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**Using Rudyard Kipling to
design value chain processes:
An application of interactions
theory**

By

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ABSTRACT: “I keep Six Honest Serving Men, (They taught me all I know), their names are What and Why and When, And How and Where and Who.” Egan (1998) reminds us how important these characters are in their role of ‘life long learning’ as the dynamics of contemporary business models stress the importance of currency in information management in a business model that has become customer centric. Information communications technology (ICT), with its constantly improving, reach, richness and relevance (time and accuracy) offers the Six Loyal Serving Men the convenience of IT rapid delivery speed and low costs to service the demands that customers’ and stakeholder partners’ expectations require. For this to be an effective application of ICT both should understand the specific applications of tacit, transactional and transformational interactions.

KEY WORDS: *Value Delivery Systems; Tacit, Transactional and Transformational Interactions*

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1. Introduction: The new Economy

It has been suggested (Pine: 1993; Ashkenas et al: 1995 and Day: 1999) that market turbulence has resulted in changing the competitive nature of industrial and consumer markets. Dominant effects are consumer/customer related, such as changing demographics, changing socio-economics and socio-cultural influences, resulting in changing customer attitudes and expectations. The underlying motivation for changes in customer expectations is a shift in the consumer perspective of value which has moved away from a combination of benefits dominated by price towards a range of benefits in which price, for some customer segments, has very little impact. *Value migration* reflects the shift of business designs away from outmoded designs toward others that are better designed to maximise utility (value) for customers, and profit for the company and its stakeholder partners. Slywotzky (1997) contends that business designs (similar to products) also have cycles and reach economic obsolescence. Customer expectations have a tendency to change over time but business model designs tend to stay fixed. By combining both, alternative strategies and structures may be developed to added value for customers and the “organisation”. Slywotzky’s argument suggests that the models themselves change rather than the resources move towards higher remuneration and therefore it is the influence of the dynamic market place and the innovative competitive responses that require consideration – and monitoring!

Value is assumed to be the benefits received from a product-service choice less the costs of acquiring them. There would appear an agreement that consumer shift in expectations is one of a number of elements in the dynamics of market turbulence, but one which has had an important influence. Our proposed assumptions are that “New Economy” organisations:

- Need to be customer-centric, able to respond quickly to changes in customer priorities and competitive threats.
- Develop a complex mix of resources comprising *internal* and *external* (leveraged) assets, processes, capabilities and organisation structure is essential.
- Should be expert at managing complex and agile systems across multi-enterprise systems.

These organisations operate in an environment influenced by; *Changing Customer “Value” Expectations* such as; “changing priorities”, greater quality, increased variety/choice, vendor attention to customer views of “value-in-use”, an emphasis on service products, changing shopping attitudes & activities, changing household roles and tasks, a strong view on “service delivery”, product, service and location “availability, access to information and advice, a demand for innovation (products, services and processes, “time” budgeting becomes important, and lifestyle changes (early retirement, family involvement etc. *Changing Market Conditions* are similarly wide and varied and include; changing demographic and socio-economic profiles, population location and dispersion, changing disposable income and expenditure patterns and priorities, new attitudes to and behaviour at work, changing leisure interests, extended and extensive travel patterns, media usage and its influence, more stability in interest rates, increased control of inflation and exchange rates, stability in employment patterns and levels, and therefore *changing Market Opportunities*. Some of the *Changing Business Conditions* include; customer-centricity, value migration – the

changing location of added value generated by the current business model, continuing product & process innovation, the increasing adoption of flexible and agile operations, decreasing Time-to-Market responses, decreasing customer response times, an increasing awareness of the importance of CRM and SRM to the success of the business, customised database management systems, and, the widespread adoption of Online/Real time systems. *Changing Competitive Response Models* based upon organisational changes reflecting; a shift towards processes not functional structures, transformational organisation structures (the increased use of outsourcing to achieve performance improvements beyond just cost reductions, an understanding of the benefits of asset leverage, and a focus on core/distinctive capabilities. Furthermore many organisations understand, and are implementing the benefits of knowledge management, technology management, process management, and relationship management *as Strategic Resources*.

2. An ever changing role for information communications technology

Technology management, in its broadest context, suggests the management of production assets some of which are owned but increasingly are likely to belong to partners and “leveraged”. A more focused view of technology management would consider the role of information communications technology (ICT) within the emerging models. Butler et al’s (1997) contribution to this topic is relevant. They introduce the notion of “interactions”, suggesting they account for over a third of economic activity in the US.

Interactions are broader than transactions:

“Individuals and organisations interact to find the right party with which to exchange; to arrange, manage, and integrate the activities associated with this exchange; and to monitor performance. These interactions occur within firms, between firms, and all the way through markets to the end consumer. They take many everyday forms – management meetings, conferences, phone conversations, sales calls, problem solving, reports, memos – but their

Interactions may classify as: *Tacit interactions* are knowledge based, requiring experience and judgement typical of decision making roles. *Transactional interactions* include not just administrative roles and accounting tasks but also the tasks that are increasingly becoming automated by the application of software packages. *Transformational interactions* are the “production” related tasks in which raw materials are extracted and processed into finished products. Johnson et al (2005)

The authors (Butler et al) argue that any major change in their level or nature would trigger a new dynamic in economic activity suggesting that the current convergence of technologies is a catalyst that will increase the capacity for “interactive capacity”. The convergence of technologies refers to the growth of networks, the improvements in connectivity – broadband – is multiplying the inter-active power of networks, the continued expansion of computer processing and power, accompanied by lower costs, the acceptance of a new set of standards (HTTP and HTML for example) are increasing the growth in Internet, intranet and extranet usage. The continuous penetration of basic

technologies such as telephone infrastructure and the number of PCs on a global basis will accelerate the growth rate of interaction capability. The predicted impact of “the age of interactions” proposed by Butler et al is already visible. They are suggesting a number of new ways in which business may be structured.

The shift away from vertical organisation towards virtual organisation is clearly underway. The authors suggest that specialisation is fragmenting integrated business systems such as textiles and the utilities industries. For example the introduction of EDI (electronic data interchange) has resulted in the disaggregation of procurement, spinning, weaving, finishing, logistics and retailing in the apparel industry. They argue that horizontal integration and cooperation will become more economically attractive due to economies of scope. As interaction costs decline companies are better able to coordinate marketing and distribution of an increasingly wider range of products and services. Amazon.com is an example of this. It has expanded the range of products available and manages the electronic offers of a number of traditional book retailers. The traditional production economies of scale are declining in importance and this is likely to continue. Where scale was essential, falling interaction costs are making smaller business sizes increasingly viable.

The increase in interaction efficiency is increasing the number of businesses working together as networks and it will also increase the application of network applications within businesses. Butler and his colleagues provide examples of intra-organisational networks such as Caterpillar who are now linking designers, distributors and technicians with customers as it builds a global parts service network. They also contend that as interaction costs decline so too will transaction costs resulting in more market information transparency. An interesting aspect of all of this is the impact that it will have on traditional intermediaries, who traditionally exploited the lack of transparency. Their role as providers of market information is being undertaken by “informediaries”, organisations that provide search facilities across markets.

Clearly such changes have implications for business organisation. Internet transactions now facilitate both customer and supplier relationship management. Product customisation will become easier, faster and less costly as interaction facilities and costs increase in cost efficiency and communications can become more closely targeted, frequent and accurate. It is also apparent that there is a huge role for information management!

Ohmae (2005) suggests new rules for the “new economy”, adding that there is a problem posed – nobody yet is clear on what the rules are. However it does imply that companies have to rethink everything, from strategy through to structure – and back again in the dynamic environment of the twenty-first century. Ohmae is suggesting this approach includes supply and customer markets, together with the business models that made many organisations successful. Ohmae is suggesting a ‘prescription’ for handling the new economy based upon *communications* (the introduction of information communications technology – ITC – to manage interactions and transactions (*technology management*)); *capital* (with the notion here that it is now ‘borderless’ and hence rapidly transferable (aspects of *relationship management*)); *corporation* (here the concept of the virtual organisation is one reaching across organisational and international borders (*and applies aspects of relationship and process management*), and; *consumers* (the inference being that on-line customer contact (aspects of both

technology and relationship management) offers a facility to meet customer expectations more closely and more rapidly than ever before.

It is suggested that it is possible to draw a general framework in a new economy context for exploring factors which are both competitive necessities and which drive competitive advantages, rather than simply relying on industry specific knowledge. This is built around *management of resources and critical characteristics* rather than a fascination with ownership and control. It requires more than a laundry list of short lived attributes but recognises that critical success characteristics will change over time as value shifts. These key characteristics include the firm's understanding of the importance and the influence of *relationship management*, of *technology management*, the creation and use of *knowledge* and a strategic view of *process operations*.

A feature of the dynamic business environment the "new economy" introduced has been the response to rapidly changing consumer expectations for product-market differentiation. This has been manifested in a number of ways. Essentially we now see both *product and process innovation* in the market place. Examples of *product innovation* are the responses in *demand life cycles* that provide new solutions to very basic demand characteristics. Communication, between businesses is an example. It is not too long ago that facsimile communication was hailed as a breakthrough in reducing the time taken for interactions and transactions to be completed between suppliers and customers. Orders and order management details could be transmitted "instantly and visibly" by telephone. In no time at all, the internet replaced the fax with the facility to connect supplier and customer production schedules providing real time management.

2.1 The Demand Chain as an Analysis and Planning Model

Recent literature contributions have identified the demand chain as a strategic element of value chain analysis the argument being that a clear understanding of the demand chain facilitates a focused implementation of strategy through what becomes a cost-efficient supply chain. See Rainbird (2004), Lee (2004), Seely Brown and Hagel (2005), Agarwal et al (2004) and Walters (2006). These contributions build on the direction implied in the earlier work of MacMillan and McGrath (1997) suggest that competitive advantage may be realised if the *consumption chain* is identified. The authors claim that: "a company has the opportunity to differentiate itself at every point where it comes into contact with its customers -- from the moment customers realise they need a product or service to the time when they no longer want it and decide to dispose of it".

MacMillan and McGrath's consumption chain has an interesting and worthwhile application for strategic operations management decisions, particularly their implementation through the value chain. The technique identified; "all the steps through which customers pass from the time they first become aware of your product to the time when they finally have to dispose of it or discontinue using it" describes the customer life cycle typically used in life cycle costing. The process considers a number of questions: awareness, availability, choice, purchasing procedures followed, product delivery installation, financing payment, storage, mobility, end-user uses, applications service, returns or exchanges, maintenance and disposal issues. Each of these activities creates cost for customers and, as such, need to be considered when the customer is

making a purchase decision. Customer acquisition and life cycle costs must be deducted from the benefits delivered by the product or service to derive a measure of total delivered value. By considering these as demand chain characteristics, and taking a “Kipling Approach”, a more comprehensive list of customer expectations can be derived:

2.2 The Basis of Customer Expectations/Responses in the Demand Chain

Who is the customer?
Where is the customer?
How do customers become aware of their need for a product or service?
Why has the need occurred now?
What do customers need help with when they select a product or service?
Where do they obtain information on product service solutions?
Where do consumers find a specific offering?
How and when customers make final selections?
Why do they choose specific brands?
How do customers order and purchase a product or service?
What is the customer really using the product or service for?
How and when is the product or service paid for?
How is the selected product or service delivered?
What happens when the product or service is delivered?
How is the product or service installed?
Where is the product or service installed?
Who pays for the installation?
How does the customer “learn” to operate the product or service?
Who maintains the product or service?
When and *where* is the product or service serviced?
How and *where* is the product or service “stored”?
How is the product or service moved around?
What about returns or exchanges? *Why* are returns or exchanges occurring?
How are returns or exchanges managed? *Who* handles them?
How long does the process take?
How is the product or service “serviced”?
How is the product or service disposed of at the end of its useful life?
Who? How? When? Where? What? and Why? are customer responses managed

The responses are easily translated into a format that facilitates an *analysis of the organisations demand chain*. By structuring the information (as shown in **Fig 1**) the knowledge value emerges and strategic decisions can be made concerning customer segment focus, the *Processes & Capabilities* required, together with *Production Facilities and Networks* and, *Market Entry and Market Management Networks*.

Essentially what these data/information/knowledge development processes are achieving is to identify customer expectations and to derive a *Value Proposition* based upon the target customers’ *Value Drivers*. *Value drivers* have been variously defined. They can be considered to be a generic summary of the important aspects of customer satisfaction or, as other authors () suggest the underlying features of the creation of shareholder value. This author suggests that by identifying customer value drivers and

evaluating alternative value delivery options using *Anticipated Free Cash Flow* as the primary criterion then both customer and stakeholder expectations are considered and satisfied.

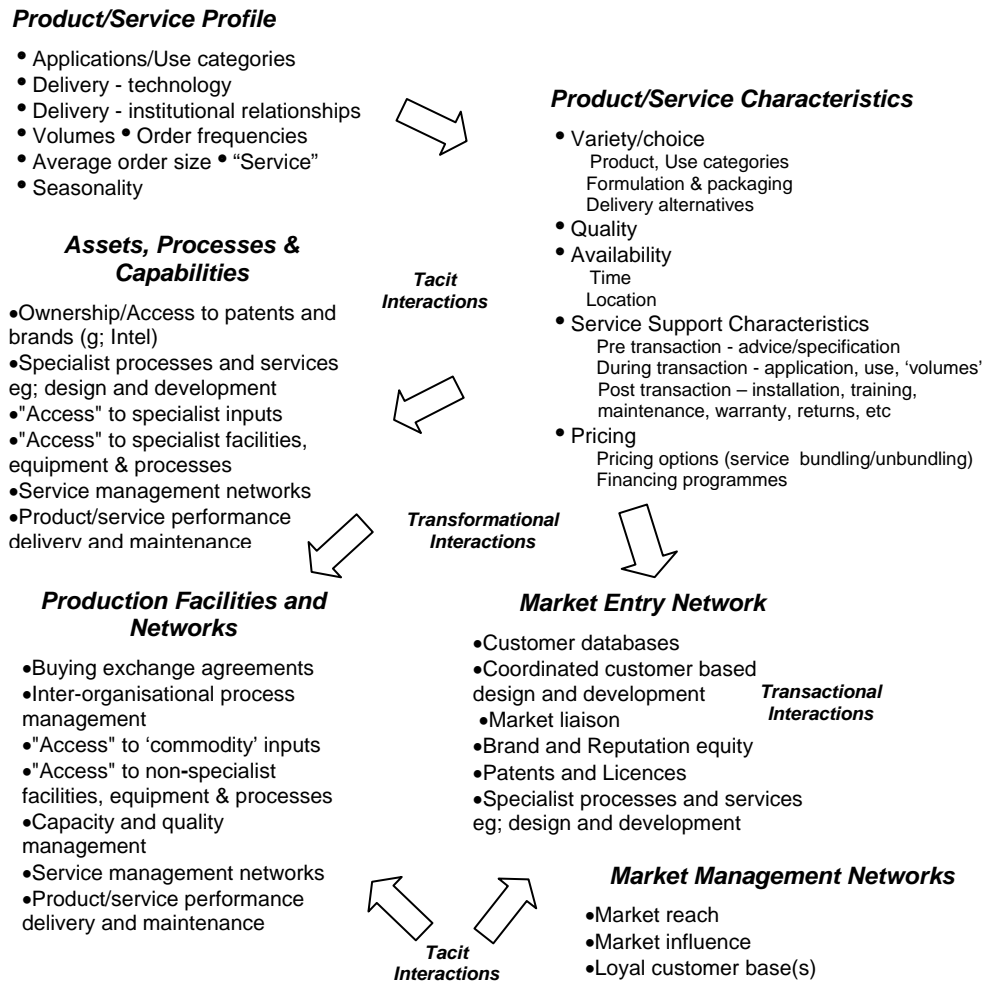


Fig 1: Process of Demand Chain Analysis and Supply Chain Specification

While the approach can be criticised because it results in an *optimal* solution, it avoids the unsatisfactory options of attempting to maximise one set of expectations with a result that the others are unsatisfactory. A definition that meets our needs is customer based; it offers to identify the essential characteristics of customer satisfaction and prescribes pathways for collecting information/knowledge inputs for decision making.

Customer value drivers in a business depend upon; changing customer value expectations and market conditions, and changing business conditions and competitors' responses. Their time perspective is clearly short-term given they are factors that "drive present value" and as levers of present value, whereby adjustments to the value drivers results in short-term improvements in performance. *Value drivers* are extrapolated from customer expectations that underlay the basis of successful differentiation and competitive advantage. *Value drivers* include strategic adjustments and operational implementation characteristics such as; improved asset utilisation, reduced bad debt ratio, supplier costs, market share (or share of market added value), employee motivation levels, staffing flexibility, location of business units, market

communications effectiveness, and brand equity. *Value drivers are measured by EVA (economic value added), ROAM and operating profit.*

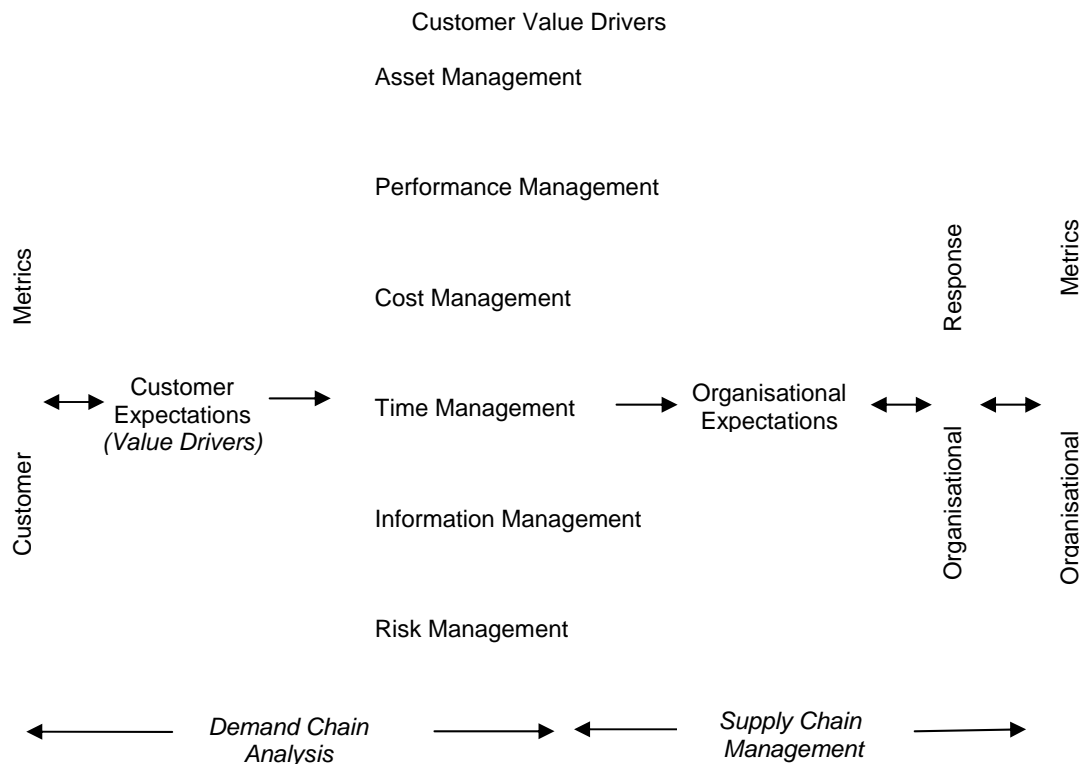


Fig 2: Customer Value Drivers are Derived from Their Expectations

Each of the value drivers requires further analysis. **Fig 3** illustrates this process by first, identifying the components of the *asset management* value driver and the customer’s performance criteria (*metrics*). This information enables the organisation to structure a relevant response and, at the same time, develop relevant organisational performance measures to ensure customer expectations are being met, as well as it’s own.. Some customer expectations are measured by more than one ‘metric’, this is indicated in figure three by a broken arrow. A similar process is followed for each value driver. Figure three also identifies the roles of *tacit*, *transactional* and *transformational interactions*.

One further activity is necessary. Given that the “virtual business model is becoming increasingly commonplace we are required to evaluate a number of model options to ensure the optimal model is chosen. This requires an analysis of the *customer facing processes* responsible for value delivery. The purpose here is to ensure that any decision to outsource a process or a value delivery asset or capability takes a *strategic* approach to the decision rather than just an *operational* perspective.

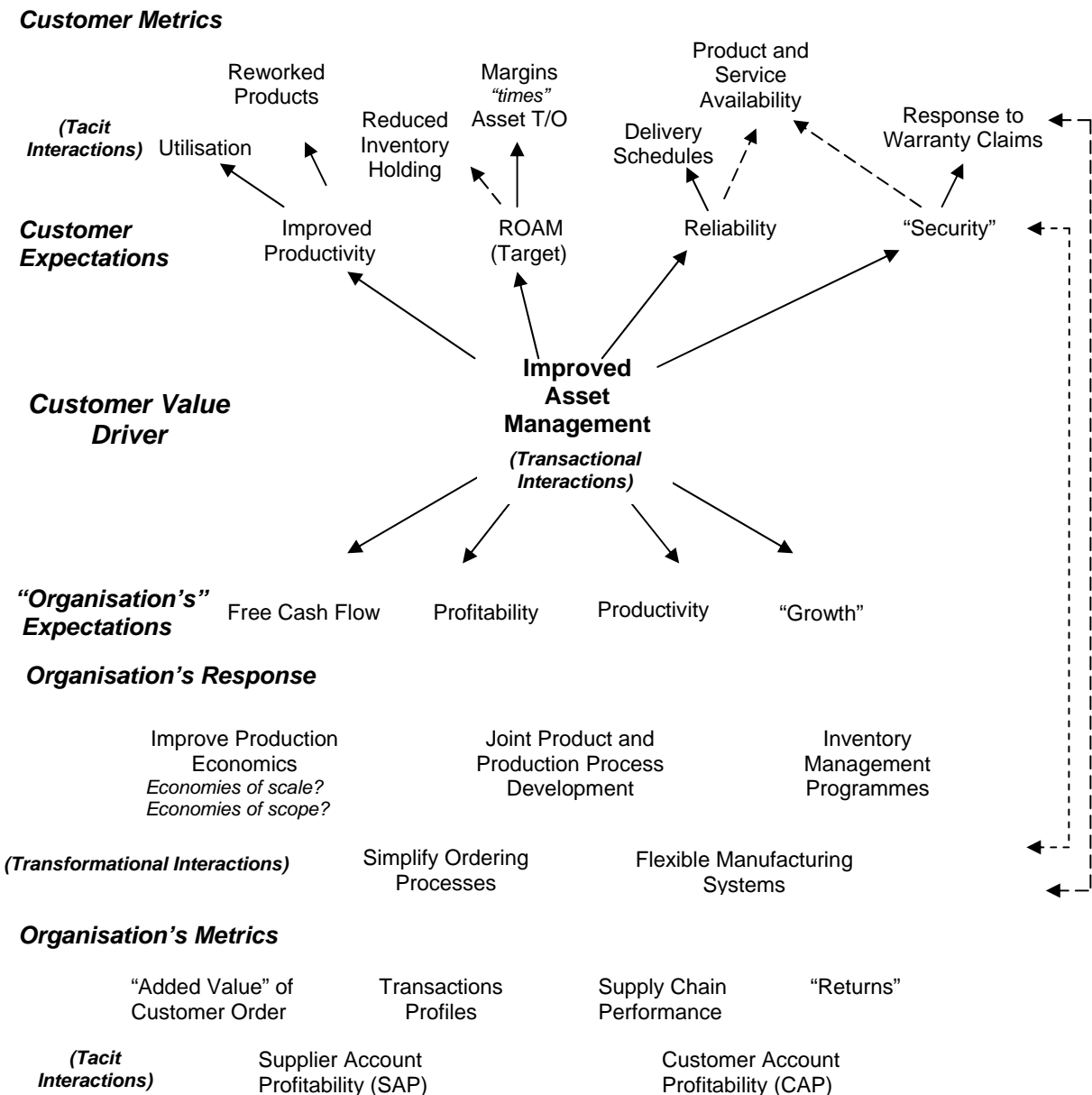


Fig 3: Identifying Value Driver Detail and Developing Responses

This is the basis of *transformational outsourcing*; it recognises the strong attraction of reducing costs by outsourcing high content labour processes *but directs the planning focus* towards other issues. For example, issues such as gaining access to a research, design & development activity that can improve "time-to-market", opportunity costs (releasing capital that may offer greater returns elsewhere), reduce market "entry costs" and "exit costs", investment in information systems etc. Customer facing processes are explored by taking a "Kipling" approach to identifying the "Who? How? When? Where? What? And Why?" of managing customer satisfaction through an effective value delivery strategy and an efficient value implementation.

Fig 4 illustrates this activity.

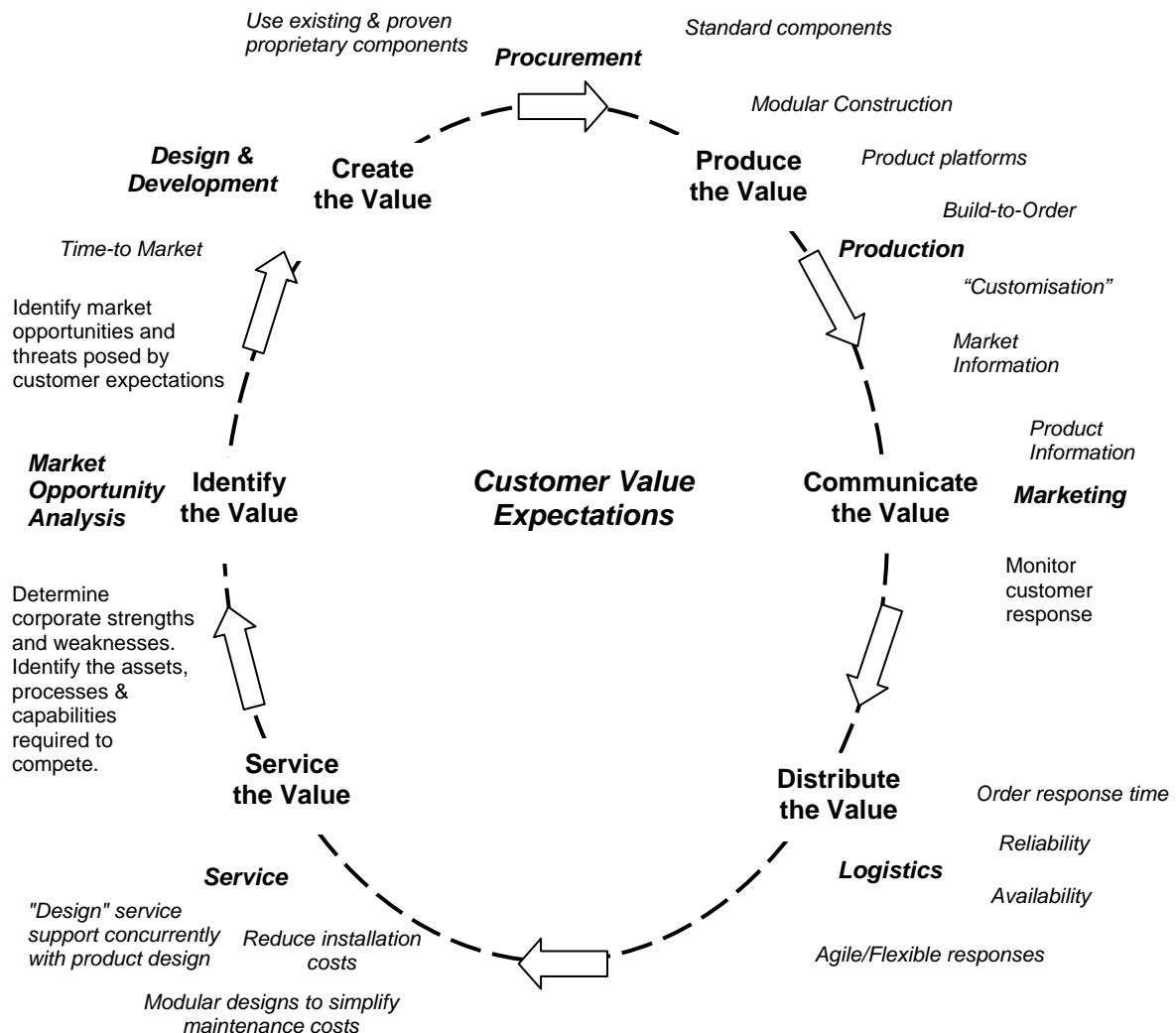


Fig 4: Identifying Customer Facing Processes and Process Alternatives is an Important Feature of Adding Customer Value

Returning to figure one will remind us of the importance of demand chain analysis because it enables the organisation to adopt both a competitive strategy and this ensures an operationally efficient organisational response. By structuring the information (as shown in figure one) the knowledge value emerges and strategic decisions can be made concerning customer segment focus, the *processes & capabilities* required, together with *production facilities and networks* and, *market entry and market management networks*.

Hines et al (2000) established that by identifying the customer facing processes they could be evaluated for their impact on customer satisfaction as well as their implementation alternatives. Such analysis inevitably identifies those processes offering *sustainable competitive advantage* (a long-term perspective), *competitive advantage* (a short-term advantage that may be imitated) and, *competitive necessities* (resources that are essential and without which it is impossible to compete in the market!).

3. Conclusions

“New Economy” business models not only require information/knowledge systems that facilitate strategic planning and operational monitoring but also are dynamic and “thinking systems” that can create learning organisations as part of their support to management. This requires *information providers* to identify the role of interactions in *decision makers’* activities. For this to be an effective application of ICT both should understand the specific applications of tacit, transactional and transformational interactions. The improvements in *reach*, *richness* and *cost efficiencies* are now presenting opportunities for ICT applications that develop and maintain organisations in strong substantial competitive positions.

References

- Agarwal A, D P Harding and J R Schumacher (2004) “Organising for CRM”, *The McKinsey Quarterly*, Number 3
- Ashkenas, R D. Ulrich, J. Todd and S. Kerr (1995) *The Boundaryless Organisation*, Jossey-Bass Publishers, San Francisco
- Butler P, T W Hall, A M Hanna, L Mendonca, B Auguste, J Manyika and A Sahay (1997), “A revolution in interaction”, *McKinsey Quarterly*, August
- Day, G. (1999) *The Market Driven Organisation*, The Free Press, New York
- Egan C (1998) *CIM Handbook of Strategic Marketing*, Elsevier
- Hines P and N Rich (2000) “Understanding Improvement Areas in the Value Stream”, in *Value Stream Management*, ed: Hines P, R Lamming, D Jones, P Cousins and N Rich, FT Prentice Hall
- Johnson B, J Manyika and L Yee (2005), “The next revolution in interactions”, *McKinsey Quarterly*, Number 4
- Lee H L (2004) “The triple a supply chain”, *Harvard Business Review*, October
- MacMillan, I C and McGrath, R G (1997) “Discovering New Points of Differentiation”, *Harvard Business Review*, July/August.
- Ohmae K (2005) *The Next Global Stage: Challenges and Opportunities in our Borderless World*”, Wharton School Publishing
- Pine III, B J (1993), *Mass Customisation*, Harvard Business School Press, Boston.
- Rainbird M (2004) “The Demand Chain”, *International Journal of Physical Distribution Management and Logistics Management, The Value Chain, Vol 34: (Special Edition)*
- Seely Brown J and J Hagel III (2005) “From push to pull: the next frontier of innovation”, *McKinsey Quarterly*, No 3
- Slywotzky A J (2000) *Value Migration*, Free Press, NY
- Walters D and M Rainbird (2006) *Strategic Operations; a Value Chain Approach* , Palgrave Macmillan, UK