Innovation as the core competency of a service organisation: the role of technology, knowledge and networks

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Keywords

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Abstract

Services lie at the very hub of the economic activity of all societies, and interlink closely with all other sectors of the economy. The exponential growth of services internationally has not only intensified competition, but has also simultaneously posed a challenge and an opportunity for the managers of services. This study examines the factors underlying the growth of services, and emerging views on what constitutes a "resource" for service organisations. To this end, the roles of technology, knowledge and networks are examined as interdependent factors. It is argued here that today's "resources" are the culmination of various advances in knowledge. Technology facilitates the maintenance of networks with customers and partners inside and outside the firm. The network of relationships renders the firm's capabilities "amorphous" in nature. This study suggests that this amorphous knowledge represents the true "resource" in a service firm, and ultimately provides the creative potential for "innovation" – the so-called "core competency". However, innovation *per se* does not benefit the firm unless it manifests superior value in the customer-driven marketplace. Moreover, this study argues that service innovation results only when a firm is able to focus its entire energies to think on behalf of the customer.

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The service imperative

The increasing importance and growth of services as a major global industry (Shugan, 1994) have been of interest to academics and practitioners alike. There is a consensus that economic growth, a higher disposable income and technological advances have contributed to the rapid growth of service-sector enterprises (Mattsson, 1995; Patterson, 1995), and have substantially increased their economic importance. According to Grönroos (2000), today firms compete on the basis of services, and not on the basis of physical products. The competitive advantage of services has become increasingly evident, as there is little to differentiate competing products from the customer's perspective. For example, to a customer, there is no apparent difference between a Sony television and a JVC television; it is the service offered by the retail store that manifests true value.

The global dissemination of knowledge through information technology (IT) has limited benefit with regard to product differentiation. Advances in IT have reduced the life-cycle of products and, in addition, have revolutionised the way in which business is conducted in the new economy. Billions of people worldwide are currently connected to the Internet, and exponential growth in this international network means that millions more are being connected annually. The Internet enables customers to engage in a higher degree of self-service (Hallowell, 2001). Moreover, the nature of business today demands that firms interact with their customers and business partners using technology to provide services instantaneously across international borders. Essentially therefore, service encounters relate to "high-touch" (traditional face-to-face interaction) and "high-tech" (those encounters that take place over a long distance via a technology interface). Thus advances in technology have meant that the provision of services has become the business imperative in today's competitive marketplace.

Moreover, services have become the uncompromisable core component of business and, from a management perspective, they have evolved to assume a strategic function. A firm's service function concerns and interacts with almost every activity or component of the firm. These

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include people, process, or physical evidence (both tangible and intangible evidence representative of the firm from the customer's perspective); internal and external customers; and the various networks, alliances and partners. External relationship networks have become an essential prerequisite if a firm is to achieve the capabilities and knowledge required to serve the holistic needs of customers.

Service leaders successfully introduce products and services to the market far in advance of customer expectation. Moreover, in the customer's mind, a firm maintains its market leadership position by continuing to operate at the cutting-edge and by extending conventional parameters. Service firms today are expected to delight customers with their creativity and innovation. Thus, in operational terms, innovation can be translated as a firm's foresight to "think for the customer" by creating services that "drive" the marketplace (offer superior value to the customer). The ongoing dominance of services in the developed and developing economies around the world has raised a challenging question for service enterprises – as to what constitutes "resource". This is a fundamental issue, which will invariably affect strategic decisions and subsequent management activities in service organisations.

"Resource" in the new millennium

The study of resources has been a focus of interest to economists for many years. A firm's or a nation's resources have consistently been recognised as important, and many studies have been conducted to determine ways of rendering them more effective (Andrews, 1971). However, the conceptual definition as to what constitutes a firm's or a country's "resources" has changed dramatically with the advent of technology. Today it incorporates a spectrum of components never previously considered in economic or management theory (Pilzer, 1990). Moreover, Barney (1991, p. 101) expands the common notion of a firm's resources to encompass "all assets, capabilities, organisational processes, firm attributes, information, knowledge, etc.", and indicates how such resources enable the firm to conceive of, and implement, strategies that ultimately improve its efficiency and effectiveness.

Hence, it can be argued that the value of a resource is dependent on present information or knowledge. The important words here are "present knowledge", as new knowledge has the ability to transform anything in this world (including humans) into a resource. This also implies that resources deemed valuable today might have limited value tomorrow if new knowledge develops a superior substitute. In the past, Ohmae (1989, p. 153) points out, there were gross inefficiencies – some purposeful, some not – in the flow of information around the world. For example, although the Chinese developed the knowledge of looming in the thirteenth century, it was the British who built that knowledge into a commercial business in the eighteenth century. However, with the increase in knowledge, its global dissemination (through networks and non-restrictive media such as the Internet), and its creative adaptation, many existing resources will diminish in value. For example, the value of natural rubber decreased in the world market following the invention of synthetic rubber made from crude oil. Similarly, the production of semi-conductors (high knowledge component product) was previously the economic strength of computing science in Taiwan and Korea. Today semi-conductors represent just another mass-production item.

Moreover, in this age of technology, Porter (1985, p. 166) argues that a firm is actually a collection of technologies, and it is the technologies embodied in a firm's knowledge, manifested as product or service, that proffer a potential competitive advantage. It is therefore the knowledge that has the potential to add value to the offer of a product or service by a firm. The true focus has thus shifted from natural resources (physical) to knowledge resources (mental). There are numerous factors that have contributed to this paradigm shift, one of the most important of which is IT. The advent of computers in the workplace dates back to the early 1950s. However, because computers were predominantly utilised to hasten paper-based processing, they failed to effect any fundamental changes in the business process. It was not until the 1990s – with the coming together of low-cost computers and IT in the form of a universally accessible phenomenon

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(Internet) – that computers had a transforming impact (Mendelowitz, 1999).

It is, indeed, the advance of technology through mechanisation and mass production that has given rise to the economic prosperity of Western countries following the technological revolution in industry in the early part of the twentieth century. In economic terms, technology directly cuts costs; more importantly, however, its most radical impact has been on conceptual thinking, in terms of the designation of "resources" by a firm or country. This can be likened to the hunter-gatherers of the past, for whom land did not manifest itself as a resource until the human mind developed the methods and the know-how (technology) of farming (Pilzer, 1990).

The creative utilisation of distance and time, referred to as the "death of distance" through the impact of technology, possibly constitutes the single most-important economic force that will shape society and the service industry in the first half of this century (*The Economist*, 1995). Services today are all-pervasive, and we are dependent on those services to maintain our lives. For example, services such as: telephone, television, radio, taxi, bus, electricity, water, sewerage, security, restaurant, library, gym, bank, grocer, post, hairdressing, health care, and so on, are required by almost every citizen. In fact, technology and its capacity to affect every aspect of our lives have always been major determinants of human progress (Pilzer, 1990).

It is proposed here that, on a macro level, the "resources" of the service organisation can be attributed to three interrelated factors of modern business, namely: technology, knowledge, and networks. The following sections will discuss these three factors individually and will examine how they contribute to "service innovation" – the core competency of any firm.

Impact of technology on services

Advances in technology have directly influenced the growth and importance of services, in terms of independent service-offerings, and as components of product and service packages. Service has become a business essential in manufacturing (Zeithaml and Bitner, 1996, p. 10). Consider, for example, the automobile industry. Fifteen years ago, we were able to attend to minor engine problems in our cars: adjusting the carburettor, for example. Today's technology has replaced carburettors with fuel-injectors, and we are obliged to take our cars to mechanics for tuning – we no longer have a choice. Similarly, when we buy a washing-machine or dishwasher, our concerns now extend to the various support services provided by the seller in the event of something going wrong. The service component not only has become an integral part of most manufactured products but also has become the source of sustainable and strategic competitive advantage (Grönroos, 2000, p. 6). In this hyper-competitive environment, it is imperative that firms understand the values that customers attribute to the service package – a combined product and service offering (Kandampully and Duddy, 1999a, p. 54).

Technology has similarly augmented the knowledge required in almost every type of labour in industry. Knowledge – through training – has become a prerequisite for success in the job market. For example, secretaries who were once required to type and answer the telephone are now expected to demonstrate equal proficiency in various computer programs, and to possess the aptitude to learn new programs when these are introduced. Moreover, the increasing use (and incessant update) of technology in almost every field has added a knowledge component to every manual job, and has required firms to seek employees who are willing and able to update their knowledge on an ongoing basis. In addition, technology displaces low-skilled labour from the traditional workplace and offers new opportunities for skilled labour with higher levels of knowledge. Within this new technology paradigm, experience is of limited value because new knowledge is essential to make oneself productive with the adoption of new technology. Thus, knowledge and the increasing service component have significant implications for both the labour market (in terms of ongoing learning) and for the industry (in terms of continuous upskilling).

In the past, labour represented, and was considered by management to be, the inevitable cost incurred in the production of goods and services. However, under the present extended definition of "resources",

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labour is valued not in terms of physical assistance, but in terms of mental contribution. The labour within an organisation or country is no longer a designated cost but a valuable resource. The true economic value of a person is primarily attributed to his or her knowledge and creative skills. This view is highlighted by Moody (1991) in the *New York Times Magazine* with his assertion that "Microsoft's only factory asset is the human imagination". Hamel and Prahalad (1989, p. 67) suggest that managers nurture and develop competitive intelligence at every level of the organisation in order to build the firm's competitive advantage. A similar view is held by SONY's chairman, Morita (1988), who indicated that it is not the manual labour of employees that allows a company to dominate the global market, but the contributions of the employees' minds.

More recently, it has been recognised that the contribution of the human mind (knowledge) will play a major role in tomorrow's service industries (Peters, 1994). Indeed, talent-based enterprises have become commonplace in the innovative world of business. Business success will depend on an organisation's ability to imagine and/or create a need (Pilzer, 1990). Thus, it can be argued that innovation in services reflects the creativity of the human mind (knowledge). It is, indeed, progress into the unknown – through new knowledge – that will enable an organisation to attain wealth and the all-important competitive advantage (Kelley, 1997). It is the people within a service organisation that create and innovate an organisation's service offer. According to Peters and Austin (1994, p. 98), irrespective of where technology leads, service differentiation comes from people and their contribution to the infinite field of knowledge.

Contribution of knowledge

Developing, using and leveraging knowledge are essential for all organisations and/or countries to sustain economic progress. "Knowledge is indisputably the primary basis for value-added in today's companies", claims management consultant Peters (1994). It has become an accepted fact that, in the new millennium, we will encounter advances in technology-information-knowledge services. As the foundation of economies shifts from natural resources to intellectual assets, managers will be compelled to examine not only the knowledge underlying their organisation's success and competitive advantage but also, more importantly, the management of this knowledge (Hansen *et al.*, 1999). Moreover, in an age in which business operates within networks and alliances, international boundaries pose no real limitation.

Historically, many countries and industries prohibited the emigration of skilled workers (for example, carpet-weavers in Persia, paper and pottery craftsmen in China, silk-weavers in India). In those days, a worker's skill in a particular trade or craft represented specialist knowledge, capability and competence. Today, however, even if a particular worker's knowledge is deemed valuable to the company, it is seldom accorded the status accorded to a physical asset in the firm's book of accounts. Moreover, in the present ever-changing world of global business, technology, competence, and capability, each, in its own way, is a manifestation of a firm's knowledge assets operating at different levels of the organisation (Boisot, 1998, p. 4).

According to Drucker (1993, p. 38), knowledge represents a key personal and primary economic resource. He argues that traditional factors of production – such as land, labour and capital – have become secondary. He asserts that "knowledge is the only meaningful resource today". Hence, a worker with knowledge commands a leading role and status, as his or her knowledge represents the firm's single greatest asset. Moreover, the aptitude of the worker and the firm to seek new and up-to-date knowledge (the concept of the "learning organisation") is the only means of sustaining the value of the firm's knowledge resource. However, this new primacy of knowledge requires managers to rethink the fundamental practices of management. Webber (1993) asserts that managers not only must invest in the necessary information tools (to support and enhance the productivity of the knowledge workers), but also need to nurture a partnering relationship with them. In essence, a firm's strategy for knowledge management should reflect its competitive strategy (Hansen *et al.*, 1999). In this competitive environment, knowledge is progressively being perceived as the core driver of

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competitiveness; more importantly, knowledge extends beyond individuals, groups, or corporations to mutually supporting groups (Gummesson, 1999, p. 132). It is this extended network of relationships that, Gummesson argues, will reap the creative potential of knowledge.

Products and services offered in the marketplace today have become increasingly complex, with most organisations offering not one product or service, but a collection of products and services (Albrecht and Zemke, 1985). Hence, most companies are nothing but a "chain of services" (Quinn *et al.*, 1990). It is the firm's service package that augments the value of both product and service offerings (Chase and Garvin, 1990). Moreover, it is the specific configuration of the different components in the firm's service package (competence) that communicates added value to the customer. Management literature attributes a firm's competitive advantage to the firm's capabilities or core competencies (Prahalad and Hamel, 1990; Stalk *et al.*, 1992; Teece and Piscano, 1994). A firm's core competency is dependent on its capacity to combine core skills creatively (Prahalad, 1993), from both within and outside the organisation. However, "what matters is the creative bundling" of a firm's core competency (Prahalad, 1993) and, thus, the need for a focus on the factors that signal value to the customer.

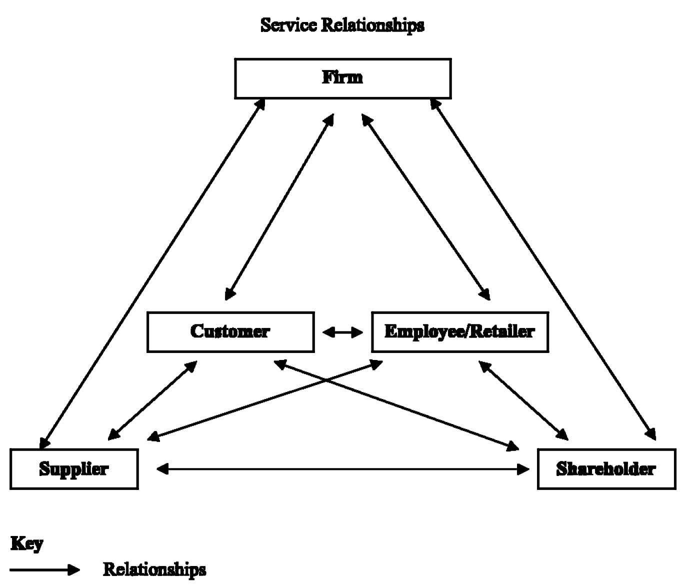
Contribution of networks of relationships

In this competitive global market, customer focus requires a firm to gain a comprehensive understanding of the buyer's entire value chain (holistic needs), not only as it is of today, but also as it will evolve over time (Slater and Narver, 1994, p. 22). Moreover, in most cases, customers' holistic requirements frequently extend beyond that capable of being effectively fulfilled by a single firm's product or service (Kandampully and Duddy, 1999b). Thus, firms which understand customers' holistic needs will be able to mix and match various products and services commensurate with customers' specific needs. If customers require products or services that are not within the realm of a firm's core competency, the firm should find ways to procure those competencies – for the benefit of the customer – by creating strategic alliances both horizontally and vertically (internal and external relationships) with individuals and firms (Peppers and Rogers, 1997).

Horizontal strategy, according to Porter (1985, p. 319), is the essence of corporate strategy as it seeks to gain competitive advantage by creating links among distinct but interrelated businesses. It is suggested here that the core competency of the firm (as valued by the customer) is creatively developed by the firm's ability to nurture enduring relationships with various parties inside and outside the organisation. The collective competency of the firm is thus derived from the various networks of stakeholders of the firm – for example: customer, employee, retailer, supplier, and shareholder (see Figure 1, Kandampully and Duddy, 1999b). Although various other stakeholders can be included in the network, the above five stakeholders (partners) constitute those participants that are essential to a service firm's basic operation. Through network partners, the firm essentially aims to enhance the value of its offerings – to the benefit of customer, firm and stakeholder simultaneously.

Developed as networks, the various relationships that the firm nurtures and maintains frequently constitute the life source for many leading-edge firms (Kandampully and Duddy, 1999a); indeed, most large and small projects invariably involve numerous alliances and partners. This is particularly

Figure 1 Service relationships



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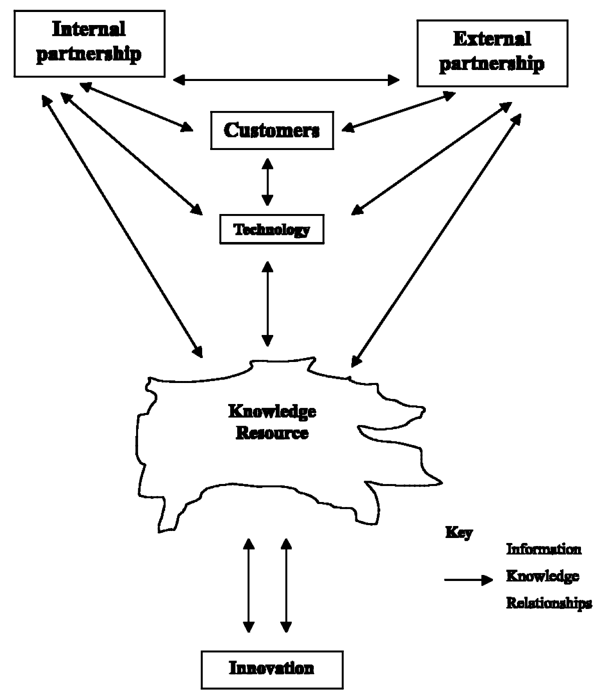
pertinent to services, as networks are endemic to most service businesses (Heskett *et al.*, 1990, p. 160). The competitive advantage of Federal Express over its competition was attributed to advanced technology networks that offered customers the means of "tracking" their package during transit. Today's service organisations traverse conventional boundaries. Firms that seek assistance and enter into alliances with various individuals and suppliers do so, not as a cost-saving exercise, but to seek out specialist know-how to extend their core competency. In modern business, the term "out-sourcing" has been accorded a new meaning and has subsequently been replaced with "out-partnering" (Peters, 1994).

The experts inside and outside the firm can therefore essentially be deemed the firm's "competency-contributing partners", because it is with their assistance that the design and delivery of the service are realised. Most often, the experts inside and outside the firm undertake projects that require them to work in very close relationships. It is technology that renders it possible for these amorphous networks of expertise to come together in cyberspace and work in very close relationships, although they might be thousands of miles apart physically. Technology thus acts as an unparalleled tool that makes it possible for service firms to extend their core capacity (competency or capability) and to forge networks of relationships across the globe (Figure 2).

Thus the firm's core competency is represented by the knowledge base, realised through the effective use of internal and external partnerships utilising technology. It is argued here that it is this continuously updated "amorphous knowledge resource", resulting from the network of partners, that represents the firm's core competency. Moreover, it is the firm's subsequent ability to remain at the forefront that nurtures the firm's image as a service leader, and that provides the feature that differentiates the firm from its competition. The recognition of the non-conforming (amorphous) nature of knowledge provides firms with the mindset to seek for sources of knowledge beyond the obvious. Peters (1994) argues that corporations are becoming amorphous as they expand their resource base to people and firms around the world. For example, call centres are a booming business in India, as

Figure 2 Core competency in services



firms such as General Electric and British Airways set up their call centres in India to handle a daily barrage of customer enquiries that originate in North America and Europe (Landler, 2001). Thus resourcing services through networks beyond national boundaries has become a common feature in the global marketplace. Moreover, the ongoing dependence on network relationships, and the effective maintenance of such networks, will dictate the core survival strategy of tomorrow's service firms.

Furthermore, the ability of a service firm to interact with its customer, and the ability to maintain an ongoing relationship with that customer, have become increasingly important strategies. This relationship imperative, referred to as "relationship marketing" in marketing literature, has gained widespread acceptance with practitioners and academics alike. One of the many benefits associated with the adoption of relationship marketing is its potential to gain timely information on the changing needs, expectations and spending patterns of customers. Customer information thus plays a significant role in the amorphous structure of the firm's knowledge resource. For example, booking 355,000 hotel rooms across the planet gives Marriott the opportunity to collect the world's most extensive store of information about the characteristics, habits and preferences of people who travel (*Wired*,

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2000). This in-depth customer information proves invaluable for the firm to "think for the customer" and to create products and services that manifest superior value to the customer, thus gaining ultimate advantage in the marketplace.

The growing importance of relationships and alliances can be attributed to the global accessibility of the IT digital networks that link individuals and organisations around the world. The collective impact of various factors – including the availability of low-cost computers, recent advances in digital communications, applications of the easy-to-use graphical-interface Web-browsers and the evolution of the Internet as a universally accessible phenomenon – has enhanced the accessibility and exchange of knowledge. From a global perspective, it is the accessibility of knowledge, and how that knowledge is creatively transformed and marketed, that provides an individual firm or a country with its competitive advantage. The Internet offers access to the global marketplace, in which border and time pose no limitations for the amorphous extension of the firm's competency – the only limitation being human imagination.

Service innovation: the core competency

Success stories of firms and individuals in various parts of the world are often featured in business magazines and books. In most cases, their advances in their chosen fields have not been the result of hard work, but can be assigned to their capacity to utilise creatively the benefits of advances in technology, new knowledge, and networks of relationships. Technology thus serves firms as they create and maintain networks of relationships in the pursuit of new knowledge. Thus the incessant focus of firms will be on knowledge – the "resource" that, with its creative potential for innovation, offers the firm its core competency.

Service leaders have not only developed new services as collective packages but, in the process, have created new markets – often initiating the growth of a new industry. Today's managers are not concerned about the challenges caused by the short life-cycle of products and services but, rather, by the possibility of the disappearance of an entire industry. For example, the displacement of the multimillion-dollar music records industry by the introduction of CDs stands as testimony to this phenomenon. Moreover, innovated products and services indirectly destroy the demand for the old, as the latter prove less valuable to the customer.

Innovation or creativity *per se* are of limited significance in today's evolving business continuum, as it is the value of the innovation as perceived by the customer that renders an advantage to a product or service. Service innovation results when a firm is able to focus its entire energies to think on behalf of the customer – for an outcome that surpasses customers' present expectation of superior value. Innovation, however small, has a compounding (cumulative) strength that is capable of creating the new and of distorting the old.

Innovation, therefore, nurtures a culture in which there are fewer hindrances to the creation of a synergy of thoughts and actions on behalf of the customer. This, of course, is conceptually and philosophically alien from conventional business wisdom. Entertaining the old (mindset) inevitably affects the present and future actions of a firm, and hence it is imperative to eradicate the old simultaneously with the introduction of the new. As Peters (1997) suggests, it is essential to destroy the old so as to give way to new thoughts and subsequent new action. Moreover, every enterprise should systematically undertake the tasks of creation, preservation and destruction of their philosophy, systems and processes.

This new mindset also recognises the fact that the firm's extrinsic requirement (enhancement of customer value) is the all-important factor in the firm's intrinsic preferences. The firm might thus choose to use various technologies and to forge networks of relationships to extend its competency (knowledge) base, and to offer higher value to the customer. The focus on customer-perceived value might require the firm to forgo their intrinsic ego and to seek competencies outside the firm. A firm might thus join in partnership with other enterprises – including those they might previously have viewed as competitors. The 13-partner "Star Alliance Network" in the airline industry, for example, illustrates the numerous benefits to be gained by competing airlines, and by their customers, as a result of operating within a

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network. Star Alliance Network partners enjoy the facilities to serve their customers with more than 815 destinations in more than 130 countries in a reputable and customer-service-led environment. This unparalleled world-class service would have been an impossible dream for any one airline operating alone.

Conclusion and discussion

Firms undertake a myriad projects. However, creative innovation necessitates that these projects and actions be synchronised to produce value-enhancement for the customer – the firm's ultimate goal. In the competitive marketplace, it is those factors that render greater value to customers that command demand. Hence, customer-focused firms are amenable to new and better ways of doing things for the benefit of their customers. Technology, knowledge and networks thus represent a unique set of factors that can fuel innovation in service organisations. It is the combined effect of technology, knowledge and network that gives a firm the ability to focus its amorphous resource on the future (as yet unexpressed) needs of customers – the true innovative feature.

Customers today expect firms to delight them with creativity. Hence, continuous and creative innovation undertaken by a firm on behalf of the customer is, indeed, the only strategy that can sustain the long-term success of the firm. However, service innovation initiates increasing expectations among customers and, hence, can constitute a self-created challenge. In fact, it is this self-inflicted challenge – to excel beyond the norm – that has made Steven Spielberg, Michael Jordan, Disney, CNN, Microsoft, and Marriott unchallenged leaders in their various marketplaces. Their passion for delighting fans and customers far beyond expectations has propelled them to unchallenged heights of recognition.

In today's global marketplace, the factors that constituted success in the past might be of limited relevance in the future. It is not just the capabilities and knowledge base of a firm that have assumed amorphous states but, more importantly, the practice of conducting business itself. The quantum advances in technology, communication and digital science have enabled firms to transcend the challenges previously posed by distance and time, and to convert them into potential opportunities. Time differences can be creatively utilised to serve internal and external customers around the clock. Many US firms strategically locate their support services across international borders – with the aim of providing support services during off-business hours. For example, India is being recognised as the "back office" of the world (Landler, 2001). Marquee businesses – such as Nordstrom, Visa, Xerox, General Electric, Reebok, AT&T, Motorola, Cisco, Thomas Cook, and British Airways – provide their firm's support services (such as computer help-desks, accountants, call centres, transcribers, and so on) from India.

This conceptual shift – in recognising the value of people and their knowledge as a resource – thus broadens the global opportunity for individuals, firms and countries, and has major implications for gaining success in the marketplace. This quantum shift in the attitude of firms demands that they reassess what constitutes "resource" for them, and demands that they reassess what has to be done to attract, nurture and manage the ever-changing knowledge-resource pool. In fact, it is this knowledge-resource pool that will be attractive to both internal and external customers.

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