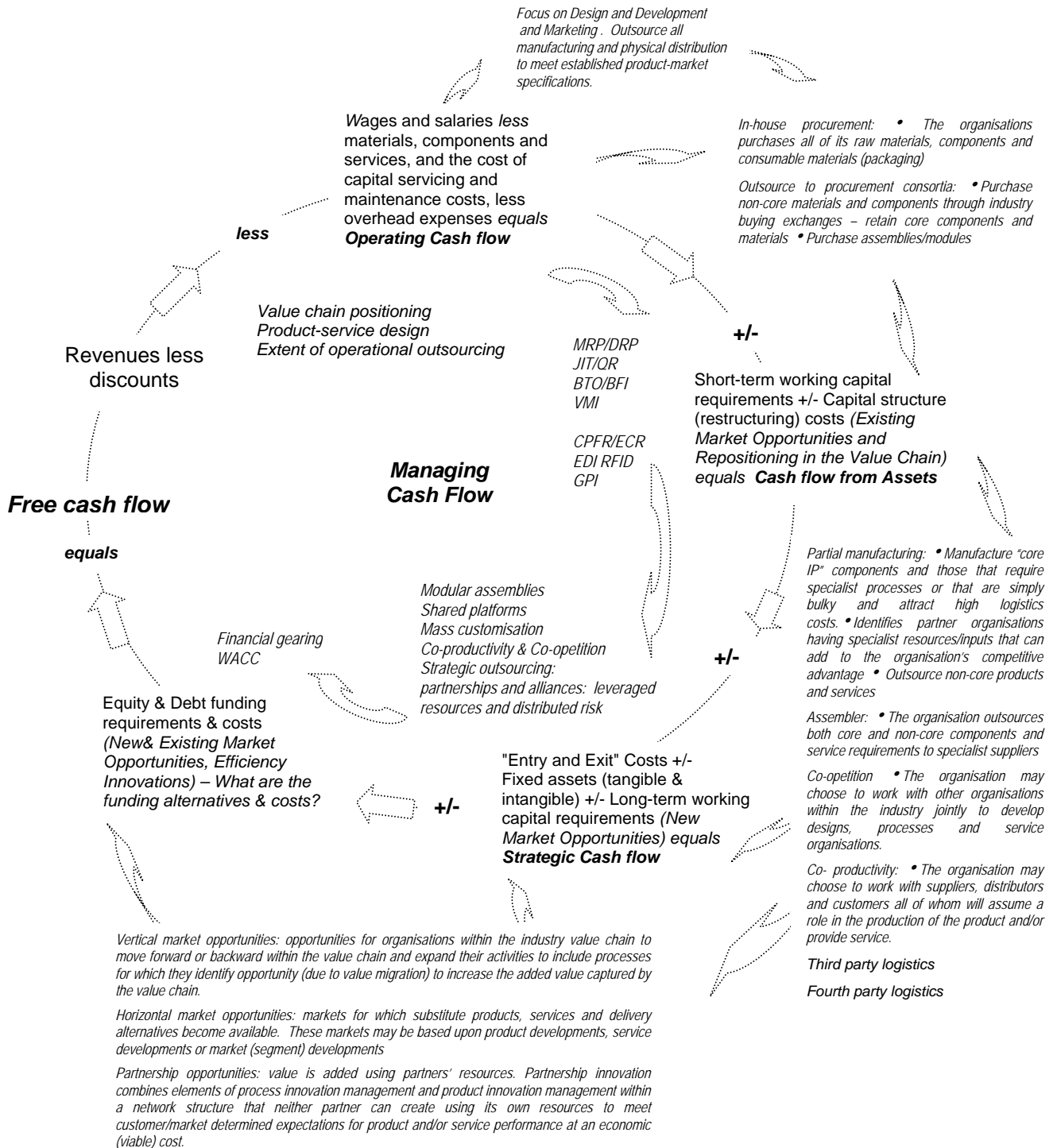


Figure 9: Alternative strategy decisions have an impact on cash flow performance

Operating cash flow is likely to be influenced by making changes to the design of the existing product range using value engineering techniques or perhaps standardising components. A review of the procurement activity may suggest advantages that are available if structural changes can be made (e.g., joint venture procurement with competitors to reduce the costs of inputs that have no appreciable impact on end product differentiation). A review of component input format may suggest ways and means of reducing the operating cycle (and the cash cycle). The location of WIP and finished

inventories within supply and distribution processes in the supply chain may also offer additional opportunities. Decisions to improve working capital productivity are to be considered. Modifications to the use of inventory, management of supplier payables and customer receivables should be sought in order to improve the cash/cash cycle.

There are a number of control issues that do have an influence on operational cash flow decisions. The impact on operational gearing (the fixed cost/variable cost structure) that result have implications for risk, particularly if major changes are made (e.g., a decision to outsource a larger proportion of the organisation's production outputs to a larger number of partners). Also to be considered are changes in supplier, distributor and customer relationships that may result from these operational changes.

It is essential to establish performance measures that are to monitor operating cash flow. From the customer and the distributor perspectives we are attempting to maintain competitive necessity aspects of the value offer and perhaps develop some competitive advantage(s). The success of this will be demonstrated by the responses tracked in customer performance and system performance. But for the organisation the system performance outcomes that are important are the working capital measures and the financial performance measures. In other words operational cash flow performance concerns meeting (or improving upon) customer product and service expectations but, at the same time ensuring that share of market added value, capital and capacity efficiency metrics, and the associated performance objectives are all met.

Changing the *asset structure* of the business can have significant impact on the cash flow performance of the business. Such changes require a longer time view perspective of the individual organisation and its relationships with customers and stakeholder partners. Changes to both tangible and intangible fixed assets are likely to be far reaching. For example, there is a major shift towards manufacturing all, or large proportions of manufactured and service support outputs, on a global basis. An increasing number of organisations are working with offshore partners in research and development (General Electric has established a 10000 strong research facility in Bangalore, where twenty percent of the activity is long-term conceptual research. India is also attracting large commitments for pharmaceutical research, (Aldrick: 2004). Other examples exist. These decisions have far reaching effects. They clearly have a major impact on short-term cash flow situations, particularly if the tangible assets are sold, but the long-term impact on costs and the delegation of control of the business to partner organisations must be explored and these issues should be addressed by identifying the important control issues and the changes that may occur in the way in which the business operates with its partner organisations.

There are a number of performance measures that are used to monitor changes in these strategies. The response of customers is best measured by considering customer retention and customer attraction performance together with customer responses to products and services support. Organisational performance measurement (system performance) is largely financial, cash flow produced, 'returns', efficiencies of fixed and working capital, changes to brand (reliability image) and an added value perspective of competitive advantage. The control issues, or as they have become, control objectives should be constantly reviewed against the planned system performance objectives.

Growth of *strategic cash flow* will require a view that is prepared to become involved in new product-markets and (very likely) with new value chain structures if the opportunity appears from outwith the industry. The alternatives involved are identified

in **Figure 9**. As well as the asset profile changes that the previous model focused upon there are issues here concerning market entry and exit costs and with them levels of risk and its acceptability. Typically the investment that is required is similar to earlier decisions but there is one significant difference and this concerns the lack of familiarity that exists. It follows that there are likely to be potential partners who can play a significant role in the growth programme but who will influence the structure, and therefore the control issues in the value chain that emerges. The issues and alternatives that confront the organisation concern the roles that each member is required to assume and the eventual structure adopted to pursue the opportunity.

A range of strategic performance metrics that are either market or financial performance related follow from the earlier discussion. The very point about value chain/virtual organisation structures is that the organisation structure should reflect not only the most effective (strategic) structural option, and the most efficient (operational) option, but it should also be designed with the purpose of reducing overall risk; the lower the risk perceptions of the 'market' and the lower is the cost of borrowing finance. One major area of risk concerns the investment required in "entry" and "exit" costs. Clearly the virtual network structure tends to reduce the burden for individual organisations. The beta profile is an interesting metric in this context. Usually beta values are used to measure relative risk between specific industry returns and the current average return from the 'market'. It follows that a $\beta > 1$ suggests there is more risk than average risk associated with an industry or product-market than there exists in the 'market' overall. The benefit the value chain/virtual organisation structures is that the organisation structure can be designed with the purpose of reducing overall risk; a lower the weighted beta value may be achievable by combining a relevant set of partner specialist strengths that closely address an opportunity and do so at much lower risk than that of an individual organisation without these attributes.

2.3 *Managing working capital*

Figure 10 explores some of the issues that may be addressed by new business models. An advantage that accrues to virtual business networks is the ability to cooperate to reduce unnecessary costs *and* improve customer satisfaction. Three components of working capital are in this category. Partnership arrangements include agreement on system inventory management, payables and receivables. Virtual integration offers an opportunity to evaluate strategic (cost-effective) and operational (cost-efficient) options. Within a partnership structure one partner's *receivables* are another partners *payables* and the result is a closely managed *cash-to-cash cycle*.

Almost all of the recently introduced inventory management tools are more productive when applied to network structures. Value networks are efficient because they are stakeholder oriented; not only do they leverage on each others expertise but in the process of doing so focus on *lean* techniques. **Figure 10** demonstrates the impact of the virtual network on the *operating cycle* and the *cash-to-cash cycle*; both have received attention by the lean operations advocates. In **Figure 10** the operating cycle can be seen to commence as materials enter the production process as work-in-progress. The operating cycle closes when the final products are delivered into finished goods inventory. Two major considerations arise one is time and the other is the cost that accrues during the operating cycle processes; reducing time will also reduce cost *but* the application of cost-efficient processes can also reduce time. As **Figure 10** demonstrates there are a number of alternatives available to reduce the amount of inventory that is

held as work-in-progress (WIP) and that can reduce the time component of WIP. Partnership structures offer a range of alternatives these can be employed to meet customer *and* partner stakeholder expectations. The diagram also suggests that modular construction and shared product platforms (common in the automotive industry) and JIT and VMI (operated by large retailers with their suppliers) approaches are applied to reducing the time and cost of the WIP component of the *operating cycle*.

The *cash-to-cash cycle* can be reduced by operating a *build-to-order (BTO)* response to customers rather than *build-for-inventory (BFI)*. The impact on the *cash-to-cash cycle* can be seen in **Figure 10**. The BTO strategy offers other advantages. One advantage is the ability to use a *postponement (or “pull”)* strategy that enables the vendor to produce the product to meet a customer’s specific order; Dell Computers is a well known example of this approach. BTO also works well (and can reduce inventory holding costs) when the product-service is designed around a set of standard components or on a shared product platform. The cost and time benefits can be large as can the marketing advantage as it offers customers some latitude in specification and choice, simplifies and reduces the costs of customer service, and is seen as tangible product-service *differentiation*. BTO is an important component in the increasingly popular *mass customisation* response to customer demands for a measure of “exclusivity”. The alternative strategy, *speculation (or “push” strategy)* requires an inventory of ‘finished goods’ and clearly this has risks. Not only are all the costs ‘held in inventory’ but success is dependant upon having built the product to a specification that accurately meets customer expectations.

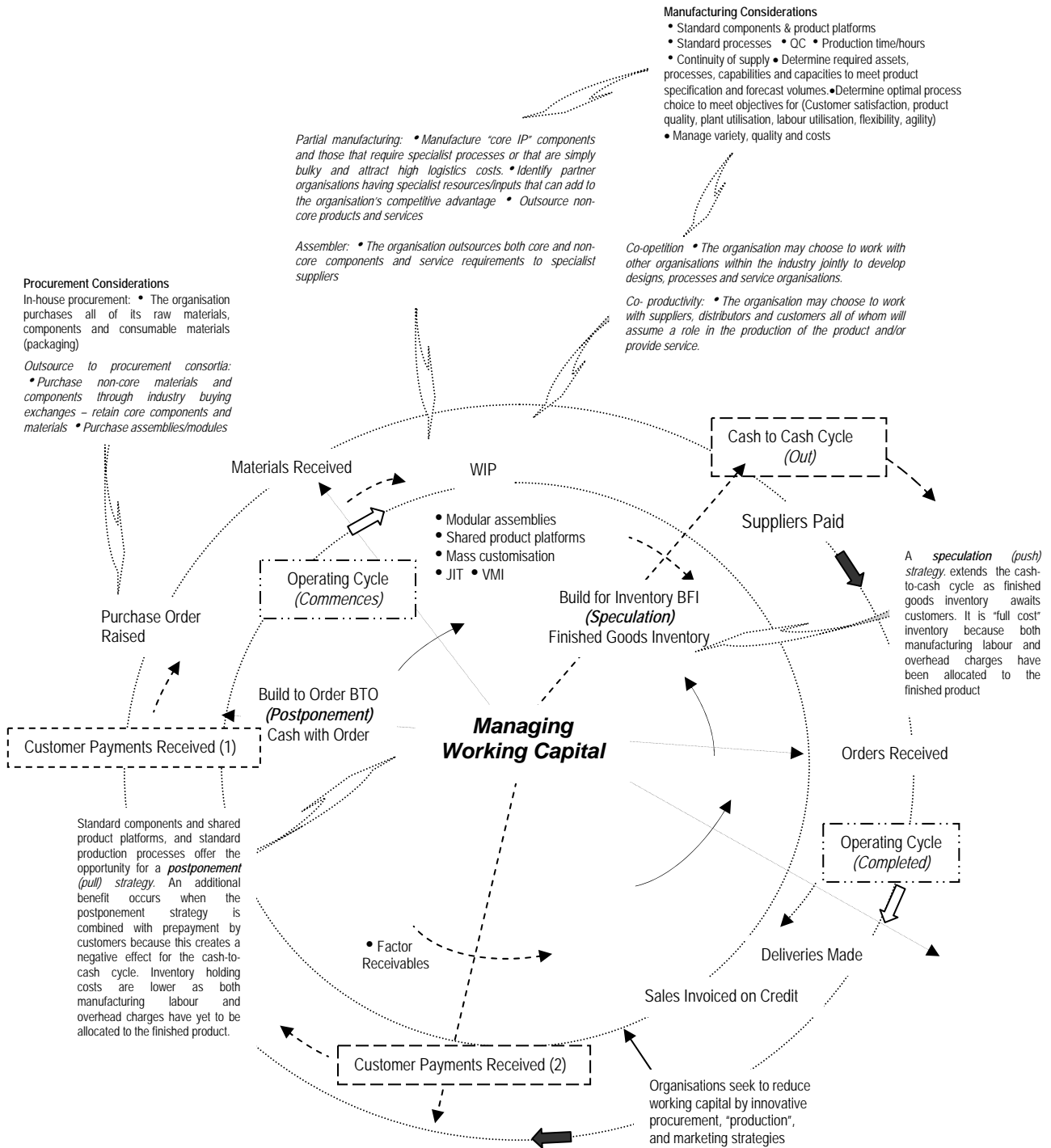


Figure 10: Managing working capital in a virtual network

2.4 *Managing fixed assets*

The argument that has been developed here is that corporate structures (as well as decision making processes) are changing very rapidly. The point may be made a little stronger: it is becoming very clear that "value" is migrating in many industries. For example the automotive industry is experiencing a shift in value profile. Hitherto, value *was* maximised in the production process, current indications and expectations for the *future* are that this will migrate towards the marketing and service processes. An important concept is that of *value migration*. Value migration occurs as both economic and shareholder value flows away from obsolescent (and obsolete) business models. Slywotzky (1996) argues that new models offer the same benefits to customers but at lower cost by changing the model structure. This change often results in a restructuring of profit sharing throughout the business model. Uren (2001) quoted Schremp (CEO, Daimler Chrysler) who expressed the view: ".....within 10 years the price of a car will represent only a quarter of the total value provided to a customer with the balance consumed in maintenance, finance and other services". Similarly in the B₂B sector Amcor and Visy (both in packaging) are using IT based e-commerce systems to increase customer service. In each of these examples, four basic issues emerge. First the 'value' of the brand is enhanced by service extensions or additions to the basic product. Second is the increased importance of intangible assets and the shift in investment patterns. Third is the importance of partnerships/alliances in the containment of fixed asset investment and, therefore, increased utilisation albeit the assets are shared. And fourth is the acknowledgement that business organisation or 'models' have changed. Virtual enterprises have expanded and the principle of outsourcing has expanded such that the maxim of: "why own it when you can rent it?" has resulted in many businesses opting for a new model.

Three major changes are apparent. The first concerns the emphasis on performance. Currently many organisations emphasise cost-led efficiency as a primary objective. Not only is this constraining, it has been shown not too be in the shareholders' interests: cost reductions typically have a negative impact on customer service and this, in turn, has the same impact on revenues. The second change involves a switch from an internal focus in which assets and resources *must be owned* to one of cooperation and collaboration in which assets and resources are *managed*. The third shift is one in which the organisation becomes *proactive* in its operations and this obtains for both customer and supply markets. *Market responsive* organisations tend to be inflexible and typically have very slow "time-to-market" responses. In other words they are imitators rather than innovators!!

This notion can be expanded upon. The role of the entrepreneur is to balance the allocation of resources between *transformation inputs* and *interaction inputs*. Central to the decision is not who owns the inputs but rather how they may be incorporated into the business organisation and how this then is structured to ensure that customer and stakeholder expectations may be met. There are a number of important decision areas. The first concerns decisions that influence physical products; quality and production costs are important and the resource allocation decision can be influenced by production alternatives that offer an organisation the opportunity to utilise the production facilities of partner organisations that have production expertise or cost advantages. The management of 'intangible assets' can add differentiation to the physical product and improve the customer appeal by a "brand promise" that in some way increases customer perceptions of the benefits received. Innovative product and/or service design is another factor. Designs that increase, or extend, "value-in-use" for customers also

differentiate both the organisation and its products. The third decision concerns where, how much, and who should invest in both tangible and intangible assets and how these should be integrated and coordinated. The "virtual community" approach that value nets and chains propose offers to increase an organisations' abilities for focussed response, flexibility of response and an ability to organise a 'timely' response.

Boulton et al (2000) make a useful contribution they contend:

“The encompassing challenge that companies face in this new environment is how to identify and leverage all sources of value, not just the assets that appear on the traditional balance sheet. These important assets including customers, brands, suppliers, employees, patents, and ideas – are at the core of creating a successful business now and in the future But what assets are most important in the New Economy? How do we leverage these assets to create value for our own organisations in a changing business environment? What new strategies are required for us to create value?”

The authors continue by making the point that the new business models comprise asset portfolios whose success is influenced by the interaction of the assets. Furthermore, in the new economy business model, asset portfolios are far more diversified than those of traditional organisations and include intangible assets such as relationships, intellectual property and leadership. They suggest that new business models are becoming commonplace in “every industry” in the new economy.

“In these emerging models intangible assets such as relationships, knowledge, people, brands and systems are taking center stage. The companies that successfully combine and leverage these intangible assets in the creation of their business models are the same companies that are creating the most value for their stakeholders.” (Boulton et al)

For Boulton et al it is clear that: “...the ultimate success of each of these companies depends not on its ability to make the most of just one or two assets, but on its skill in optimising all assets that make up the business model.”

Figure 11 illustrates the point that these authors are making. It demonstrates the expanding level of intangible fixed assets as a proportion of total fixed assets and the attempts by organisations to reduce individual investment in fixed assets by selective expansion of partnership networks.

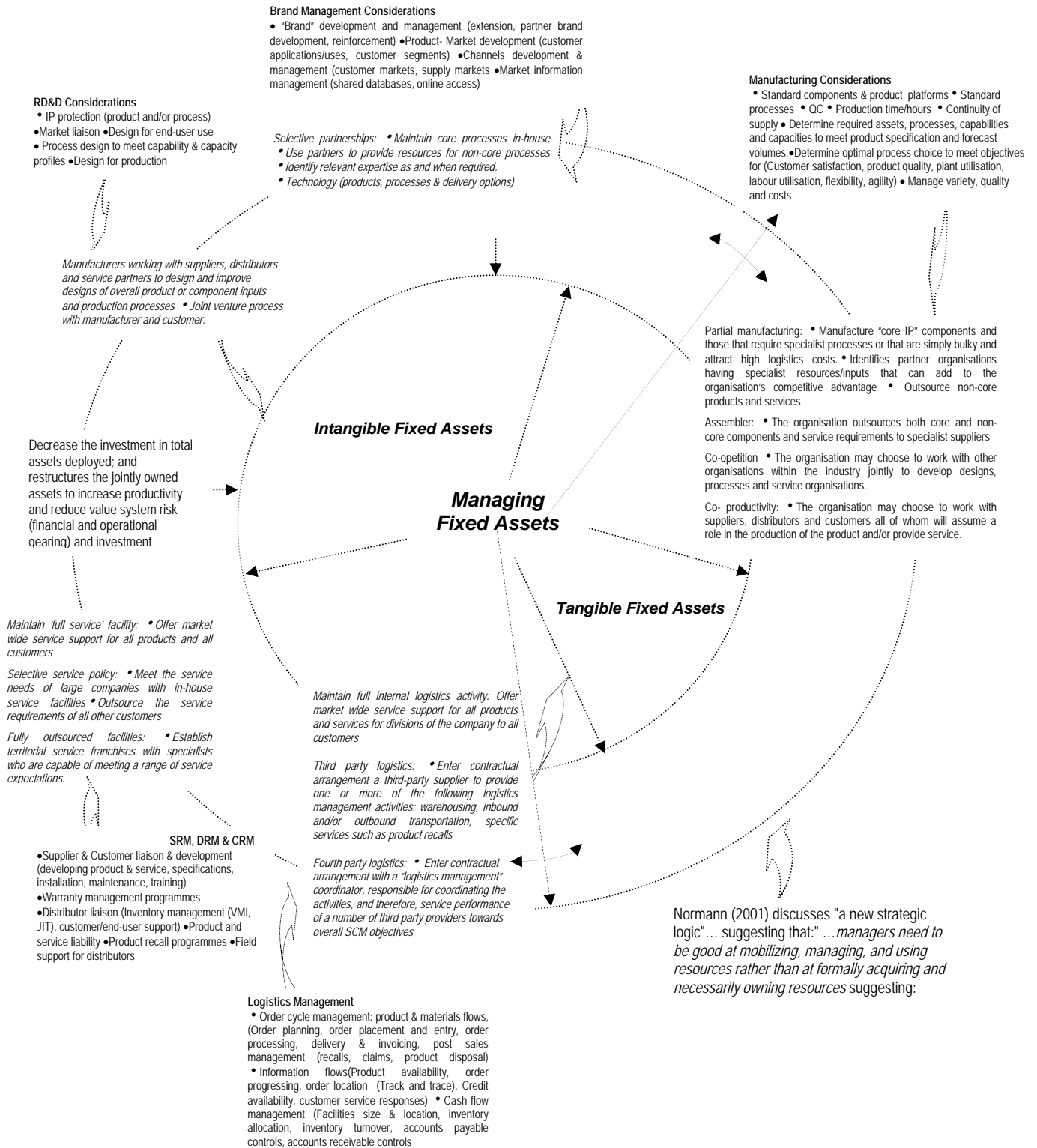


Figure 11: Asset management in virtual networks

Value migration has become a real issue for many of the traditionally capital intensive organisations, many now preferring to adopt a low capital investment posture by working in networks. The corporate issues for them have become: value positioning and added value positioning within the value chain to respond to the dynamic market characteristics, developing sustainable competitive advantage characteristics as a network – but being prepared to restructure the network organisation as and when it becomes necessary, “time-to-market” (commercialisation) and rapid customer response, availability of resources (assets, processes, capabilities), the opportunity cost of tangible fixed asset investment, and risk resulting from financial and operational gearing

3. Practising models

3.1 *Fonterra: Selecting a position in the value chain network and identifying a product-market portfolio.*

Fonterra Co-operative Group Ltd is an example the result of alliance agreements, mergers and acquisitions amongst dairy farmers, milk processors and dairy good producers. Fonterra is now a leading multinational dairy company, owned by 11,600 New Zealand dairy farmers and can claim to be the world's second largest exporter of dairy products, exporting 95 percent of milk related production in New Zealand.

The Fonterra global supply chain encompasses shareholders' farms in New Zealand through to customers and consumers in 140 countries. Collecting over 13 billion litres of milk a year, the Company manufactures and markets over 2 million tonnes of dairy products annually. The New Zealand Company, Fonterra, was formed out of the New Zealand Dairy Board, and has an interesting ownership structure. The previous New Zealand Dairy Board was primarily a farmer-led cooperative, and this structure carried through to the current ethos of Fonterra. Farmers are both shareholders and suppliers and are paid “dividends” based upon the added value generated by the organisation.

The ingredients business is the largest dairy ingredients operation in the world, manufacturing and marketing more than 1,000 ingredient products to the international food industry under the NZMP brand. Fonterra Brands, the consumer business has some of the world's best-known dairy brands, including *Anchor, Tip Top, Peters & Brownes, Anlene, Annum, Chesdale, Fernleaf and Mainland.*

Fonterra’s shareholders are also its suppliers and the “dividends” paid to the shareholder/suppliers are a *payout* based upon the earnings generated in excess of those that would have been earned from the sale of milk as a commodity. The emphasis is shifted away from trading milk as a bulk commodity and towards identifying, isolating and purifying individual components of the milk which may in turn be used as key ingredients in the global food industry. Milk is broken down into whey compound, fat, solids proteins, which are in turn purified into individual ingredients. It follows that Fonterra’ management is tasked to increase the payout by managing a product-market portfolio that extends from commodity input products to branded products.

Market value captured at the commodity level of processing. This avoids product variety, reduces inventory and avoids excessive promotional costs as the customers are usually large fmcc processors such as Fonterra Cooperative Group Ltd

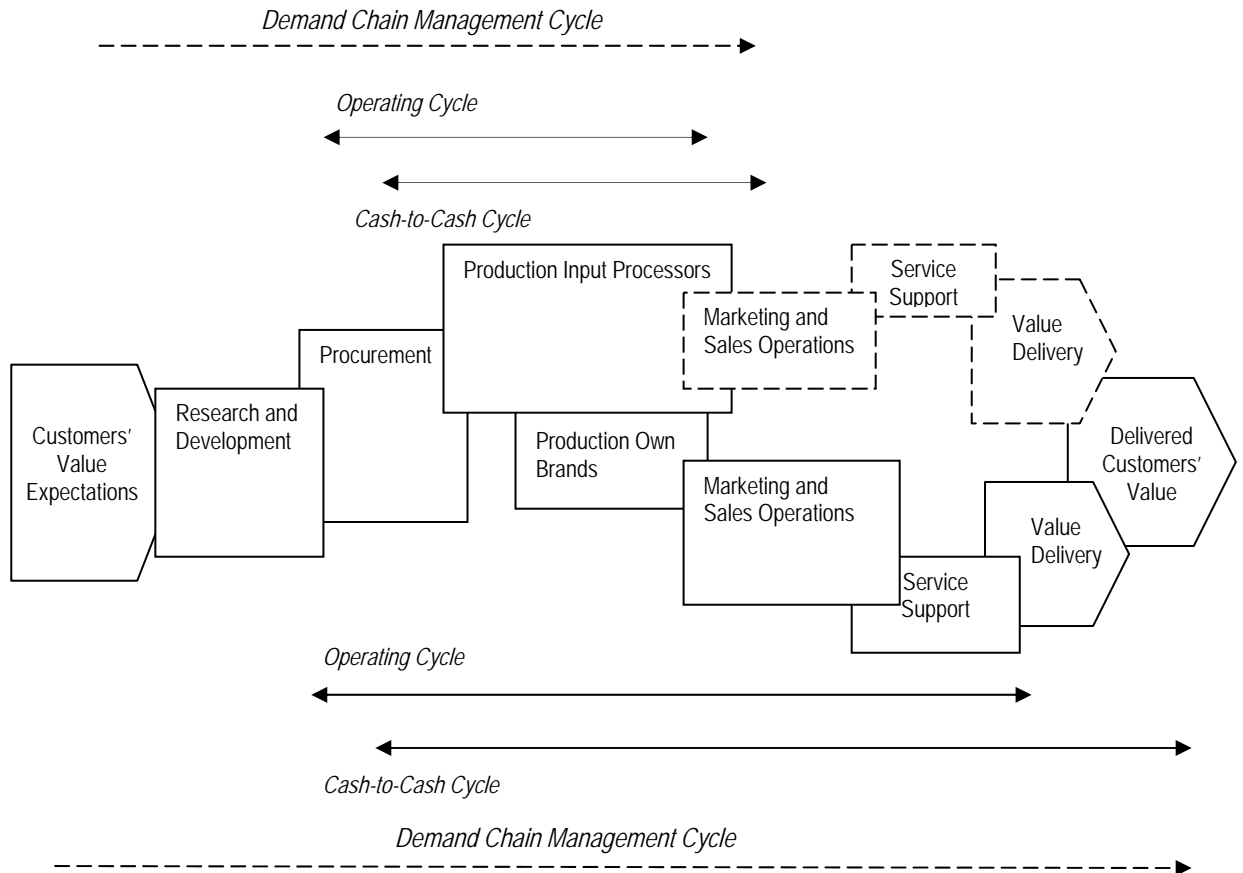


Figure 12: Location in the value chain network can influence marketing and operating responses and financial performance an example using fonterra

The strategic and operational choices are made clear from the 2005/6 annual report. The Company identifies its markets by the extent to which it can add value to its basic input. It identifies commodity markets and what might be regarded as commodity plus markets. Opportunity to become a “value adding supply chain” for customers’ businesses is described by the recent acquisition of a former Nestle input business, increasing its efficiency and supplying them at lower cost.

In other examples the Company sells commodity products in high value markets where specification and service is considered part of the product and as such attracts higher returns. In core commodity markets in South America and South East Asia the Company clearly sees the need to provide a quality input product at competitive prices by focusing on long production runs (economies of scale) and a minimal sales operation. In high added value markets, US, Japan, Korea and Europe the sales

operations include strong customer liaison services. More recently, consumers branded products have become an area of growth. A range of products are in the portfolio and include conventional FMCG items as well as health based products (Anlene a bone nutrition product) the added value content of this product has been increased by creating a partnership with GE to work on bone density issues. It is this area of food for improved nutrition that much of the current interests of the company lay, and where much of the potential added value of milk as a commodity exists.

The Fonterra business model is illustrated in **Figure 12** and reflects management's response to a number of the "new economy" characteristics. The concepts of 'added value' and value migration are clearly understood and have been used to determine the company strategy. The Fonterra model illustrates an understanding of relationship management and of knowledge management. Given the cooperative ownership structure of the organisation it is interesting to note how the "shareholder/stakeholders" are still involved in the management of the organisation. Another interesting aspect of relationship management is the development of partnerships in the overall strategic development of the business. The partnerships are clearly structured around structural and financial constraints as well as the long term strategic direction of the business. The application of knowledge management is readily apparent. The Company R & D is strong in both product and process innovation and is clearly aware of business environmental threats posed by competitors and the food miles debate.

The Fonterra annual statement reflects many of the characteristics of the "new economy" business model. It is cash driven (see the 2005/6 Annual report: www.fonterra.com) and has structured a network of partnerships with organisations such that the synergy of these relationships is optimised. This aspect of the Fonterra strategy is demonstrated by the partnership with GE to use the combined resources to add value to the Anlene business, which originates from a strategy to capture added value through the protection of intellectual property rites. As discussed above Fonterra management has reviewed and subsequently segmented its commodity market customers by the opportunity they (the customers) provide to differentiate the product range by service characteristics. Furthermore their operational response is structured to meet the level of sophistication of each market segment they are designed to optimise the interests of *all* stakeholders, customers, suppliers, shareholders, etc and because of this they become effective and efficient.

The Fonterra example demonstrates an important feature of the value chain network positioning decision concerns the impact it may have on marketing, operational and financial performance. Both the *operating cycle* and the *cash-to-cash cycle* are shorter for the strategy that elects to become a specialist in providing inputs to downstream providers. However, it is prudent to note that although that the company is operating in essentially the same market, the *demand chain management cycles* do differ. The operating cycle is shorter simply because the 'customer' continues to add value before the product reaches the end-user. It should be noted that operating efficiency will be higher due to the opportunity to apply economies of scale to both procurement and production. The cash-to-cash cycle will be shorter for similar reasons but in addition the relationships between suppliers and customers are likely to be stronger; inventory levels will be lower (the "product range" is limited and if the customers are working with JIT systems the inventory level will be very low – possibly at zero level!). Receivables will be predictable and the risk of bad debts extremely low. This consideration will influence the efficiencies of the operating cycle and the cash-to-cash cycle. Contracts and closer working relationships will ensure that volume forecasts are

shared, capacity utilisation high and payment times met. The shorter demand chain management cycle offers greater overall efficiency in the use of *all* of its resources.

3.2 *Firstlight Foods Limited: an example of a demand led approach to emerging business opportunities.*

Firstlight is at an early stage of its development; however it is very clear about the business model it is constructing. The principals and partners of Firstlight suggest a “better way” or a new approach to the venison, lamb and *wagyu* beef markets. The business model demonstrates the application of relationship management and process management specifically but also considers applications of technology and knowledge management.

The Firstlight “better way”, or business model, is a demand chain led approach. It is a differentiated unique supply chain business that is a response to the market place. There are four underlying characteristics to the model. *Focused specialists*: each link in the supply chain response is owned and managed by a specialist in their field, dedicated to their supply chain role. The essential coordination (possible with the strong relationships built from the managements’ industry experience) provides a seamless and consistent supply of high value product into the marketplace. The relationships between the business areas are interdependent and are united by the business model and the brand vision. The strength of the relationships has resulted in a *virtually integrated business structure*. A holistic structure guarantees supply and distribution partners understand the product and service requirements of the market’s expectations. Every process within the organisation adds value to the product and therefore for the stakeholders.

The selection of *niche markets* reflects the *optimal value chain network positioning* of the organisation. By selecting the partners Firstlight is working with the “total organisation” is able to maintain the product and *superior service* aspects of the selected market segments.

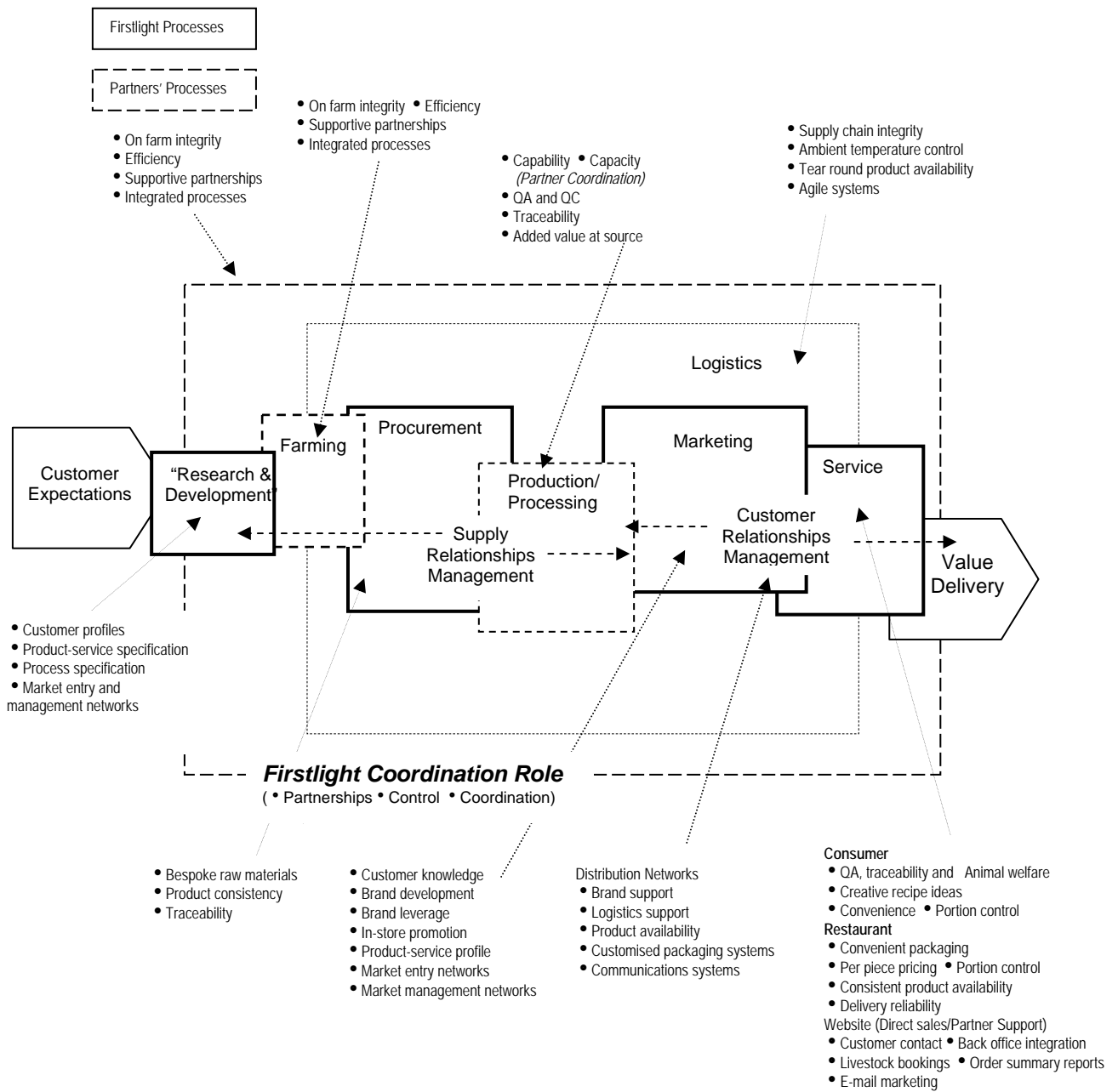


Figure 13: Firstlight value chain network – process details

The Firstlight business model demonstrates other aspects of the emerging business. The structure of stakeholder partnerships is an example of *low capital intensity and an optimal use of leveraged resources*. It follows that overall *risk is distributed* among the stakeholders and the selection of specific market segments and the organised supply chain response is targeted towards realising a feasible and viable share of the total *market value*.

Firstlight are positioning themselves as: “a combination of the best ingredients, integrity, innovation, uncompromising quality and strategic partnerships between people who share a common philosophy. One company with one culture”. This is very typical of the responses made by organisations espousing the value chain network. There are positive indications of an acceptance of the need to establish long term relationships based on trust and the exchange of confidential information. The role of knowledge management (its aggregation and dissemination) is clearly understood as Firstlight management have a ‘macro-communication’ role in ensuring that all of the value chain network stakeholders fully understand the characteristics of the market they are engaged in. The Company has mapped the roles and tasks of each of the stakeholders in the value chain; the use of a “brand” and the acceptance of a set of brand values are helpful in this regard. The “value chain thinking” approach used by Firstlight is shown as **Figure 13**. Each of the value chain processes is identified and the areas of direct responsibility for Firstlight are in bold outline.

Firstlight argue that by using the concept of brand management as a coordinating theme the notion of product and service quality is shared by all stakeholders and the process interfaces are more easily managed if the stakeholders’ behaviour and process management is in tune with the brand values. They argue that a brand is a promise of value consistency and that consistency builds trust. Firstlight is committed to exceptional quality and integrity and has integrated this concept into its value chain.

3.3 The Australasian wine industry: Virtual organisation structures controlling brand management

The Australasian wine industry has undergone some significant changes. Part of the industry is moving towards virtual organisation structures with brand management as being a major element in its value chain positioning and competitive advantage strategy. Wine production remains important but appears not to be as important as brand marketing when cash flow generation and contribution to earnings is considered of primary importance.

Developments in the wine industry are typical of a model based upon distinctive capabilities with little or no fixed investment and the minimisation of working capital. The objective is to achieve a low investment to sales ratio. This takes into account assumptions concerning inventory levels that service target markets, realistic receivables and payables and a targeted pricing policy that generates target gross margins

The compelling philosophical attractiveness of the model can be demonstrated by the following two simplified examples that compare a virtual wine business with a typical traditional wine business (which grows, makes and stores around 70% of its sales volumes).

In low capital intensity (virtual winery) models the investment/sales ratio is typically lower than that of traditional models by a significant amount – 30 percent compared with as much as 120 percent. Assuming similar costs and product quality the *required* EBIT/Funds Employed ratio becomes a much lower figure. For example with a Capital Intensity Ratio of say 40/50 percent, compared to the traditional level of between 100 to 250 percent, the required EBIT/Funds Employed figure can be as low as 10 percent. This is considerably less than the 30 percent required for viability by the traditional model. It follows that target revenues are also lower, often by some 30 percent – in

retail terms this may be as much as 25 percent less per bottle for the same quality wine! As a result the EBIT/Funds Employed ratio can show an impressive 75 percent for the ‘virtual’ model versus approximately five percent for the traditional winery model.

Cash flow improvements are equally significant. It can be calculated that, based on the assumptions of same revenues, EBIT/Funds Employed and debt, the cash generated can be shown to improve by a factor of between three and four times.

Clearly, the low capital intensity model assumes a secure long term supply of input product and supplementary services are available from third parties. Historically, a significant proportion of the wine industry’s production volume has been traded between industry members as bulk “commodity product” and specialist bulk businesses have been established whose sole purpose was to supply bulk inputs (to other businesses). Huge volumes enabled these businesses to supply input product at very attractive prices on flexible payment terms. Under such circumstances a *virtual winery* would adjust the proportion of requirements supplied between “spot” purchases (under short-term contracts), and longer-term contracts. Supplementary services are typically available from third party sources for operational tasks such as: facilities where it can “fine tune” and store “product” prior to final processing and contract storage of finished goods. **Figure 14** identifies the characteristics of the business model adopted by virtual wineries.

Cheviot Bridge (Australia) and Kim Crawford (New Zealand) are typical examples of the *virtual wineries* that are appearing in the Australasian wine industry. They do not own vineyards or wine production facilities and presently does not hold inventories of bulk wines. All of these supply aspects are outsourced. They are low capital intensive business that own and develop wine brands and manage marketing and distribution networks to promote and sell its wines. They achieve significant performance differences to its traditional competitors. The low capital intensity model offers both financial and operational flexibility. For example, the virtual model requires an EBIT/Sales ratio of 8 percent as opposed to one of 30 percent for the traditional model and this structure offers the virtual winery a much lower volume breakeven point.

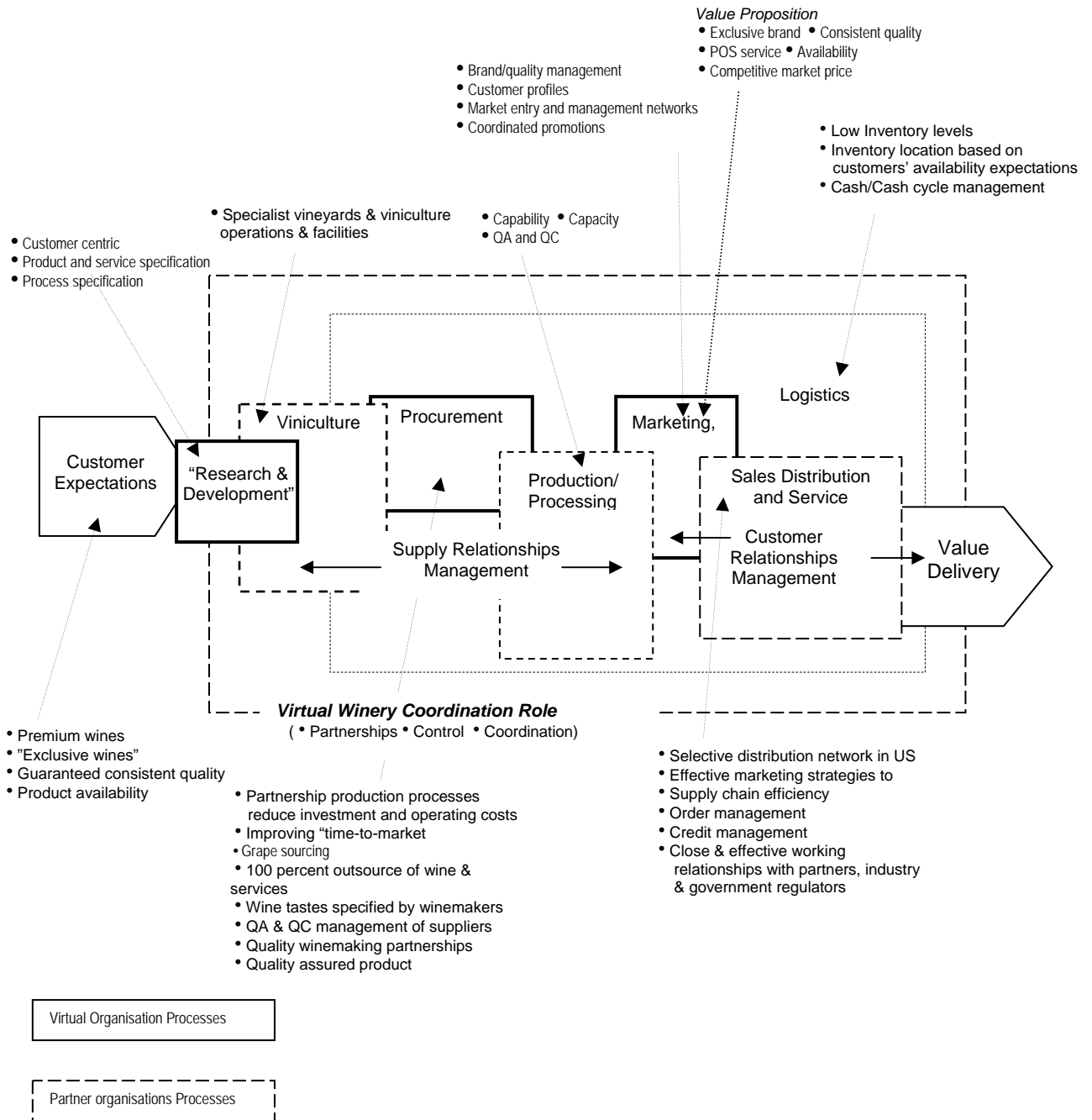


Figure 14: Australasian virtual wineries networks Cheviot Ridge and Kim Crawford

Both organisations have moved on and away from the network model. Crawford's success attracted its largest US distributor and resulted in Crawford being acquired by the US Company. Cheviot purchased vineyards and moved back towards the traditional winery model.

Cheviot began three years ago (2002) when four vineyard owners decided to produce and market small amounts of wine from their vineyards in the emerging Yea Valley to showcase the superior quality of their fruit, which had previously been sold to larger wine producers. The concept grew to include increased amounts of estate wines plus a second range of less expensive wines with greater volume potential. In effect Cheviot

and Kim Crawford both focused primarily on their knowledge of the industry and their ability to form and manage effective relationships with the resources owners. However the business environment has its own dynamics. Cheviot moved away from their original “low capital intensity” model by purchasing *Long Flat* a Tyrell brand and, a little later, a winery. This increased the capital intensity and the subsequent performance differs from that of their earlier days. Crawford was eventually acquired by its US distributor and this clearly has made some differences to the company’s policies and strategies.

3.4 *The Boeing aircraft service organisation*

Boeing introduced an added value aspect to its product range with its IMM programme (Integrated Materials Management) that it claims reduces the operating costs of its commercial airline customers. McClenahan (2004) reports that Boeing estimates that it will save customers some 10 per cent to 20 per cent of maintenance materials costs. “Boeing is adapting a supply-chain management approach from the automotive and electronics industries and introducing it to the aviation industry, where the supply chain historically been fragmented”. The objective are to aggregate and integrate the supply chain such that the information produced will reduce inventories and operating costs for customers, Boeing and the suppliers.

The additional benefit for Boeing is that the information on parts usage will be fed back into design and to customer service engineers, thereby offering an opportunity for creating competitive advantage.

Boeing will be responsible for the purchasing, inventory management, storage and distribution of ‘single use’ parts such as bushings, clamps, brackets, hoses, seals, etc. Boeing and the other suppliers *will own* the parts (that are stored near the airline’s maintenance bases) until required and collect payment from the airlines as and when they are used.

Figure 15 identifies the demand chain inputs into the Boeing planning process. The value drivers of improved fixed asset (aircraft) productivity, working capital productivity, the delegation of responsibility for inventory management and the ability to free up capital for the core business are clear. The resulting value proposition, a customised service parts procurement service implemented by VMI and JIT (vendor managed inventory and just in time) processes priced such that the service results in a significant overall cost reduction for the users. Among the responses that were required from Boeing are customised service parts programmes, on-line communications with suppliers as well as with customers using EDI linkages, a knowledge management programme that creates knowledge from parts use data that can be input into aircraft design and customer service processes.

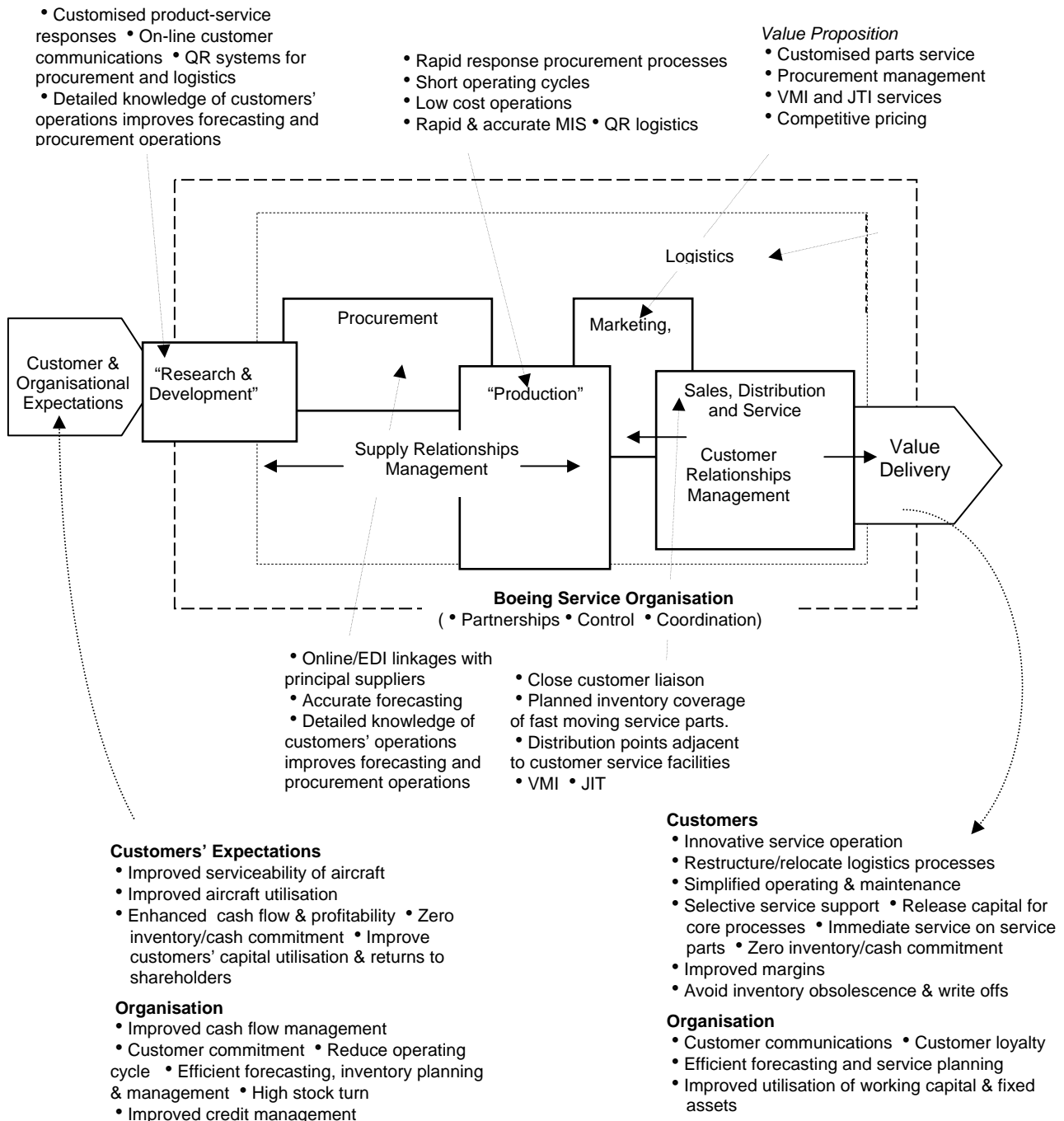


Figure 15: Boeing service organisation business model

Customers and Boeing share added value benefits. The added value for the airlines is the facility to focus on the revenue generating aspects of airline operations while Boeing takes on the logistics and materials management (and costs) of aircraft servicing. The strategic implications are yet to materialise. For the airlines it may be the initial stages of a global service strategy and one that the engine manufacturers offer in time. The other long-term benefits are helpful to the airlines and to Boeing: the data captured during service transactions and operations can be converted into a source of knowledge for design and service planning.

As with the other examples the primary value management processes are identified and the component processes are detailed within each of them. The *customer value expectations* can be expressed as capital and equipment productivity, reduction of non core activity costs and the risks involved in maintaining inventories containing technological equipment. To *create the value* Boeing is responding with a high availability of service parts with an online communication service with the airline customers and their (Boeing's suppliers) the result is an improved operating cycle as well as an improved cash cycle. To *produce the value* Boeing has a customised service process design for reach major customer that not only reflects aircraft type but incorporates flight schedules and frequencies, and global locations of hub operations. The online systems act as a two-way conduit and also as the basis for improving forecasting and planning. *Value delivery* comprises the continuous availability of service parts at specified locations to meet service schedules at zero cost. To maintain, or to *Service the Value* Boeing must maintain customers' low service operations costs. This has the twofold benefits of enhanced productivity and cash flow.

3.5 *Budget Airlines*

The growth of "budget/no frills" airlines has taken some sometime to solidify. The successful model introduced and operated by Southwest in the USA has been attempted by a number of market entrants on a global basis. It is not an easy business to manage. Executive Chairman Kelleher (2004) identified some of the issues and problems with these businesses.

Kelleher explained that it is a "hugely capital intensive business with enormous fixed costs". It is very sensitive to changes in oil costs as these are a significant component of its variable costs. It is also sensitive to the service response of customers as employees are required to meet customer expectations. At that time (February 2004) Southwest operated 2800 daily flights with 387 aircraft to 60 airports in 59 cities in the USA. Safety and meeting schedules on time are influenced by 'uncontrollables' such as weather, ATC delays and airport congestion: even the 'controllables', such as mechanical problems, can present difficulties that have to be overcome. As with all forms of travel there is no product shelf life, an empty seat is "lost for ever", consequently employees and employee relationships are integral to success. Southwest's business is largely discretionary and consequently can be considered as cyclical. The entire industry is intensely regulated and taxes amount to some 30 percent of fare revenues.

It is a fiercely competitive industry; there is little scope for discretion concerning airports. And as with all airlines, Southwest is vulnerable to "event risks" such as the September 11 tragedy and outbreaks of global illnesses such as SARS.

Kelleher identified four capabilities that are essential for ongoing success; costs that are lower than those of competitors, a 'strong' balance sheet (debt/equity is optimal and the risk perceived as acceptable by lending institutions), its debt per aircraft (a specific KPI) to be less than that of competitors, and, customer service perceived as superior to that of competitors. Other important criteria include an awareness of threats from the business environment, being quick and responsive, avoiding bureaucratic organisation structures that reflect the 'sense of humour, mutual and self-respect staff at all levels have for each other, and respect for their mutual, joint enterprise.

Other budget airlines have adopted this model. In Europe Easyjet and Ryanair are the most significant and successful. The formula appears simple but appears it is difficult to implement for some carriers; both BA and KLM failed to make it work:

- Identify short haul, point-to-point sectors between secondary, but important, cities.
- Use the secondary airports of major cities
- Target business travellers and budget conscious family travellers looking for speed and low cost travel – minimum services
- A business model value proposition based upon cost efficiency – no meals, luggage transfers, seating preferences, and based upon direct selling.
- Rapid check-in and aircraft turnaround times to maximise aircraft utilisation
- Employee flexibility based upon multi-skilling

Demand chain management analysis is an essential feature of the success of this model, identifying the added value opportunities to be delivered to customers and stakeholder partners. Frequency, reliability, safety and product-service consistency is a strong theme. At the same time the control on costs is managed by standardisation of product and service, of equipment and service operations. Clearly without these controls in place and without the understanding and cooperation of the employees it cannot be made to work. See **Figure 16**.

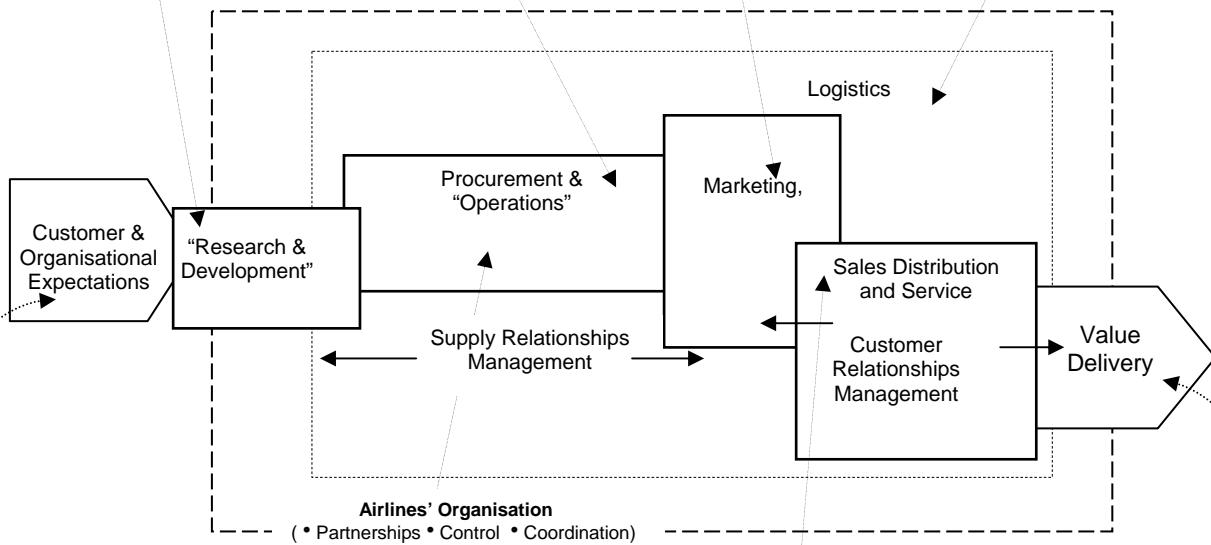
- Short haul journeys • Reliability
- No ground or air services
- Intermediary/Online purchasing
- LOW PRICE travel

Value Proposition

- Selective market positioning: budget conscious travellers • No meals • No luggage transfers • Short haul sectors no international linkages • Selective geographical positioning: "secondary" cities & airports of major cities • Competitive pricing

- Customer sales access/Internet
- Payment systems online
- Order/reservation processing management
- Cash/Cash cycle management
- Internet/direct sales
- Automated check-in
- Helpful & efficient staff

- Standard aircraft (leased)
- Operations & service facilities reflect customer service offer
- "One class" • High-density routes
- "Standard" aircraft type



- Crews • Airport services • Rapid "turn-round" times • Multi-skilled staff
- Low cost operations • High utilisation of leased aircraft • Direct-sales model • Working closely with airport authorities

- Fast "check-in"
- Reliable departure times
- On-time arrivals
- Predicated flight safe

Customers

- Innovative alternative service operation
- Low/competitive price promise

Organisation

- Release capital for core processes
- Positive Free cash flow
- Simplified operating & maintenance
- Information & communications
- Efficient forecasting and service planning
- Loyal customer base

Customer

- Product-service availability
- Frequency • Low service
- Reliability • Safety compliance
- Low/competitive prices

Organisation

- Strong cash flows
- Lean operations – low cost profiles
- Shareholder value

Figure 16: Budget Airlines: business models

4. Concluding comment

This working paper has attempted to offer a summary of the current approaches to business model developments. Findings from the Brookings Institution suggest that in the US fixed asset ownership of large manufacturing and mining companies suggest that fixed tangible assets fell as a proportion of total assets from 67 percent in 1982 to 38 percent by 1992. By 2000 this was reported to be less than 30 percent. This trend tends to confirm the view that there is a move by a majority of organisations to favour the flexibility (even agility) of the virtual organisation. The changes in the business environment landscape has had a major impact for organisations on what value is, how it is created, produced, delivered and how it is serviced. Business model designs that succeed share common features:

- They have high customer relevance
- They are internally consistent sets of decisions concerning scope (products offered and value chain processes performed)
- They have value capture mechanisms or profit model
- A powerful source of differentiation and strategic control that gives investors greater confidence in future cash flows
- Organisational architecture that is designed to support and reinforce the company's business model design

We should leave the final comments to Pebler (2000) who summarised the development of virtual organisation structures and offers a prescription for the future virtual organisation:

“The virtual enterprise of the future will be much more dynamic and sensitive to the need for tuning operational parameters of the enterprise as a whole, including capital spending for both producers and service companies, optimising the whole chain of value creation. The future world will be characterised by knowledge management and collaborative decision-making by way of virtual teams. Virtual enterprises will be empowered by a willingness to do business in more productive ways and by information technologies that eliminate barriers between stakeholders”

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