

The mobile society: effects of global sourcing and network organisation

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Abstract: The notion of a *mobile society* needs to be rooted in the newly emerging forms of business and organisation of the global economy. In this paper we explore the *five stages* of business focus evolution over the past 50 years, with a special attention paid to the current, the fifth stage. From the given and fixed processes, through their re-engineering and extension to networks, we have moved up to their disaggregation and distribution. This is a remarkable journey in search of competitive advantage and its main acceleration is beginning now. The future of business and entrepreneurship is more remarkable than its recent past. We focus on *global sourcing* as the main driver of attaining global competitiveness and sustainability. It is becoming the interest of all network participants that their relationships are competitive, sustainable and stable on a global scale. The main point of this paper is that *mobile knowledge* and learning are brought forth by the underlying global forces of mobile business and society.

Keywords: global sourcing; mobile business; mobile knowledge; mobile networks; mobile society; modular corporation; offshoring; outsourcing; sustainable advantage; virtual subsidiary.

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1 Introduction

All societies of the past were ‘mobile’ to a certain degree and within their referential contexts. What is so new and challenging about the newly emerging mobility? There are several characteristics of the new notion of mobility worthy of listing:

- 1 For the first time, the emerging human mobility is massive and realised on a truly *global scale*.
- 2 *Business and entrepreneurship* have become the main drivers of societal change and its dynamics.
- 3 Mobility has expanded from merely physical objects to *ideas*, information, knowledge, wisdom and digitised coordination. One can be and act anywhere without being physically present.
- 4 *Networks* are the new frontier of business organisation and management.
- 5 Outsourcing or *global sourcing* brings new stability to these networks.
- 6 Knowledge and coordination function are mobile and can be outsourced.
- 7 The engendered new web of global business relations is generating larger stability and weakening the destabilising influences of traditional politics, religion and national interests.

We could continue along these lines, but the main point has been made: the new mobility is quite unprecedented and it will take some vigorous learning to understand and master all it can offer.

In the past, politicians dreamt of national separation, isolation and state ‘fortresses’ in order to escape the turbulence of the surrounding world. Now it is the politically isolated islands – the pockets of discontinuity in the increasingly connected world – that are the sources of global instability and threats. This new world of business is certainly not about ‘Winning’, but about cooperating so that all participants can win. Nations that do business together are less likely to fight. Business alliances are stronger than political alliances. Global sourcing, leading to globally shared information, resources and wealth, contributes to global peace.

In order to participate in shaping the future, we should understand how and why we got to this stage and how have the notions of mobility, networks and global sourcing emerged. Such understanding and awareness will make our work much less uncertain and our actions more self-confident.

In the past 50 years, the world of business has moved through five evolutionary stages, moving along at an ever-accelerating rate of succession. The current, the fifth stage, brings forth the *era of networks*, characterised by *disaggregated corporation* and *distributed process*.

Once the stable networks and alliances are in place, the issue becomes what is to be propagated over such networks? are they goods, information, knowledge, wisdom ...? The sixth and subsequent stages are already assuming their contours and taking shapes

1.1 Process organisation and its evolution

The five evolutionary stages include:

- 1 *Final-product orientation*, where the process is given and final-product improvement is the primary focus
- 2 *Process-operations orientation*, where process improvement comes into focus and Total Quality Management (TQM) emerges
- 3 *Integrated-process orientation*, where the focus shifts from continuous improvement to discontinuous redesign and from operations to overall process architecture – Business Process Reengineering (BPR) emerges
- 4 *Extended-process orientation*, when the internal process becomes embedded and integrated in the extended network – supply and demand chain management emerges; and finally
- 5 *Distributed-process orientation*. Only in the fifth stage, the currently emerging paradigm, both customers and suppliers become global sources, driving the search for competitive advantage.

The last two stages start an ever-accelerating process of *global sourcing* (outsourcing, offshoring, homeshoring, etc.) as the main driver of global change (Agrawal and Farrell, 2003; Sen, 2006).

1.2 Evolution of management systems

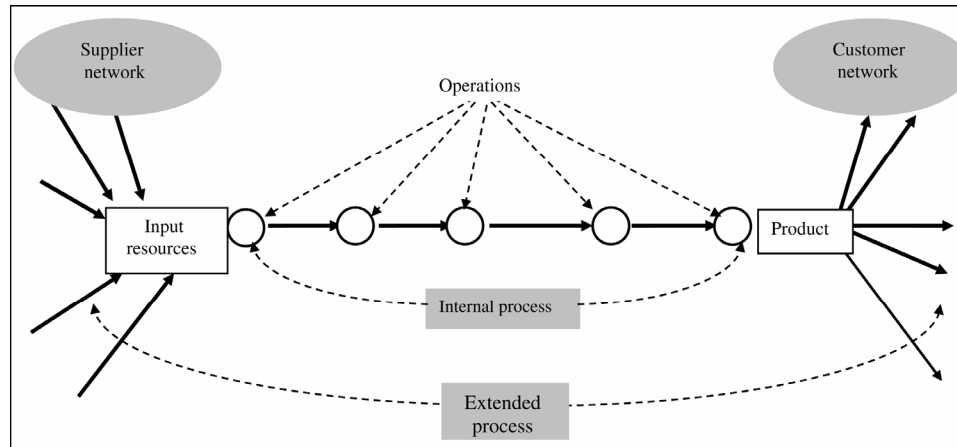
After World War II, the earlier paradigm of product-oriented mass production (linear assembly lines, organisational hierarchies of command, product quality control and mass consumption) had reached its peak.

Soon afterwards, the Deming-Juran process quality teachings spearheaded a new quality orientation (later referred to as TQM) and propelled Japan directly to the post-war *process focus* (process quality control, just-in-time, continuous improvement). The US responded by a painful and prolonged product-to-process transformation, ultimately leveling the playing field again by the mid 1980s.

At the end of the 1980s, BPR focused on the radical redesign of the production process through the reintegration of task, labor and knowledge (Zeleny, 2005). As a result, lean, flexible and streamlined production processes were created, capable of fast-response and internet-based integration necessary for the upcoming phase of *supply chains* – business-to-business (B2B) – and *demand chains* – business-to-customer (B2C) orientation.

In all three described stages, the competitive advantage was derived almost exclusively from the *internal resources* of the firm. At the end of the 1980s, the most radical fourth shift has occurred: the competitive advantage became increasingly derived from the *external resources* of the firm – through the *extended networks of suppliers and customers*.

In Figure 1 we display the basic scheme of production and service delivery process. This scheme has remained unchanged and unchallenged for centuries of the engineering and economic descriptions of business management. What has been changing is the evolving *focus of management* on different parts and components of the basic scheme.

Figure 1 Basic scheme: product, process and networks

Although the scheme [inputs → process → outputs] remains unchallenged, there are some indications in the emerging fifth stage that it will also undergo a major restructuring in the future. It will become disaggregated and distributed, subjected to *non-linear modularity* and thus bringing forth entirely new ways of making things and delivering services.

In view of Figure 1, the managerial focus first shifted from product to the internal process. It has become clear that improving quality of the process leads to a better-quality product, but not vice versa. Improving the process was first carried out by continuous improvement, concentrating on improving the operations (circles). Then the emphasis shifted from operations to process relations (arrows), that is, to *discontinuous improvement* through redesigning the process architecture, reengineering of the process. In all these efforts, the corporate focus was rooted in developing the internal sources of competitive advantage, knowledge, innovation and productivity.

Only in the last two paradigmatic shifts were the internal processes expanded into the *extended process* – including supplier networks and alliances as well as customer self-service, mass customisation and disintermediation – as the main, increasingly external, sources of competitive advantage. Such a shift changed the very notion of competitive advantage, the sources of knowledge and the concept of the firm itself.

The subsequent process of global sourcing brings forth and fosters a new set of relationships with customers and suppliers. The firm starts disaggregating its production processes, transferring, leasing or selling selected pieces off to a higher-added value operator/coordinator.

Any firm can be only as good as is the network of which it is a part. Consequently, the firm will disaggregate and become a network. No firm is an island.

Users of the newly emerging networks have to become ‘mobile at work’. The main business location is no longer the main work environment. An effective collaboration between employees, vendors and customers has become the cornerstone of business success. Secure wireless LANs and effective IP telephony to improve employee collaboration; wireless connections to network resources allow virtual meetings and projects to be completed on the spot. Technology fully supports the emerging trends.

The mobility and the emergence of the Mobile society are implied by the shift towards the external sourcing, disaggregation of the production process and the need for global coordination. Specific global coordination techniques are described, for example, in Rabelo, Pereira-Klen and Klen (2004).

1.3 Summary of the five stages

- 1 *Final-product orientation.* The final product is a primary focus, the production process is considered secondary. Its operations and their sequences are technologically fixed or 'given'. Product quality is 'inspected in', mostly at the end of the process. Statistical quality control, inventory control, cost minimisation, mass production, assembly lines, work specialisation, hierarchies of command, mass consumption, statistical mass markets and forecasting are among the defining characteristics of this stage.
- 2 *Process-operations orientation.* It is the high-quality process that assures the high-quality product, but not *vice versa*. The main focus is on the improvement of process operations. Quality of the process was understood as the quality of its operations. Powerful new concepts of Total Quality Management, Continuous Improvement (Kaizen) and Just-In-Time systems have characterised this stage. Although the operations are being improved, the process architecture and structural sequencing are kept intact and remain technologically 'given'.
- 3 *Integrated-process orientation.* The focus of attention shifts from operations (circles) to linkages (arrows) – thus changing the process architecture itself. The *reengineering* of the process, re-integrating individual components into effective, more autonomous and even self-manageable wholes, has characterised this stage. The production process became a business process and therefore subject to qualitative redesign and reengineering (BPR). Discontinuous improvement and process innovation replaced the piecemeal continuous improvement. Traditional vertical hierarchies of command have flattened out into more horizontal, process-oriented networks. Mass customisation, disintermediation, knowledge management and autonomous teams have started emerging.
- 4 *Extended-process orientation.* In this current stage, networks of suppliers and communities of customers have extended the internal process into a functional and competitive whole. Both internal and external sources of knowledge and competitiveness form new core competencies. Supply and demand chains management have emerged. Intranets and extranets have provided a communication medium for B2B and B2C exchanges. Quality has become bundled together with cost, speed and reliability.
- 5 *Distributed-process orientation.* The emerging stage represents the most radical business refocusing so far. Through the global sourcing, sections and components of the internal process are being outsourced to external providers and contractors in search of the highest added value contribution. Long-term alliances are formed and companies are transforming themselves into networks. Network cooperation is replacing corporate competition: '*coopetition*' emerges. Globally distributed process brings forth new forms of organisation, coordination and modular integration.

It is necessary to note that the incessant and accelerating paradigm shifting is carried on by the best global players only. The majority of companies (and educational and training institutions) are still in the first, i.e. post-war stage of final product orientation and even the early process orientation has been eluding them. That is how rapid the management evolution has become: the best world-class companies are already in the fifth stage. For those still in the First stage there is little chance of bridging such a rapidly opening chasm, and virtually no way of ‘catching up’.

2 Distributed process and global sourcing

The fifth stage is underlying the move towards the Mobile Society. Global sourcing is propagating the search for the *maximum added value* worldwide.

The difference between the fourth and the fifth stages is that the extended process involves only the coordination of supply/demand chains, i.e. the flow of external inputs (from suppliers) and outputs (to customers) – the flow of ‘things’, parts and products, to sustain the internal process. The internal process remains intact, being a captive of the firm. In the fifth stage, the internal process is being deconstructed and its pieces transferred to external providers and contractors, to be coordinated and managed externally. In its later stages even the knowledge and coordination is being transferred.

Outsourcing contractors, such as Genpact, Accenture and IBM Services, split the workflow of an entire department, such as HR, IT or Finance; then they reengineer all processes and administer programmes, acting as *virtual subsidiaries*. The work is dispersed among global networks, producing *mobile networks* and *modular corporation*. The process towards such a disaggregated form of corporation allows companies to boost productivity and deliver better products, cheaper and faster.

Typically, outsourced processes include contract manufacturing, testing and design, just-in-time shipping, purchasing, after-sales repairs, training, payroll, billing, call centres, market research, financial analysis, bill collection, etc. Virtually all and any process components can be outsourced. For example, Procter & Gamble has outsourced everything – from IT infrastructure, HR and office management – from Cincinnati to Moscow.

Production process has moved from being fixed and ‘given’, through internal reengineering, to extended coordination. Now it is becoming *modular*, purposefully disaggregated, physically dispersed and flexibly re-arranged in myriads of variations.

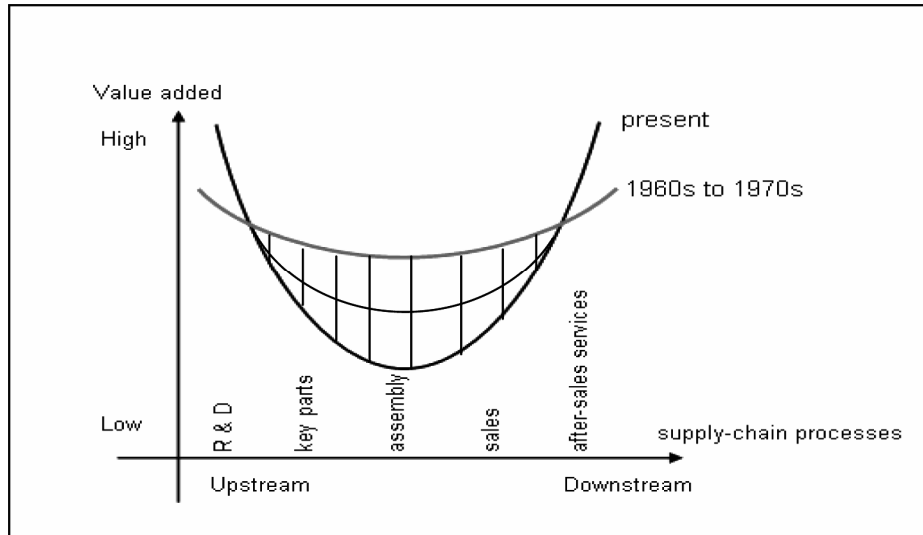
The global sourcing is a reflection of the *search for the highest added value* on a global scale. Every operation and every string of operations must be adding value. To serve the *global customer* means that also the highest possible added value must be identified and exploited. Only then can the firm deliver the best quality at the lowest cost and the greatest speed – the necessary condition for *sustainable competitive advantage*. Short-term competitive smugness, as the recent case of Ford Co. clearly demonstrates, is not sufficient anymore. The key phrase is long-term sustainable advantage (e.g. Sahay, Mohan and Maini, 2004).

2.1 Smiling curve

The outsourcing phenomenon is the best captured by Stan Shih’s ‘Smiling Curve’ (Figure 2). Both external sides of the extended process (R&D and After-sales service) are

claiming larger and larger portion of the *added value*, both upstream and downstream of the value chain. The value-added ‘smile’ is getting broader and deeper – pointing to new business opportunities and new outsourcing arrangements (Bartlett and Ghoshal, 2000).

Figure 2 Stan Shih’s smiling curve



The lowest added value is increasingly focused on the internal process, around the centre of the extended process. That is why these sections of the internal process are the best candidates for outsourcing. The low added-value activities are being outsourced – creating new business opportunities for developing economies, while high added value activities are being retained and strengthened – mandating a new business orientation for established companies.

The outsourcing of low-added value activities allows not just reengineering, but also the *new redefinition* of business and its internal processes. That is the true benefit of outsourcing. Business is being redefined according to added-value maximisation, new business forms and practices emerge, powerful innovations flow in from the outsourced networks.

Outsourced activities produce more stable networks. Whenever a firm outsources its low added-value activities, the outsourcee firms become long-term providers and suppliers of parts, assembly or sales, often indistinguishable from the company itself. The company itself becomes a network. Cooperation and alliances replace competition and competitive bidding along the entire value chain (Zeleny, 2005).

Similarly on the demand side: *outsourcing to customers* becomes an increasingly effective strategy as self-service, do-it-yourself, disintermediation and mass customisation bring more and more customers into longer-term relationships with the company (Pralhad and Ramaswamy, 2000). More and more of lower added-value activities are outsourced directly to customers who are becoming much more effective in performing them (automated teller machines, hypermarkets, self-serve technology). More in Zeleny (1997, 2001).

As a result, larger firms are transforming into *networks of outsourced resources* and smaller firms are becoming – through increasingly serving as outsourcees – parts of these same networks. These networks are then further interconnected into partnerships, alliances and contracting arrangements, often even across competing networks. Cooperation complements competition and transforms it into the modern ‘*coopetition*’.

A network replaces the firm as a unit of competition. Adaptability and flexibility, continuous reshaping and optimisation of networks are now more important to corporate success than operational performance. Strategy for agility and marketplace differentiation is more important than cost reduction and execution – effectiveness drives efficiency. It is more important to do the right things than just doing things right.

2.2 *New forms of business*

As the resources are being outsourced (offshored), new forms of doing business are being insourced (inshored). Both the outsourcer and the outsourcee benefit.

Some of the new forms are showing strong emergence rates during the fifth stage:

- 1 *Mass customisation*. Total responsiveness to the customer through individualisation and ‘fit to measure’ products and services. *First sell, then produce*. Let the customer co-design the product. Eliminate tradeoffs because the global customer wants it all: highest quality, lowest cost and greatest speed.
- 2 *Disintermediation*. Eliminate the middleman: provide the *most direct* path from the producer to the customer. Unnecessary, non-value-adding links of dealers, agents, wholesalers, retailers, warehouses, etc. are being reexamined or eliminated.
- 3 *Self-service and Do-it-yourself*. Customers are becoming most effective in performing certain services or completing suitable production processes. Self-service now affects all sectors of the economy as well as many traditional business functions. Customer is being integrated into the production process.
- 4 *Work at home*. Now called *homeshoring*, utilising SoHo (Small office/Home office). Home is now becoming a very effective location for distributed product and service delivery, source of new productivity and the main driver of the search for productivity. (JetBlue has 1,400 reservation agents working from home.)
- 5 *Menu-based delivery*. The customer pays only for what he wants, not for unwanted packages, bundles, fixed fees and other ‘creative’ rip-offs. Assorted Pay per View, Pay per Song and Pay per Program innovations are now being expanded into Pay per Time (on the phone, computer, online), Pay per Module, Pay per Page and Prepaid cards for everything. Digitisation technology allows these forms to propagate rapidly.
- 6 *Co-location*. Suppliers do not just deliver parts, they deliver *functional* parts, i.e. they install and test them directly at customer’s plant or locality. Co-location is going to expand from manufacturing to services, tying up with the increasing work at home.

Outsourcing does not just export jobs; it imports innovation, knowledge and productivity. It adds value and the workers must move to higher added-value activities.

3 What is added value?

The increased mobility, both real and virtual, is the result of the search for the best portfolio of added-value activities. *The global search for the added value is at the core of the Mobile Society.*

Added value is becoming the most effective measure of business. Minimising cost, maximising speed, maximising quality, etc., all these performance measures are ineffective if no value is being added.

Essentially, *added value is the measure of human knowledge* embodied in the coordination of the production or service delivery processes: all other inputs can be purchased, internally or externally, and in themselves do not add value. However, also knowledge, measured by added value, has become mobile, ‘hitting the road’ in search of its highest appreciation.

The value of information is intangible, unless it is translated into knowledge and thus into measurable action (Zeleny, 1987, 2006).

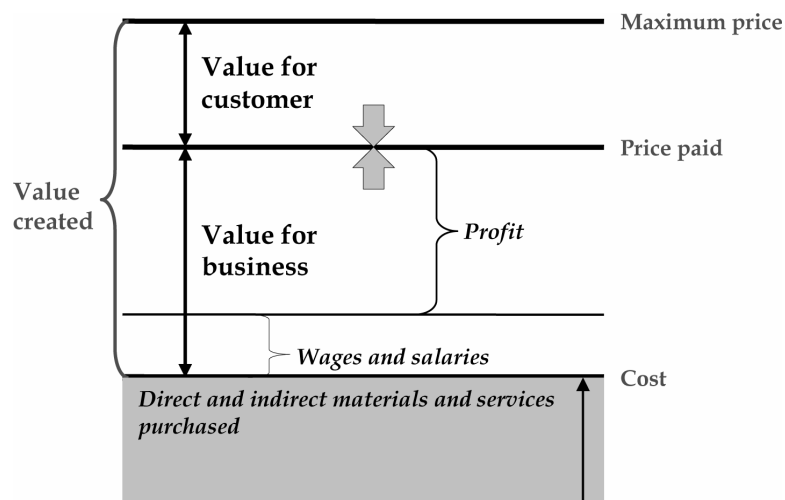
Knowledge is measured by the value our *coordination* of effort, action and process adds to materials, technology, energy, services, information, time and other inputs used or consumed in the process. Coordination of globally distributed supplier and customer networks is the most sought after function, skill and knowledge of the future. Coordination knowledge is becoming the highest added value activity. *Knowledge is measured by added value*; see also Zeleny (2005).

In any business (and human) transaction, value has to be *added to both* participants or sides: the provider *and* the customer. Adding value is what makes the transaction satisfactory and sustainable.

There are two kinds of value to be created: *value for the business* and *value for the customer*. Both parties must benefit: the business – in order to make it; the customer – in order to buy it. In the global age it is precisely this business-customer *value cooperation* that is emerging as the hardest and the busiest battleground.

In Figure 3 we explain the process of creating new value.

Figure 3 Adding value



First, the customer pays for the service or product: the *Price paid*. The producer subtracts the *Cost*, covering all direct and indirect materials and services purchased. The difference is the *added value* for the business. This added value can also be interpreted as the *value of knowledge* engaged in producing the service or product. In order to pay wages and salaries, the production process and its coordination must generate sufficient added value. Added value is the only true source of corporate wages, salaries and profits.

If the added value does not cover the wages and salaries, then these must be correspondingly lowered. If no value is being added, then the value of knowledge is zero and no payment should be attributed to it. The business must add enough value in order to cover at least its workers and managers, their salaries and wages. If even more value has been created, then *profits* can be realised, up to the price received.

The customer, of course, must be ready and *willing to pay more* for the service/product than he actually paid. The *maximum price* the customer would be willing to pay must exceed the price the producer has asked for. The difference is the *added value for customer*.

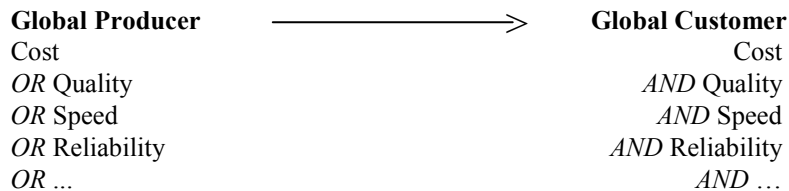
If there is no value for customer – when the maximum price is lower than the price to be paid – then the customer should not buy the service or product. In a competitive market, the customer pays only for the value received, i.e. for the value for the customer (Jackson, 2004).

3.1 Global customer

The customer is changing from the relatively uninformed, unsophisticated and unskilled local customer of the past to his new embodiment: The *Global Customer*.

Market dominance is steadily shifting *from producers to customers* and consumers. The emergence of the *global customer* mandates that a globally effective management system must emerge as well. Global customers want things *cheaper, better and faster*, year after year, with no end in sight. In fact, they want it all: *Free, Perfect and Now*.

Without paying sufficient attention to customers, a company would be doomed to keep delivering *either low cost or high quality or high speed*, but never all the requisite dimensions together. Yet, what is needed in the global economy is to deliver *all*: low cost *and* high quality *and* high speed. The need for a shift from Strategy *OR* to Strategy *AND* is undisputable:



4 Conclusion

The mobile society is here to stay. Global sourcing is its main driver and the necessary collaboration and communication technology effectively supports the outsourcing trends. Disaggregated processes lead to modular corporations, being continually assembled,

operated and disassembled according to the rapidly changing needs and preferences of global customers and the never-ending search for higher added value.

References

- Agrawal, V. and D. Farrell (2003) 'Who wins in offshoring', *The McKinsey Quarterly*, Special edition: Global directions, pp.36–41.
- Bartlett, C.A. and Ghoshal, S. (2000) 'Changing the role of top management: beyond structure to processes', *Harvard Business Review*, Vol. 73, pp.132–142.
- Jackson, F. (2004) *The Escher Cycle*. Mason, OH: Thomson Learning.
- Prahalad, C.K. and Ramaswamy, V. (2000) 'Co-opting customer competence', *Harvard Business Review*, Vol. 73, pp.79–87.
- Rabelo, R.J., Pereira-Klen, A.A. and Klen, E.R. (2004) 'Effective management of dynamic and multiple supply chains', *Int. J. Networking and Virtual Organizations*, Vol. 2, pp.193–208.
- Sahay, B.S., Mohan, R. and Maini, A. (2004) 'Strategies for building a sustainable competitive edge', *Int. J. Innovation and Learning*, Vol. 1, pp.209–226.
- Sen, F. (2006) (Ed.) 'Special issue on global outsourcing', *Human Systems Management*, Vol. 25, pp.89–90.
- Zeleny, M. (1987) 'Management support systems: towards integrated knowledge management', *Human Systems Management*, Vol. 7, pp.59–70.
- Zeleny, M. (1997) 'Work and Leisure', In *IEBM Handbook on Human Resource Management* (pp.333–339). London: Thomson.
- Zeleny, M. (2001) *Information Technology in Business*. London: Thomson.
- Zeleny, M. (2005) *Human Systems Management: Integrating Knowledge, Management and Systems*. Hackensack, NJ: World Scientific.
- Zeleny, M. (2006) 'Knowledge-information autopoietic cycle: towards the wisdom systems', *Int. J. Management and Decision Making*, Vol. 7, pp.3–18.