Module 7

Innovation Technology and Strategy

Introduction

In this module we will learn about the role of technology and innovation in the strategic design for future of the organisation. Innovation can be incremental or radical or it can be studied in terms of being embedded in the process or the product design. The fundamental reason for innovation is that it is essential for the long term sustainability and profitability of the organisation. The changes in the immediate technology environment and the overall macro environment are taking place faster shortening the lead time available for the organisations to respond with high degree of preparedness. The situation in which change will emerge and there will be sufficient time for it to replace the old technology with the new one has long gone.

The mobile phone industry, which in the most recent past has altered the way and extent people communicate, has to contend with the emergence of smart phones which will replace the cell phone. Smart phones are more compact and combine multi-functionality of video, Internet access, email, music, games and camera. Organisations such as Apple and Microsoft have grown on the strength of innovation. As the Asian economies come in their own right on the world's economic stage the push for innovation is being felt within them also. Samsung (Korea), Huawei (China), Toshiba (Japan), Larsen and Toubro (India), and HTC (Taiwan) are some of the innovative Asian organisations.

Innovation was important, but now it is central to an organisation's survival. The process of innovation spans the development of technology, the articulation of technology strategy and the embedding of innovation culture in the overall organisational culture. The module will explore the relationship between technologies, innovation and strategy. It will provide an overview of the role of top management in setting the agenda for innovation.

Outcomes

Upon completion of this module you will be able to:

- *define* technology and innovation.
- *describe* the main components of the technology strategy.
- *differentiate* between incremental and radical innovation.
- *differentiate* between product and process innovation.
- *explain* the role of innovation in enhancing competitiveness.
- *discuss* the emerging innovation scenario in Asia.

Terminology

Chief Technology: Officer	A senior level position vested with the responsibility of aligning the technology with strategic requirements.
Diffusion of innovation:	The process by which innovation permeates the market.
Disruptive innovation:	Innovation that is new and different from any existing process/product and is game changing.
Innovation:	Development of something new, usually a product or a process of manufacturing.
Radical innovation:	An innovation that is totally different from anything that exists today.
Sustaining innovation:	Gradual innovation aimed at improving product or process.
Technology:	Application of the principle of science to develop products/ services.

Technology strategy interface

In strategic management our concern is with the organisation's sustainability. Being open systems, organisations are susceptible to many changes that take place in the external environment and have the potential to have positive or negative impacts. Over the last two decades globalisation, advances in information communication technology and the compression of time to transfer products from one economy to another have brought to centre stage the role of technology in strategic decision making. In many quarters technology is seen today as the factor that underlines competitiveness. Technology can be described as the branch of knowledge that deals with the application of principles of science and

engineering to develop products and services with relevance to the society. Examples include medical technology, information technology, green technology and recycling technology.

Technology can be developed by many different types of organisations such as defence and research and development centres, university and academic institutions, government-sponsored or owned research organisations, and commercial organisations. A commercial organisation can develop technology on its own, or partner with others to develop it or source it from them. Technology enables an organisation to tap the opportunities created by new markets. Technology is important for:

- Reducing the cycle time leading to cost advantage and better time management.
- Cost reduction by process improvement.
- Cost reduction by raw material substitution.
- New product development.
- Creating and supporting information technology-based organisation forms.
- Improving the quality and performance of the product.
- Creating new industries.
- Serving new markets or un-served needs.

From this list it is evident that technology can be a leveraged for competitiveness – it can be used to lower costs, create differentiation or develop entirely new businesses in new markets or both for the organisations. Technology is a resource with tremendous impact value. Organisations have the wherewithal for producing as well as spreading the product or its benefits to the society. They have the resources to bring scientists, technologists and managers together for purposive innovation. Organisations come up with products that are new and capable of solving long-standing problems. By developing and bringing new products/materials/processes to the market, technology develops solutions to most issues that concern human beings such as transportation, communication, entertainment, health, agriculture, infrastructure, industry, and education. It also changes the rules of interaction for trade and commerce among organisations and countries. GE, Microsoft and Apple leverage their technology prowess with other resources to develop and market products that are efficient and in demand.

Technology is seen as a resource to enhance efficiency transparency in transactions. Use of technologies in some core socioeconomic functions enhances efficiency and accessibility. For example the use of IT to provide education through the various multimedia tools, and so on has increased the effectiveness of the learning process. Education through distance learning is accessible to more people. The enabling role of IT in smoothing government-to-citizen transactions such as payment of scholarships or specific subsidies to some segments is well known in the emerging countries. In commercial products such as cars convergence of digital with the mechanical technology has enhanced the effectiveness of

driving the vehicle- in terms of fuel efficiency, quality of ride, monitoring of routes and safety of the drive.

From research and development to technology management

As is the case with the management of other resources, technology too requires assignment of specific responsibility and strategy for its management. The responsibility for the development of technology has historically been with the research and development departments. The intensity of effort of the research and development department depends upon:

- The volatility of the external environment (less volatile environment requires lesser infusion of innovation)
- The life cycle stage of the industry early growth and maturity are periods of greater emphasis on innovation compared to stability.
- The innovation dynamics of the industry. Some industries are innovation centric, such as medical diagnostic, and cars (hybrid cars development) others such as aluminium smelting are not. Higher education is an emerging sector for increased innovative intensity as out-of-the-box technology solutions learning are developed enabled.

If an organisation operates in an environment where product or process changes are frequent, top and functional managers appreciate each other's support and motivate technologists for being proactive. However, in industries where the changes are infrequent and innovation is one of the discontinuities, the organisation is trying to understand and settle with, technologists, top and functional managers may not have a good rapport. The intricacies, prospects, risks and costs of benefits imperative for technology change are not perceived to be of strategic importance.

With the growth and spread of information technology within and outside organisations, many organisations felt that there were many discontinuous changes on the technology front and the research and development department may not be the only place from where innovations could emerge for the next generation of products. Partnership and alliances could be explored to speed up R&D or to develop new technologies. This trend led to transformation of the position of the R&D general manager to that of the Chief Technology Officer. The Chief Technology Officer is more common in high technology intensity industries such as computers and information technology than in those where the rates of technology change are slower. The Chief Technology Officer's domain is to analyse, appraise and develop new technologies across a broad band of applications. The Chief Technology Officer is responsible broadly for assessing the technology need of existing, new and emerging industries. The Chief Technology Officer is expected to have a wider view of technology and its relevance for strategic choices. The CTO must be capable of interacting with external research organisations, customers. There is growing evidence that increased spending on R&D leads to higher returns. Overall, in North America and Europe, the spending on R&D has been rising and according to some estimates was 24 per cent of the total revenue of the organisations. What is the optimum level of R&D investment an organisation should make to leverage technology for

competitiveness? There is no answer to this, though technology leverage is the concept that has been used to answer this question (Scholefield, 1993).

Technology leverage is the extent of influence that a business's technology base has on competitiveness. In some industries, such as smart phones, medical diagnostics and energy generation, technology bases is critical for competitiveness, but in some, such as chemicals, the price of petroleum-based raw materials determines competitiveness as it does in commodity based businesses.

Technology strategy

It is the compilation of alternatives that a firm uses to address the technological threats and opportunities in its external environment to guide a firm in acquiring, developing and applying technology for competitive advantage. It is, however important that the development of technology is in sync with other strategic choices which a firm evolves.

The technology strategy of the organisation addresses the strategic issues pertaining to:

- Resource appropriation to develop technology capability.
- Leveraging technology across the value chain.
- Choice between technology leadership and technology followership (these issues are consistently discussed in the subsequent text).

Since the operational efficiency of technology depends on the efforts made by a firm to assimilate and modify it to suit specific requirements, it is important to keep a sound technology strategy as a part of innovation strategy.

Technology strategy of an organisation has to be constantly reviewed and monitored so as to cope with the dynamic environment. Feedback loops built into the technology strategy are an important way to adjust and reconfigure the technological capabilities.

Various dimensions of technology strategy of a firm can be understood through the substance and enactment of technology strategy.

Competitive strategy stance

Technology strategy as an instrument of more comprehensive corporate strategies defines the role which technology can play as a source of competition to sustain advantage in product differentiation or cost or to develop new products/lines of business to make inroads in uncharted areas. Organisations may decide to undertake a technology leadership posture so as to focus their research and development initiatives on creating innovations based on state-of-the art technologies combined with possible first-mover advantages. This may lead them to capture premium segments, achieve economies of scale, set industry standards or control distribution channels or be the first ones in a hitherto un-served market. Technology-follower firms emphasise pursuing strategies that involve low-cost manufacturing of proven products and technologies.

A company can outperform rivals only if it can preserve the difference which it has established.

Value chain stance

It refers to the technological capabilities that the firm decides to develop internally – the core technologies. The other technologies used by the firm are the peripheral technologies. A firm can decide whether to deploy its resources on those few technological capabilities that create competitive advantage or to develop numerous other capabilities in which it may not have any obvious advantage. The scale and business focus of a firm decides the scope of its technology strategy.

Resource commitment stance

The emphasis on resource commitment to technology determines the depth of a firm's technology strategy. Greater technological depth enables an organisation to be flexible and respond to new customer demands. The technology choice of a firm can also be explained as a trade-off between fixed and variable costs; the higher the investment in fixed costs (advanced technologies) the less a firm needs to spend on variable costs.

Management stance (Organisational fit)

This refers to the extent an organisation can structure itself so as to meet the requirements of competitive, value chain and resource commitment stances. Decentralised laboratories are more suited for application of technologies and not for generation of new technologies. But they are better suited for products related research due to being closer to markets. A centralised structure is more suited to developing fundamental R&D required for building distinctive technological capabilities.

Enactment of technology strategy

Technology strategy is enacted through the sourcing and deployment of technology.

Sourcing

Internal sourcing of technology depends on the firm's R&D capability. The main purpose of R&D spending is to gain greater efficiency and effectiveness and access to newer markets. R&D efforts lead to generation of knowledge and to building a firm's absorptive capacity. Internal development of technology results in proprietary technology which a firm can use to create an advantage. It is a risky option, because the success of the technology is not guaranteed in the market. The decision to source technology internally has a comparatively higher score in appropriability (extent to which benefit from research activity can be captured).

External sourcing of technology can take place through licensing, strategic technology agreements and mergers and acquisitions or alliances. External sourcing of technology has to be done after considering;

- The extent of integration possible between the existing and the new technology.

- The ease of availability of technology may imply that it is easily available to competitors also. How then would the organisation develop an advantage with technology or synergy between the other elements of strategy to have a sustainable advantage?
- Transaction costs (the ease with which contracts for the purchase or sale of technology can be written, executed and enforced without leading to unexpected outcomes that impose large costs on one or both parties) and the implications for the Intellectual Property rights for the organisation have also to be understood.

A mixed internal/external approach is another alternative through funding of joint ventures, collaborative research or strategic alliances.

Product and process development

While taking a decision to develop products firms need to decide whether technology would drive the development of the product (technology push) or product development and/or market development would drive the development of technology (market pull). Every product is composed of a number of technologies.

In the process of product development with the use of high order IT a theoretical framework for collaborative design and production development Digital Enterprise Technology is sought. It configures digital product and process development technologies which link design data at various levels of completeness, with a high degree of real-time measurement from the production environment to ensure the product's tolerance specification and the selected production and assembly processes. It helps to reduce the implementation risk and streamline the assembly and integration processes.

Deployment of technology in the value chain processes enables an organisation to enhance operational capabilities. For example, the adoption of enterprise resource planning (ERP) systems across the value chain (inbound logistics, operations and marketing and sales and distribution) can be used by a firm to not only improve its inventory and fixed assets turnover but also lead to efficiencies in marketing, sales and distribution. The customer relationship management (CRM) value chain helps to improve the efficiency of firms by organising, aligning and integrating the organisation processes along the value chain between the customer, the firm and its extended enterprise.

Innovation

In recent decades innovation and technology have emerged as important considerations in the formulation of strategy. What would be the nature of the future technology change? In which domains would technology change happen? How would the change impact our long term profitability? These are some of the questions asked with reference to the technology change. An organisation has to convert technology into a tangible form. It does so through innovation. Innovation is drawn from the Latin word *innovare* which means to renew, to alter or to make new. "The introduction of new goods (…), new methods of production (…), the opening of new markets (…), the conquest of new sources of supply

(…) and the carrying out of a new organisation of any industry." (Schumpeter, 1942)

The root cause of any useful action for the future has its seed in ideas – ideas about how solutions to problems in the form of products can be different and, how new technologies can shape the future of things to come. The implementation of ideas is innovation. Innovation is about newness, about an entirely different perspective to a problem or a situation. Innovation has been described very succinctly by the Webster's Online as "a new idea method or device." Innovation is the transformation of technology into products and processes within the organisation which are an improvement over the earlier ones or totally different ones. Innovation is the conversion of an idea into a marketable product. Lumpkin and Dess (1996) define innovation as "a firm's tendency to engage in and support new ideas, experimentation and creativity for the development of new processes". Innovations have altered the way people work, act, think and behave. Innovations can create or disrupt organisations.

Innovation according to Narayanan (2001) "refers both to the output and the processes of arriving at technologically feasible solution to a problem triggered by a technological opportunity or customer need."

Organisations do not stagnate because they don't have ideas; they do so because they have not been able to implement them, in other words they haven't been able to innovate. It has been established that innovation has led to growth and profitability of business organisations. Organisations are the vehicles through which humans have created products and services to satisfy their various existential, financial, social, wellbeing and medical needs. The organisations founded on innovations of electricity, spinning jenny, printing press, and telephone to name a few, eventually spawned major industries of their times, created wealth and employment. The necessity for the organisations to innovate has been aptly described by Joseph Schumpeter (1942) "as soon as quality, competition and sales effort are admitted into the sacred precincts of theory, the price variable is ousted from its dominant position. But in capitalist reality as distinguished from its textbook picture, it is not that kind of competition which counts but the competition from the new commodity, the new technology, the new source of supply, the new type of organisation (the largest-scale unit of control for instance) – competition which commands a decisive cost or quality advantage and which strikes not at the margins of the profits and the outputs of the existing firms but at their foundations and their very lives. This kind of competition is as much more effective than the other."

In the last two decades innovation has emerged at the centre stage of corporate existence as the older paradigms of consumption and conversion of resources give way to newer ones.

If human nature is presumed to be disposed towards innovation can the organisations lag behind? However, being purposive and committed to wealth creation, organisations would seek tangible benefits from innovation. The innovation can lead to the development of products that are far superior to the existing ones. It can also lead to cost advantages because of substitution by cheaper raw materials or technology. It can

also create hybrid advantage of both superior product and cost advantage. Technology can be a distinguishing feature if it is proprietary. A proprietary technology may give access to new markets, uses that were previously unimaginable. The extent to which organisations will innovate is shown in the **Figure 7.1**.

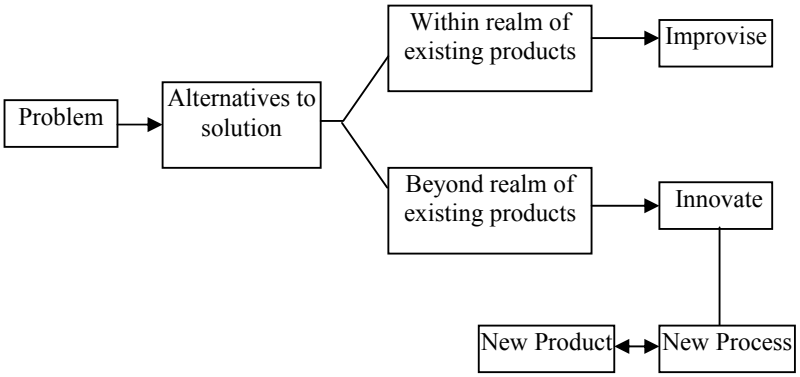

Figure 7.1

Activity 7.1

Activity

Describe in your own words the differences between innovation and technology as well as the interrelationship between them. Give three examples of technology and three of innovation here. Please use photographs if the examples are of such a nature (for example, modern sonography used in medical diagnostics is based on the sonar waves technology developed for use by the navy).

Innovation shifts

Modern organisations are in the business of developing solutions to people's problems. These are not merely existential issues-based solutions, but those that affect the vast majority's quality of life. Citizens expect the organisations to balance the consumption of ecologically fragile materials and equitably distribute the natural resources among the citizenry. These expectations, especially in the context of the emerging markets where resources are becoming scarcer and consumption is rising, make innovation all the more important. For organisations to be successful in the next decade the innovation agenda has to meet the needs and expectations in very imaginative, accessible, quick and cost efficient ways. Innovations in the manufacturing and distribution of food items are innovations that meet existential needs whereas the innovation for green cars and vertical farming addresses the long-term sustainability need of human kind and the innovations that make mobile banking possible aim

to improve the quality of life by easing transactions, delimiting the necessity of physical presence, freeing some time.

A list of the most innovative organisations is published annually by Business Week. In 2009, a panel of academics from the University of Pennsylvania's Wharton School was asked to collectively rate innovations and came up with a list of the top 30 over the last 30 years. Our purpose here is not to examine the merits of the choice but to notice the shift towards convergent technology. In a lay language we may say that earlier businesses of cars, textiles, steel manufacturing, railways and so on, were based more on the mechanistic aspects. On the other hand, organisations that have been profitable and have experienced growth in recent past, are from businesses where the convergence, linkage and interface with other technologies is very high such as mobile telephony, entertainment, and medical diagnostics. The top thirty innovations as reported on the website http://www.smartplanet.com/blog/business-brains/top-30-innovations-that-changed-the-world/4007 are:

1. Internet, broadband, WWW (browser and html)
2. PC/laptop computers
3. Mobile phones
4. E-mail
5. DNA testing and sequencing/Human genome mapping
6. Magnetic Resonance Imaging (MRI)
7. Microprocessors
8. Fibre optics
9. Office software (spread sheets, word processors)
10. Non-invasive laser/robotic surgery (laparoscopy)
11. Open source software and services (Linux, Wikipedia)
12. Light emitting diodes (LED)
13. Liquid crystal display (LCD)
14. Global positioning systems (GPS)
15. Online shopping/ecommerce/auctions (such as eBay)
16. Media file compression (jpeg, mpeg, mp3)
17. Microfinance
18. Photovoltaic Solar Energy
19. Large scale wind turbines
20. Social networking via the Internet
21. Graphic user interface (GUI)
22. Digital photography/videography
23. Radio frequency identification (RFID) and applications (e.g., EZ Pass)
24. Genetically modified plants
25. Bio fuels
26. Bar codes and scanners
27. Automated teller machines (ATMs)
28. Stents
29. Static random access memory (SRAM) flash memory
30. Anti-retroviral treatment for AIDS.

From this list we can infer the difference in the scope and focus of pre and post digitisation innovations. Most of these innovations are solution-oriented, are based on convergent technologies (digital, mobile, imaging

and so on) impact the quality of life of a common consumer, enhance efficiency and have the potential to create a new industry.

Pre Digitisation Innovations	**Post Digitisation Innovations**
Product centric.	Technology centric.
Profitability main focus.	Experience and sustainability emergent focus.
Rate of technology diffusion from developed to developing economies slow.	Rate of technology diffusion from developed to developing economies much faster.
Country centric innovation	Poly centric innovations i.e. innovations in major R&D centres in emerging economies.
Efficiency and functionality improvement focused.	Effectiveness and technology convergence focused.

Table 7.1

The organisation's architecture for innovation

The responsibility for innovation lies with either the research or development department or the technology department depending on the structure of the organisation. Further, the innovation has to be diffused across the organisation and be embedded in the various processes for its results to be optimised. Here, leadership has a mediating role. Innovation is also a large-scale change in the organisation and, as with similar changes, the stewardship of top management is critical for its successful implementation in the organisation. Three different paradigms can be used to understand the genesis of innovation.

- What drives the innovation-dominant customer group or organisation?
- The extent of change that the innovation will bring about.
- Is the innovation process driven or product driven?

What drives the innovation?

There are two ways the product can reach the market. The innovation can be led by the organisation or by the customer, depending on the nature of the sophisticated understanding of the product by the customer (Naryanan, 2001). Alternatively the innovation can be led by the organisation. The scope and circumstances for these innovations are presented in the **Table 7.2**.

Customer-Led Innovation	Organisation-Led Innovation
Customer is knowledgeable and savvy	Customer is not too aware about the technology and its benefits
Customers are innovative and may be ahead of the organisation on the learning curve. Organisation is receptive.	Organisation has developed the technology and its application to different products. The customers are at the beginning of the learning curve.
Technology has been in use and the customers have developed expertise. Innovation is incremental to the customers.	Technology is new. The innovation for it has been radical. The customers will adapt to the technology gradually.

Table 7.2

What is the extent of change the innovation will bring about?

The change brought about by innovation can be reactive status quo, incremental, transitional or radical transformational. Organisations are keener for innovation which leads to profitability in the short or long run. For organisations it is difficult to sustain technology-based leadership. Very few organisations find it feasible in the long term to maintain a position similar to that of 3M's (manufacturer of the original Post-it) leadership based on innovation. Most organisations, instead, carry out slower incremental changes in product, process delivery and for profitability. The type of innovation in an organisation can be arranged along a continuum as shown in **Figure 7.2**.

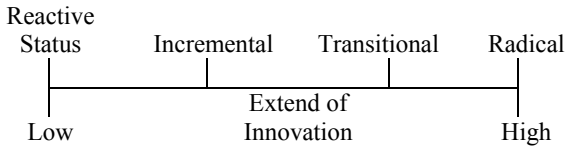

Figure 7.2

Reactive Status Quo Innovation

This is a situation when an organisation is reactive in being innovative. Innovation is not driven by its strategic choice, nor is it the fountainhead of change in an organisation. Instead, innovation is driven by forces external to the organisation. For example, an organisation shifts to a "cleaner" Euro II compliant engine because it is mandated by the government to do so. In a seller's market an organisation can get by with reactive status.

Incremental Innovation

Organisations bring about incremental changes in products/processes because incremental changes are easy to implement and also lead to perceptible differentiation of the product. For example, consider the incremental change in Intel Chips: Pentium I, Pentium II, Xeon, and Continuum to suit the different generations of computers. The different quality improvement approaches such as Kaizan are also incremental change-centred approaches. Such change captures value (cost reduction→ low price; better quality → fewer complaints) but the basic architecture and paradigm of technology remains.

Transitional innovation

Many innovations are based on transitional innovations, cars being a case in point. For similar engine power, the change in exteriors or accessories can upgrade or downgrade a model making it suitable for different ranges of price preferences. It can be architectural or modular. Architecture implies the change in the outward appearance and internal configuration of the components to reduce, enlarge or differentiate the functionality of the product. For example, a ceiling fan's components of blade and motor can be used to create fans for industrial use or table fans. The power of the internal components will be altered to suit the functionality. The size and power capacity of the components changes, but their relationship to the components within the design remains unaltered. The 1980s brought miniaturisation of the chips used in hard disks. With each miniaturisation the linkage among the components had to be changed but the basic components and their basic relationship remained the same.

Modular transformation refers to the significant change in the elements and technology of the product. For example, the change from analogue dialling to digital in a telephone is a modular innovation. Around the 1980s most hard disk manufacturers substituted the ferrite read/write heads with thin-metal heads. This is an example of modular innovation.

Xerox was the market leader in the photocopiers. Photocopying, colloquially, was called Xeroxing. Canon on the other hand was a relatively new entrant. Anticipating that it would be difficult to beat Xerox in the large photocopiers market Canon focused on the emerging small copiers market. Meanwhile, Xerox developed some maintenance policies that were not user friendly. The small copier market required that Canon change the architecture of the photocopier. Canon was able to leverage the change in the architecture with marketing and maintenance policies designed to serve the users of small photocopiers. Xerox, like the proverbial dinosaur, could not respond in time and lost substantive market share and dominance to Canon.

According to Christensen (1997) organisations are good at responding to and developing evolutionary changes. These changes can be called Sustaining Innovations. The industry leaders develop sustaining innovations but generally do not develop or fail to be as successful with disruptive innovations. The sustaining innovations enable them to maintain higher margins.

Radical innovation

These innovations entail changes in the components architecture, and knowledge as well the processes in the organisation. In the case of microchips, the shift from magnetic to optical technology required a radical change. The end product, its efficacy, components have been altered. From the chip example we can see that what may emerge as the incremental change can progress to a radical change. Understanding and keeping track of this progression is important for an organisation so that it can understand and prepare to deal with the changes as they would require a different set of competencies at the different stages of progression. Thus if the competitor is changing the architecture or modularity it may signal to the leading organisation that it should analyse what is the trigger for the shift in architecture or modularity. Does it indicate basic structural shifts in the industry, or are its innovation efforts in the right direction?

Most organisations run into trouble when dealing with revolutionary changes, called Disruptive Innovation. The products developed as a result of disruptive innovations initially have lower margins. No organisation has the knowledge or the process to deal with disruptive innovation. Usually start-ups are better off at developing disruptive innovation. They require new organisation knowledge and systems. In organisations that have very set and standardised routines such innovations are difficult to bring about. Usually such changes redefine the industry and its dominant paradigms.

Amazon's concept of selling books through the Internet changed a very basic premise of book retailing – that of holding many titles. Amazon developed a new model for book retail based on different paradigms – this being a radical innovation. Amazon has redefined the concept of a book store. Shuffling it from bricks and mortar to bricks and clicks. Robots have changed steel manufacturing from being highly labour intensive to capital intensive. Radical innovations have a capacity to fundamentally alter an industry's value chain and consequent formidability.

Is the innovation product or process driven?

New products or an increase in the efficiency of the manufacturing/marketing/services etc. can be brought about by either change in the product or the process. Superior technologies in the long run drive out inferior technologies. The displacement can be because of the progression in the technology or the substitution of an older technology by a new one. Pagers were driven out by mobile phones; personal computers replaced personal calculators, telephones displaced the telegraph, stencil-based copying was replaced by the photocopier and so on.

Process based innovations

These include innovations or application of technology to hitherto manual processes. The scope of process innovation spans: work methods, equipment, logistics, and distribution. The extensive use of automation, computers, information technology, lean manufacturing, mass customisation, just-in-time inventory management, total preventive

maintenance, total quality management, and outsourcing are examples of process innovations.

A more efficient process can replace an existing one (hub and spoke model in the airline industry) or the efficiency of the existing one can be improved (as in the total quality management system.) The change in process introduces efficiencies in the value chain which makes it imperative for competitors to follow suit. The lead time that an organisation has till competitors catch up is the time in which the organisation has maximum gains, provided its other systems are also aligned well with the process change. For example, in the combined use of information technology and outsourcing, Nike is far ahead of many other organisations. The objective of the process change is to gain an appreciable advantage over the competitor by basically changing the value constellation in the industry.

Product-based innovation

Innovations that embody technology to enhance a product's quality, functionality, usability, flexibility and thus the market reach are product-based innovations. Product innovations through transformational architectural/modular or radical change open up new markets within and outside the country. For example, General Electric developed a cheaper portable electrocardiogram machine to be used in the emerging markets; most car makers such as Renault and Volkswagen are keen to introduce diesel engine variants to the market as diesel is much cheaper fuel than petrol.

The importance an organisation will give to innovation is contingent on its externalities, the resource available to support innovation and the extent to which innovation is critical to be competitive. Innovation involves a degree of risks. Therefore, the extent of acceptance and preparedness for innovation is also a matter of strategic vision and top management commitment for innovation.

To be innovative, an organisation needs:

- An entrepreneurial mind set – which can visualise, articulate and create an end product on the basis of the idea. It may be the reason that innovation in very large organisations becomes very difficult to bring about unless it is a part of the corporate DNA.
- The availability of resources – of special importance is human resources. First rate people produce first class results.
- An actionable idea which has an operational validity.
- An idea with economic validity that should be able to produce economic results.
- An attitude to take risk and deal with uncertainty.

Figure 7.4 shows the relationship among innovation and other factors.

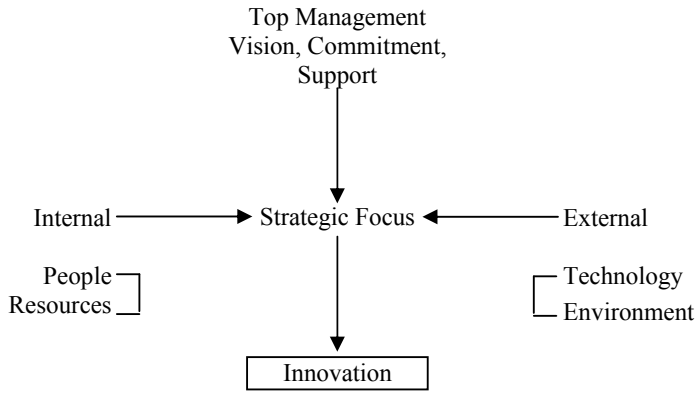

Figure 7.4

Innovation is important as it underlies the decision to:

1. *Improve and optimise the operations.* The improvement in the operations is the basis for market expansion and short-term profitability. However, sustained incremental improvisations may create a position of superiority as has been the case of the Japanese car manufacturers (Honda, Toyota). The emphasis on quality upgrading and consistent improvements in the product established them in the American market.
2. *Develop emerging businesses.* Improved technology is an advantage for gaining ground in emerging businesses. Innovations brought about by Samsung and Apple in the smart phone category gives them an advantage over Nokia. Nokia was tremendously successful with earlier generation of phones. It also developed hardy cheaper phones for the burgeoning Asian market, especially India, but as the Android platform becomes cheaper and offers greater functionality the first mover or upstarts have an advantage to offer to the market cheaper phones. In other words more innovative companies could replace Nokia in the price-sensitive market for new generation mobile phones.
3. *Create future businesses*. Future businesses gradually emerge from the need set that remains unanswered by the present set of devices. As the market volume shifts to the emerging countries, the some businesses of the future would also emerge from there. Access to sustainable energy is one such emerging business.

Diffusion of innovation

The innovation has to permeate the market place to be commercially successful. If diffusion is successful other firms may imitate the product or the process.

In India, a fair complexion is considered desirable and a measure of beauty among women. Sensing the pervasiveness of being fair to be considered beautiful, Hindustan Unilever launched a cream branded Fair and Lovely which became the largest selling cosmetic cream in the world

in terms of volumes and a net revenue generator for HLL. Many companies aspiring to latch on to the fairness product bandwagon imitated Fair and Lovely and many similar sounding products flooded the market. Even cosmetic majors such as L'Oreal felt compelled to offer similar products and extend the range of their other cosmetics such as face-washes and sunscreens, also to have a "Fairness" component in brand name. Calvin Care, a company that gave the shampoo range of Hindustan Lever a run for its money, launched Fairever to counter Fair and Lovely. This is imitation.

The diffusion process is influenced by the characteristics of the population in which the diffusion will take place. In Asian markets consumption is relatively more influenced by the socio cultural norms. The case study given below explains the role social conditioning and timing can play in the acceptance of a product. It is possible that a high quality product may not be acceptable because the dominant social mores do not view its use favourably.

Case study

Case study

Diffusion and culture of consumption

In India there is a tradition of having snacks with evening tea. Most of the times these used to prepared at home and stored for consumption during tea time. Women pride themselves in preparing fresh tasty snacks for the family and believe that this effort in the kitchen shows their concern and commitment to the family.

An Indian company which had been successful with a domestic fire extinguisher decided to launch air-tight containers for storage of the tea time snacks. The containers were of very good quality and predated Tupperware containers in the Indian market. The manufacturers believed that the quality of the product would ensure rapid acceptance. However, the contrary happened. The containers found very few buyers. Feedback from consumers showed the problem lay in a sphere the company had not thought of!

In India preference is given to fresh food items. Many households have a practice of making instant snacks for tea time. Gradually there was a shift towards market-made snacks, namkeens, as they are called. Even the market-made snacks are kept for just two to three days and consumed, and then fresh ones are brought. The capacity of the container to keep food fresh had inadvertently been construed to mean that lazy homemakers kept food for a long time in such containers and were less concerned about the health of their family members Peer group pressure was too strong for women to buy the containers and risk having the label of being lazy homemakers. USP, the manufacturer, had banked upon the capacity of the containers to maintain freshness, but in real life became its most critical reason for lack of sales.

About ten years later Tupperware entered the Indian market using the multi-level marketing route with referencing as essential to buy the product. The Tupperware product was accepted more easily. Not only was the referencing for the product more positive from the peer group but the

extended range of the containers did not signal the containers as being used only for storing snacks and hence condemned for use by lazy homemakers. The extended range made the product acceptable and provided the ease of sheltering one's use from judgment by others. By the time Tupperware products were brought to the Indian market many more women had joined the work force and there had been a significant shift in the attitude of women regarding the acceptability of stored food items for consumption and the number of days they could be stored and still considered fresh.

From this case we can see that in the diffusion of the product, the cultural functionality for usage, as well as the timing also plays an important role.

The adoption of a product depends on the speed with which users learn to use them. With innovation, the product, process, design, and user interface changes. The user may have to learn about some attributes and applications. For example, there are many applications in smart phones which younger consumers learn about faster than the older consumers.

The characteristics of innovation and the overall support from the networks and technological inter-relatedness also impacts diffusion. Innovation is accepted with relative ease if there is a clear advantage, an ease of transition from the older to the new and if it fits in with the existing organisational routines. If large-scale changes have to be made in existing systems for adopting the technology, diffusion may be problematic.

Reflection

Innovation in Asia

For many years Asian organisations have built upon the technology of the West. Gradual, but consistent improvement followed relentlessly by the Japanese car makers created a situation in which the Japanese cars performed far better than their American counterparts in the U.S. The diversity in the consumption patterns, income levels, education levels and the asymmetry of provisioning of resources such as drinking water and power drives innovation in Asia. In Asia there is a substantial market for both ultra luxurious products as well as for products at the other end of the spectrum.

The thrust of the innovation strategy is to develop innovative products, distribution and business models suited to the local social, cultural and economic environment. According to Agtameal (2007) the Asian and emerging economies are capable of developing products that are of good quality and affordable by a large population. Organisations in these countries can develop a USD 3000 car (Tata Nano), USD 300 computer, USD 30 mobile phone and a 2 cent per minute telephone call!

Some of the salient features of the Asian countries that have an impact on the innovation thrust (thrust includes the direction the degree and the speed of innovation that the organisation works upon) are:

- Emerging middle class.

- Low purchasing power.
- High aspiration levels.
- Rapid diffusion of information.
- Geographical dispersal of markets.
- Large consuming population.
- Complex political systems.
- Developing economic and social infrastructure.
- Growing entrepreneurial culture.
- Regional disparities in growth.
- Heterogeneity of markets and consumption.

Asian markets therefore provide ample opportunities for innovation ranging from the most sophisticated pharmaceutical research labs/car research centres to innovations centred on cost reductions in common appliances. For example, different organisations of varying sizes and belonging to different industries are working at creating commercial viability of eco-friendly energy sources such as geothermal, solar, wind, and biomass, with some degrees of success. Using the terminology of Prof Clayton of the Harvard Business School, in the Asian markets there is scope for the development of sustaining innovation as well as disruptive innovation. The focus of innovation is on:

- Modification of the product quality.
- Innovation in raw materials etc to reduce costs.
- Innovations in the delivery systems.
- Automation and digitisation for efficiency.
- Innovations to make consumption possible where there is none.
- Innovations to meet the quality aspirations of the emerging customer class.
- Innovation in service delivery, management processes and organisation systems and design.

Incremental innovation in quality to a point where quality was seen as the mantra was the hallmark of Japanese companies which was later followed by Korean organisations. In India and China, innovation has been the outcome of the liberalisation of their economic policies and the opportunities which the consuming population presents. The consumption spectrum includes the innovations to fulfil basic needs such as electricity to ultra sophisticated medical care. In India, mobile providers are able to offer the cheapest call rates, an upstart can change the game in the shampoo market and a range of low cost cars for personal and commercial use can be developed because of the large pool of consumers.

Innovation and strategic fit

Technological innovation is an important competitive tool; it improves an organisation's performance across functions and different managerial activities There is empirical evidence suggesting a strong interaction between growth in sales and different innovations; between expenditure on R&D (as a proportion of sales) and new product announcements and with performance measures such as value added and market to book value. Service process innovations result in improvement to the service provider's productivity and flexibility; more rapid production and/or delivery of services; improvement in quality of services provided; increased market presence through a wider range or a more "user-friendly" set of services. Product-process innovation has a positive impact on financial results, market position and bargaining power.

Impact of organisational factors on innovation and technology strategy

The extent of organisational learning is the main ingredient for fostering innovation. We now identify major organisational factors that create learning environment which further promotes innovation.

Open communication channels – The higher the degree of openness, the better the learning environment.

Training and Development programme – though not for innovative inputs as such – is one of the channels to upgrade technological capabilities of the firm through provision of better learning opportunities.

Learning is known to be promoted by inter-functional integration which can be brought about by job rotation, and formation of interdivisional teams.

Existence of reward systems for furthering and sharing knowledge is also an important ingredient as more informalisation in the organisational structure.

Leaders' dispensation to innovation helps create a culture of innovation which is an important variable for fostering innovation. According to John Kotter, organisations such as Eastman Kodak which at the time of inception were driven by a very strong innovation culture, lapse into a complacency that inhibits their capacity to see, analyse and act upon the wave of innovation driving the industry. Film-based technology had given way to the digital technology, yet Kodak did not realise that the basic dynamics of the industry had changed. Photographic equipment, such as cameras, were more "electronic products" than the "cameras" as Kodak saw them. This transition of the product gave Sony a chance to develop cameras for a more contemporary photographer who wanted ease of operation and fun while taking pictures. Pictures were no longer family portraits for nostalgia. In the film segment Fuji Film was performing better than Kodak. Kodak could never fully make a transition from film-based to digital technology across the entire spectrum of photography: cameras, filing of digital photos, archiving or retrieving. Had Kodak seen the shift in technology and acted, it could have been the leader in integrating the digital aspect with the Web (with help from smaller

Internet-based companies) but it didn't. Non-responsiveness to these changes was not so much a matter of inability to transit, as it was a matter of inability to grasp the need for tsunami-spurring change within the organisation.

Discussion

Within your group discuss the reasons for the differences in behaviour of organisations when it comes to innovating. In your discussion explore the different aspects of this behaviour by referring to successful organisations such as 3M and unsuccessful ones such as Kodak. You will also choose to study and discuss the local organisations in your region and country. Note the different points of view and write a short note on key variables that impact an organisation's response to innovation.

Module summary

Summary

In this module you learned about the crucial role technology and innovation play in strategic decisions. Technology is the science through which much of innovation happens. Innovation can also take place within the ambit of processes, systems and design. The main objective of innovation is to create a more efficient and effective organisation. Ideally the innovation must be sustainable and lead to competitive advantage of some nature.

Organisations can be innovative with products or processes incrementally or radically. Consistent incremental innovations also lead to sustainable advantage. It is difficult to copy the subtle changes consistent incremental innovation brings about. Innovation centred on developing those products and processes that fulfil unmet needs give an organisation a first mover advantage and such innovations are the trend and need in Asian and emerging markets.

Assignment

Assignment

Explore the trends towards innovation in your country. What are the most innovative businesses? Why do you think they are innovative is innovation led by demand or pro-activism of the organisation? How have the innovative organisations performed economically over the past three years? Maintain a record of all the sources from which you have gathered information and present the report to your instructor. The report should not exceed ten A4 size papers typed in 12pt font and one and half space.

Assessment

Assessment

Given below are the cases Chotu Kool and the Solar Kiosk from India and Ethiopia which explain how innovations develop products that are simple but within the resource constraints for which they have been innovated they are unique and capable of making people's lives better. This does not imply that all innovation in the Asian or emerging economies has to be basic and address the issue of functionality within resource constraint. It implies that there are many opportunities to be innovative in these two types of economies. Such innovations can prove to be a breakthrough when their use transcends the assigned boundary and is more widely accepted. In that situation they pose a challenge to established products and technologies.

Chotu Kool

The Chotu Kool refrigerator launched by Godrej and Boyce (a firm in the business of real estate, FMCG, industrial engineering, appliances, furniture, security and agricare) weighs about 8 kilograms, is portable and is priced at USD 70. The challenge was to develop a fridge that didn't use electricity, was portable and affordable for the 71 million households who earn USD 5 a day. The fridge would be used to cool five to six bottles of water and stock three to four kilograms (six to eight pounds) of vegetables. Availability of the cooling device also makes it possible to keep medicines under ambient conditions.

The fridge uses the same principle for power as laptops. The power source is a small fan and a chip. Its electricity consumption is half that of an ordinary fridge. It stays cool using high end insulation. The power source couldn't be mains electricity as power supply is erratic and of poor quality, consequently even in higher income village households a fridge isn't a common device. In the absence of mains power the recourse is the diesel generator which is expensive to buy and maintain. The fridge was developed in consultation with village women so as to accommodate their requirements and build familiarity and acceptance.

A fridge similar to Chotu Kool is used in the West for barbeque beer chillers. This innovation is not a stripped down version of a superior product but developed to meet the needs of a population that is socially, culturally and economically different. If Chotu Kool is successful in the rural market is there a possibility that the same finds a place in urban households for its compact size, affordability and ease of use?

Solar Kiosk

Innovation in emerging economies has to address the non-availability of basic resources taken for granted in the developed world. One such innovation is the Solar Kiosk launched in the African nation of Ethiopia on 15th July, 2012. The Solar Kiosk offers clean non-polluting power to those people whose only other source of power is kerosene or diesel fuel which is unhealthy and heavily polluting. Mains power availability is poor and erratic. Equipped with rooftop photovoltaic panels, the energy hub provides enough power for solar lighting, mobile phones, car batteries, a computer and even a solar fridge. Furthermore, local residents will be able to purchase solar lanterns, mobile phones, re-charge cards and refreshments that one typically finds in a kiosk. Since the kiosk is most likely to house the only refrigerator in the community, it can also be used to store community emergency supplies and medicines. The solar kiosk is the innovation of the German firm Graft Architects. Its idea is to provide an autonomous unit that sells energy tools and products. With about 1.5 billion people around the globe who remain without access to a stable source of light, the Solar Kiosk is intended to provide a safe and affordable solution for inhabitants in off-the-grid areas. As a local business, Solar Kiosk will provide training and secure jobs to several people from the community. This will include training that will educate kiosk operators on how solar products work, how to maintain them, and the everyday workings of a sustainable business.

The Solar Kiosk concept is designed as a light-weight structure that is delivered in a kit of parts. The kiosk can be assembled on site using local materials and in extreme cases can even be transported on the back of a donkey. The basic model can be modified to create a larger structure or a series of small kiosks, while the largest Solar Kiosk prototype can generate enough power to run a telecom tower.

From these examples it is clear that innovation is not always hi tech and that innovation can happen on its own initiative as it did in the case of Chotu Kool or with assistance. The main idea is the benefits of the innovations should be clearly spelled out and the commercial viability must be built in.

In Asia innovation is driven by multinationals as well as large Asian conglomerates such as Samsung and smaller organisations. Multinationals in Asia realise that the Asian market needs product and process innovations suited to the needs and peculiarities of the region. GE has stepped up its research facility in Bangalore, India. Innovations are not confined to low-technology areas but are taking place across

industries ranging from green automobiles (Nissan's Leaf Car) to solar panels and electricity. In Asia, innovations in service delivery are also taking place in health care education, use of e-platforms. Perhaps the large population, heterogeneous geography, and multiple political ideologies all create a cauldron of interesting flavours in which innovation is only limited by imagination.

In your country too there could be an innovation similar to Chotu Kool. Develop a case on one similar innovation indicating the need the innovative features and possibility of its large scale acceptance.

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Module 8

Social Responsibility and Corporate Strategy

Introduction

Organisations are institutions within society. They have grown to enormous proportions and consume almost all the resources that the planet has to offer. Over the last 30 years there has been an increasing concern about the responsibility of the modern commercial organisation towards society. Why should the business organisations be burdened with social responsibility is an often asked question. The answer lies in the size, clout and resources organisations have acquired over the last 150 years. Undoubtedly, the main business was to earn profits, at the same time prudence required that they act responsibly towards the society within which they function.

The evolution of social concerns has happened over time and organisations have responded by choosing to be more proactive rather than reactive. Earlier, social concerns were separated from the mainstream of decision making and were not integrated with the strategic focus of the organisation. For modern organisations the choice is not so much about to do or not to do, but how and to what extent the legitimate concerns of society must be integrated in the strategic decision making.

Corporate social responsibility implies a commitment of the organisations to be ethically, economically, socially and ecologically responsive on a voluntary basis. This extends beyond the regulatory compliance and the actions taken thus are is in excess of the compliance requirements. The voluntary compliance of social and ecological responsibility of companies is called Corporate Social Responsibility (CSR).

Outcomes

Upon completion of this module you will be able to:

- *demonstrate* an understanding of the evolving nature of societal concerns.
- *define* social responsibility in the corporate context.
- *enumerate* the difference between a stakeholder and shareholder concerns.
- *demonstrate* an understanding the different stakeholders' claims.
- *develop* a social responsiveness model.
- *examine* the relatedness of corporate strategy with societal strategy
- *apply* the social responsiveness model to real life/case based situations.

Terminology

Discontinuous:	A fresh change in the environment.
Ecologic:	Pertaining to air, water, forest, soil, flora and fauna of the region the business operates in.
Free enterprise:	A doctrine that propagated a regulation free environment for business to operate in. The market mechanisms are supposed to be the regulatory mechanism. The doctrine was developed by the economist Adam Smith; however, human greed did not follow the market regulations creating a need for government controlled regulations.
Shareholder:	Those stakeholders whose primary concern is capital appreciation and wealth maximisation.
Social responsiveness:	The determination to serve a social segment to what extent in what manner
Stakeholder:	Diverse groups of people such as the government, public, community, consumers, banks, vendors' institutions who have an interest and stake beyond capital appreciation in a business organisation.

The Genesis of Social Concerns

Organisations are institutions within the society. For the first time in human history there came an institution that produced goods and services as well as generated enough wealth for its own growth. Growth of the business organisation was fuelled by the entrepreneurial activity which led to economic prosperity for many countries. It was expected that the business organisation would on its own act in a manner conducive to the overall well-being of the society. The Adam Smith doctrine of "free enterprise" prevailed for some years. In due course, it became evident that the free enterprise doctrine did not necessarily lead to desirable results for all the stakeholders. Business organisations resisted some of the regulatory moves and insisted on the efficacy of the free enterprise mechanism. Economists such as Milton Friedman were vociferous critics of loading the business organisation with any responsibility other than the generation of profits. Businesses set up social responsibility programmes to counter the criticism. Special programmes that addressed the concerns of dominant stakeholders were initiated in areas such as employee welfare, education, vocational training, and customer safety. These were usually stand-alone programmes and not linked to the strategic decisions of the organisations. Most such programmes were taken care of by the administrative and public relations departments. Over the last several decades it has become clear that business and society have to coexist and have to find common ground and neither the rhetoric of free enterprise freedom nor that of excessive controls would lead to the common ground.

In Asian countries "free enterprise" was constrained by the belief that government should take up the tasks of the business organisations and get into active manufacturing and provisioning of services for citizens' welfare. The dominance of the government in some countries such as the former Soviet Union and China, and the adoption of the mixed economy model in India created a system where government is also in business. Both the free enterprise dominated and the government dominated systems had their respective drawbacks and failures. The question of businesses' societal involvement had no clear answers yet it was evident that the answer lay more with businesses.

Businesses had grown to enormous proportions and consumed almost all the resources that the planet has to offer. Some of the negative by-products of business behaviour that attracted attention were:

- Contamination of the natural environment and reluctance to bear the costs of clean-up.
- Pursuing strategies hostile to the customer such as cartelisation, monopoly pricing, goods that are sub-standard and do not adhere to specifications.
- Ignoring the consequences of irresponsible consumption and ignorance of the life cycle approach to product management.
- Indulging in anti-social behaviour such as giving bribes, selling harmful products through false advertising, discrimination and dishonesty.

- Callous attitude towards workers, employees and even customers.
- Interference of business interests with national interests. Crony capitalism is the bane of social and economic progress in many countries because it is not true entrepreneurship but subversion of due processes by some for huge pecuniary advantages.

If business behaviour was to be plotted in terms of concern for profitability and concern for social issues then the business behaviour could be placed in broadly four quadrants:

1. Low concern for both profitability and social concern *undesirable behaviour*.
2. Low concern for profitability but high concern for social issues – this would be *irresponsible behaviour* because the first responsibility is to be self-reliant and generate resources for self and society.
3. Low concern for social issues and high concern for profitability would indicate a *self-centred behaviour* which will attract stiff regulation in the absence of self-regulation.
4. High concern for both profitability and society. This is an elusive *ideal behaviour*.

Most of the organisations may be more middle of the road than being any of the extremes. The four quadrants indicate the broad drift of the organisation if not an absolute positioning.

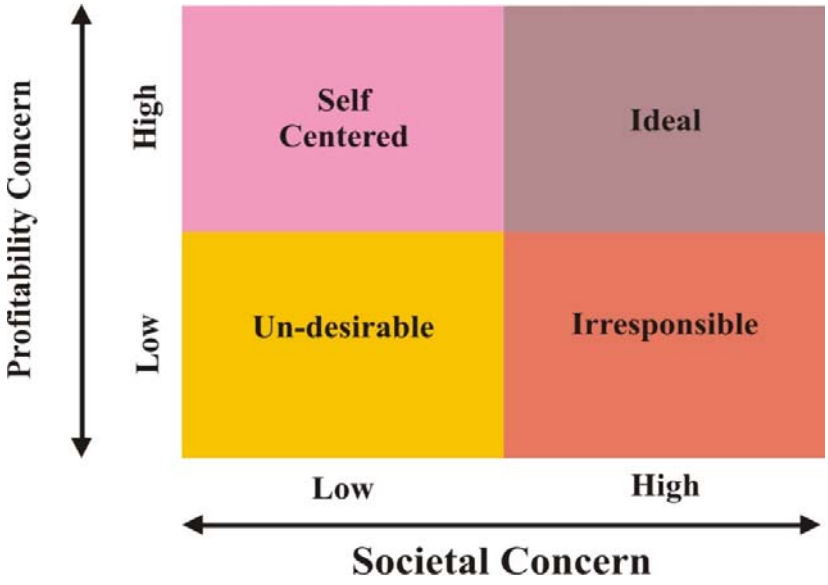


Figure 8.1

Why business organisations should be expected to be more socially responsible is an oft asked question. The answer to the demand for responsible behaviour lies in the size, clout and resources the business organisations have acquired over the last 150 years of existence. **Table 8.1** lists the size of some of the organisations in comparison to the Gross

Domestic Product of some of the countries and is a testimony to the capabilities of the organisations to solve some of the most endemic problems that humankind faces, largely brought on by the production consumption cycle.

Organisation	**Revenue in billion USD$ 2012**		**Country**	**GDP in billion USD$**
Exxon Mobil (oil, gas)	486.4		Thailand	346.0
Royal Dutch Shell	470.0		Malaysia	279.0
Wal-Mart	466.0		Singapore	240.0
BP (formerly British Petroleum)	384.4		Philippines	225.0
Vitol (Grade Oil Trading	297.0		Pakistan	211.0
Sinopet (oil and gas)	273.4		New Zealand	142.0
Chevron	253.7		Hungary	140.0
Conoco Phillips	251.0		Vietnam	123.0
Toyota	235.8		Sri Lanka	59.0
State Grid Corporation of China	226.0		Mauritius	11.3

Table 8.1

Distinction between the expectations of the shareholders and the stakeholders is understood to be the reason for conflict between the provisioning for social concerns and the drive for higher profits. The shareholders are one kind of stakeholders who seek capital appreciation and returns from an organisation. On the other hand stakeholders (whose numbers are more) are those whose interests are not financial return but a better quality of transactions as and when they interact with the business organisation. These stakeholders include the community, government,

customers, banks, employees, and other organisations, in fact anybody or organisation who deals with a business is its stakeholder. **Figure 8.2** shows the different stakeholders (the white coloured circle) and their broad expectations regarding economic performance issues, social performance issues and the ecologic issues (in the purple circles.)

Figure 8.2

The concept of corporate social responsibility

A conflict between the interests of the stakeholder and the shareholder is endemic while addressing the issue of whose interests to prioritise. The provisioning to meet the interest of the stakeholders is seen as a dilution of the financial returns to the shareholders. As a dominant institution of the society, business is now expected to conduct itself in a manner that the negative impact of its economic behaviour is reduced. There is a reasoned logic in the assumption that business has to act voluntarily to emerge not only as a wealth generating institution but also as a responsible, sensitive institution of society whose multiple resources and expertise can be used to improve the human existential conditions. The stakeholders expect the organisation to optimise its economic, social and ecologic performance. The three are not isolated from each other but interlinked.

The economic performance expectations imply that the organisation must undoubtedly be profitable. An unprofitable organisation does not at all

optimise the use of resources most of which are no longer as freely available as before. Beyond capital appreciation, the organisation is expected to develop knowledge and intellectual capital which can be harnessed to meet some of the legitimate but unmet needs of society (the solar kiosk in the last module is one such example). The compliance of regulations is mandatory as the regulations are seen as safeguards for the larger interest and not controls on business. The organisation has developed sufficient knowledge to comply and at the same time be profitable.

The economic role of business has the potential to create social disparities by concentrating more on wealth in the hands of some people. The role of business in the equitable distribution of the economic benefits is accepted. In 2012, many billionaires under the stewardship of Berkshire Hathaway founder Warren Buffet had come forward to pledge large donations for global humanity causes. Organisations are well-placed to develop programs for employee welfare and safety, encouraging the disadvantaged groups to join the main stream through programmes of inclusive growth or diversity enhancement. Organisations are also well placed to further learning and sharing for greater good.

Ecological concerns are gaining ground with the depletion of resources, climate change and ecologic disasters such as the Exxon Valdez accident, methyl isocyanate leakage at Bhopal plant of Union Carbide. Applying the simple systems concept to the organisation we see that they consume resources at the stage of input, transformation and output. In the process, some of the natural resources get depleted. Resource depletion and pollution are the two important consequences of production of goods and services. It is imperative that ecological balance must be maintained in the production and consumption of the goods and services (**Figure 8.3**). This places the onus for responsible behaviour on the organisations.

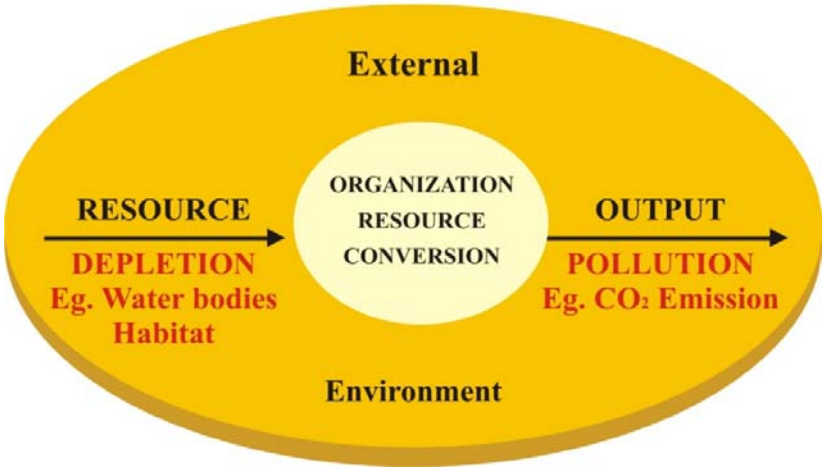


Figure 8.3

According to UNIDO (United Nations Industrial Development Organisation), "Corporate Social Responsibility is a management concept whereby companies integrate social and environmental concerns in their business operations and interactions with their stakeholders."

Corporate social responsibility implies a commitment of the organisations to be ethically, economically, socially and ecologically responsive on a *voluntary basis*. This extends beyond the regulatory compliance and the actions taken thus are is in excess of the compliance requirements. The voluntary compliance of social and ecological responsibility of companies is called Corporate Social Responsibility (CSR).

The triple bottom line approach for CSR

For being socially responsible the triple bottom-line approach is also advocated. The phrase" "Triple Bottom Line" was coined by John Elkington in his book *Cannibals with Forks: the Triple Bottom Line of 21st Century Business,* published in 1997.

The three Ps imply *people, profits and planet.* The idea of the 3P approach is that people, planet and profits are interlinked. People are not only the employees but also those outside. The 3P organisation does not take decisions that harm or exploit the people (exploitation includes employment of child labour or unfair employment practices). The planet refers to the ecologic environment. The 3P organisation is sensitive about the ecologic footprints its consumption may leave so it refrains from manufacturing that which is ecologically disastrous or unsustainable. Life cycle assessment of its products is carried out to facilitate disposal. Profits are the economic returns. The return is not just the accounting return but also the return earned on good practices. The 3P approach considers the argument that involvement with sustainability and community renders businesses unprofitable, as being untenable.

The triple bottom line approach was first used in the corporate context by the Shell Group in its 1997 sustainability report. Sustainability was first defined by the Brundtland Commission of the United Nations in 1987.

Activity 8.1

Activity

A group of industries is specified for this activity. The industries are Medicare, hospitality, cars, mining, entertainment, chemicals, foundry, textile, food processing and agriculture.

You are required to gather information about the ecologic impact of these businesses. You will gather information about main pollutants, regulations of pollution, type of regulation (on a scale of 1 to 10 rate it in terms of stringent or lax with 10 being highly stringent) and measures taken by the organisations to be ecologically responsible.

Social responsibility model

For its societal strategy to be meaningful it is important for an organisation to decide upon the following:

- The extent of its involvement - from reactive to proactive shown as 'A'
- The choice of the area it will serve beyond regulatory compliance shown as 'B'
- The resources it will commit to the area/ issue shown as 'C'.

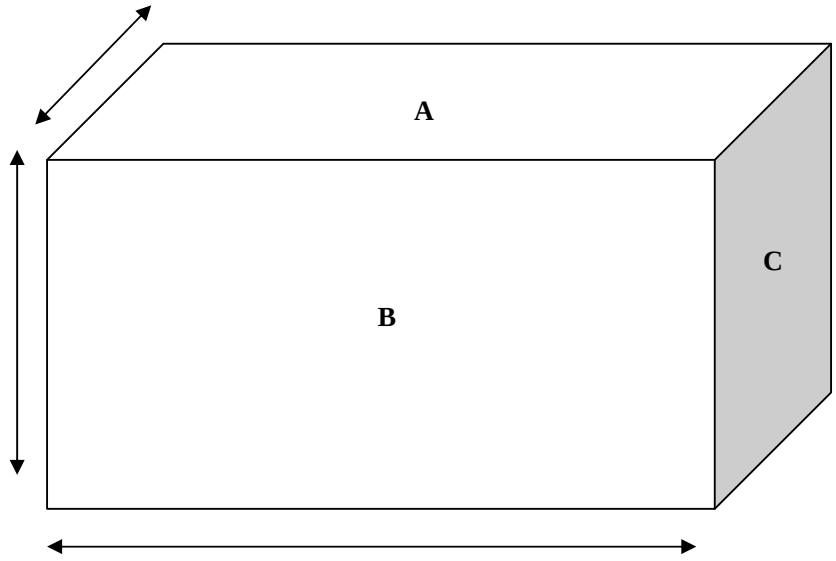


Figure 8.4

The extent of the organisation's involvement implies whether it seeks a proactive posture or a reactive one. Usually, the earlier behaviour of the business organisations has indicated that they chose to be reactive rather than proactive. The wisdom of being reactive was that the business of business is business and the organisations should not commit action and resources till compelled to do so. Unless there was a compulsion there was no sense in taking any decision as any proactive behaviour will only invite more restrictions.

The demands placed on a business evolve over time. Usually, there is a pattern in the emergence of the demand. Let us consider the issue of automotive emissions. First, awareness at large is created about the harmful effects of the emissions, the expectation of action follows the awareness, and some organisations may respond to it and use it as a differentiating factor. Most others do not respond. There is some dormancy for the issue and then the demand for action rises and then

enforcement through legislation is enforced (as shown in the **Figure 8.5**). The corporate response is evolutionary and not ad hoc.

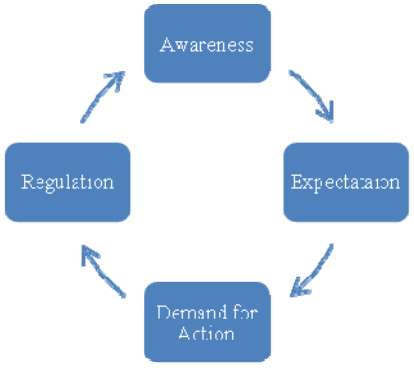


Figure 8.5

However, some organisations are more proactive than reactive. Even in the case of regulations some organisations may set the bar beyond just regulatory compliance because as the society learns the acceptable levels of behaviour also change. Whether the organisation will be proactive or reactive will depend on managerial knowledge and awareness, the type of industry the business organisation is in, and the economic health of the organisation.

The choice of the area to be served

Organisations cannot meet all the expectations. However, all the organisations can meet all the expectations by staggering them among themselves and meeting those for which the organisation has the complementary skill and competence set. Having fulfilled the various regulatory requirements an organisation may choose to address the issues of ecological, social, governance or economic segments in its environment. The choice would depend upon the relevance of the sector to the business, the environment forces driving the attention to the cause/ issue, the skill set that an organisation has and the kind of changes that it can bring about.

Resource Commitment

Engagement with any issue of concern involves resource commitment. The organisation has to decide upon how much time, money, manpower, good will and skills to commit to the cause. The commitment to the issue is usually determined by the top management.

For example, a carbonated cold drinks manufacturer locates its plant in an area where the water table is low. The manufacturer will inevitably consume water and lower the water table still further. This action is a

cause of community resentment. In the perception of the community the organisation has claimed resources for its commercial use and it is natural that it does something to restore the water table. With the area being water scarce, the actions of the organisation attract negative publicity. At this juncture the organisation may treat it as more of a public relations exercise and highlight some cosmetic action. These will provide temporary respite. The involvement of senior managers and the highlighting of the issue to the top management elicit a different response. The organisation develops a long term plan of water management with the active involvement of the local community and government department experts. It initiates voluntary action to improvise measures to recharge round water and also educate the local community in simple measures they can adopt for recharge and conservation. It funds those initiatives. The organisation decides to address issues of sustainable agriculture and restoration of traditional water bodies and water harvesting systems. These concerns are aligned with the business interest of the organisation and at the same time relevant to the community.

Some of the social initiatives are actually economically very beneficial such as promotion of energy efficiency or recycling. These can be aligned with the competitive strategy. For example recycling may reduce costs and also lead to differentiation. Many organisations adopt such measures as the first steps toward social responsibility. This serves two purposes. First, such programmes can be aligned with the existing operational programmes of the organisation. Secondly, the success of such programmes reduces the managerial scepticism and makes acceptance of subsequent programmes easier. The programmes are not seen as wasteful of time.

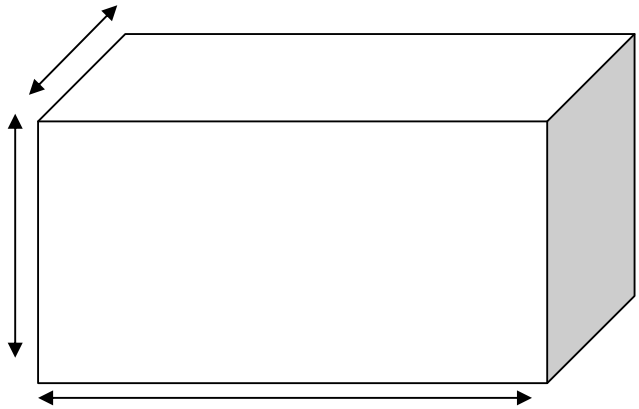
Activity 8.2

Activity

Identify the top three revenue generating organisations in your country. Identify the main industries they operate in. Study the social concerns they have addressed in the last three years. Present your answer in the given format.

Organisation	Key Industry	Social issue addressed	Key Beneficiary and resource Committed	Measurement used(%age or any index)

Next using the figure below plot the social responsiveness of the PETRONAS Corporation in terms of proactive versus reactive, social concerns addressed and resource commitment.



Developing the societal strategy of an organisation

We now look at the social commitments of a few leading organisations and understand the process of development of the societal strategy.

Wal-Mart (www.walmartstores.com/sustainability) by virtue of its sheer size assumes importance. Wal-Mart has identified renewable energy, recyclable waste and responsible sourcing as its thrust areas for the year 2012. The global size of the business, the millions of customers, associates, vendors, and other stakeholders have to be brought on board to develop any social initiative. For an organisation of the size of Wal-Mart it is not possible to take up any initiative without building the requisite capacity. Wal-Mart has developed a sustainability index tool to assess and improve the sustainability of its products.

Huawei is a China based ICT organisation which has defined its social responsibility in the following terms:

Bridging the digital divide: Huawei provides customised solutions to enable people in different regions to access information, takes the initiative to help underdeveloped regions nurture talent, and form effective education systems in the field of communications, and to improve regional technology to promote communications.

Fair operation: Huawei abides by ethical business practices, operates with integrity, and strictly observes Huawei Business Code of Conduct. Huawei promotes fair operations, strictly implements "transparent procurement" and "transparent sales", and opposes bribery, corrupt activities, dumping, and monopolies so as to build a harmonious business environment.

Environmental protection: Huawei actively communicates with customers on energy conservation and environmental protection. Huawei closely collaborates with enterprises across the value chain to build environmentally-friendly networks, and promotes sustainable development of the industry in order to achieve our objective: "Green Communications, Green Huawei, and Green World".

In addition to these initiatives Huawei has been responsive to the needs of the underprivileged, ravaged by natural calamities citizens of different countries. The social responsibility expressed in terms of vision, mission and strategy is shown in the **Figure 8.6**.

Figure 8.6

From the cases of Wal-Mart and Huawei cited above some inferences about the process of responsiveness can be developed.

The organisation takes time to react to the demand to address the social concerns. It needs time to understand, analyse the situation and articulate the response. (**Figure 8.7** explains this also).

The response to the social concern is generally a top-down approach, perhaps because social concerns, unlike manufacturing concerns for quality, are not yet fully integrated down the hierarchy.

Social concerns have to be integrated with the core business. In the case of Huawei, the concern to minimise the digital divide stems from the core business. A digitally divided world in terms of those who have access and those who don't restricts the choices for the organisation. It is in the business interest to reduce the digital divide.

Societal concerns to the extent possible should be integrated with the business processes and ongoing business activities.

Measurement of the social initiative/programme is important for it to be accepted organisation wide. There are many aspects of these initiatives programmes that have to be incorporated with the functional processes. Eventually, all the processes are measurable in some form or the other. For example, the adherence to pollution norms has to be aligned with procurement and operations may be on a pilot basis initially and later made scalable.

Those social initiatives that eventually are the responsibility of the operating levels such as product safety, waste disposal, responsible procurement, business development for the disadvantaged segment (for example, narrowing the digital divide would entail developing affordable products or community usage which may have different business models) require additional resource allocation and work and responsibility redesign. These are also the areas where the resistance to "additional" jobs can be the highest.

The integration of societal programmes with the mainstream operations and business strategies can be done at an early stage. The programmes can be aligned with new product development/access to new markets/development of innovations/differentiation. The programmes can be aligned to risk mitigation in terms of has our socially responsible behaviour reduced the risk of stricter regulation or penalty. Has the public perception about our actions and organisation improved? Have we been able to develop alternative supply chains? Cost reductions through alternative sourcing, promoting energy efficiency, recycling, re-using are also possible. The organisation can set targets in those areas and take up larger projects.

The managerial capability to handle societal strategy has to be developed.

The process of societal strategy formulation

Societal strategy formulation, like corporate strategy formulation, is a complex process. It has a political dimension as well as an analytical one.

On one hand there are the aspirations of the stakeholders as detailed in **Figure 8.2**. On the other hand there are the constraints imposed by resources and managerial choices. The constraints that are already in place have an impact on the societal strategy. For example, the existing norms in many countries for effluent treatment or emissions will impact the performance of the strategy in those areas. If the regulations are strict and the price of non-compliance is high whether or not the segment is on the managerial agendas it will be served and the resources consumed after fulfilment of the obligations will be allocated for the other areas. In fact, a large part of the societal budget may be consumed in the compliance with existing regulations.

Within these constraints, shown as choice political and compliance dimensions, the organisation develops its societal strategy as shown in the **Figure 8.7** which is to serve either the cause of socio- efficiency or eco-efficiency or a combination of the two. The example of the cola manufacturer above is a combination of both socio and eco efficiency. At the functional levels the organisation takes up those actions that are to be integrated with operations.

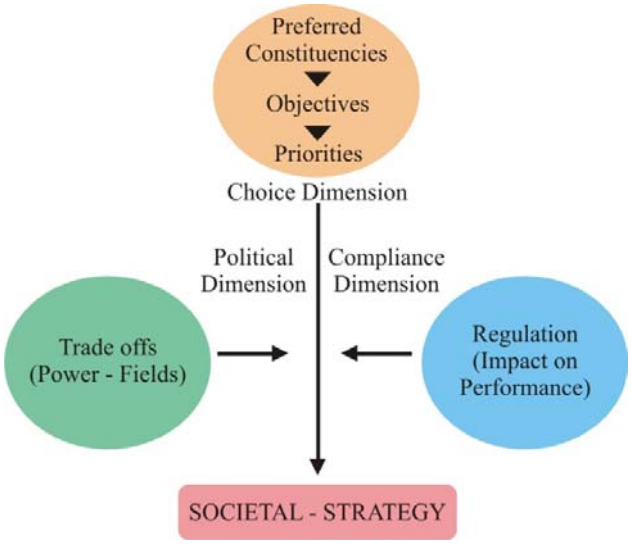


Figure 8.7

Some of the operationally-oriented functional-level strategies are sustainable procurement, mandatory disclosures, life cycle approach, sustainability reporting, and sustainability audit. These are integral to procurement, compliance in areas such as effluent disposal, operations, finance, and marketing. Adoption of these in an integrated manner serves an organisation better than a disjointed or segregated adoption. For example, if Wal-Mart follows the strategy of responsible procurement and labels its products as being sourced from women for a cause and the sustainability accounting apportions cost as a sustainable cost then the picture within the organisation about the rationale of the action and its financial accountability is clearer than would be if procurement was a stand-alone exercise taken up sporadically.

These functional strategies have to be integrated with the business level strategies. For example, the sustainable procurement and sustainable accounting are linked and the procurement indices and percentage should be a part of the overall procurement rather than a standalone exercise. In a competitive world only those organisations that serve the niche market for sustainable products can compete only using sustainable materials. Gradually, as customer awareness increases and they accept the need to pay more if need be the sustainable index in procurement can be increased. Thus customer awareness will have to be a part of the sustainability strategy. However, there is an emerging market for sustainable products such as cars (electric) for which a different set of strategies would work and where the entire value chain will be configured with different players following the same ethos.

Linking the social agenda of business with the strategic management may be a complex exercise but not an impossible one. How the agenda can be a part of the overall strategy should be done from the initial stages to minimise resistance as the organisation scales up its sustainability actions across the organisation.

Figure 8.8 sums up the different stages an organisation may go through before the societal strategy is fully operational.

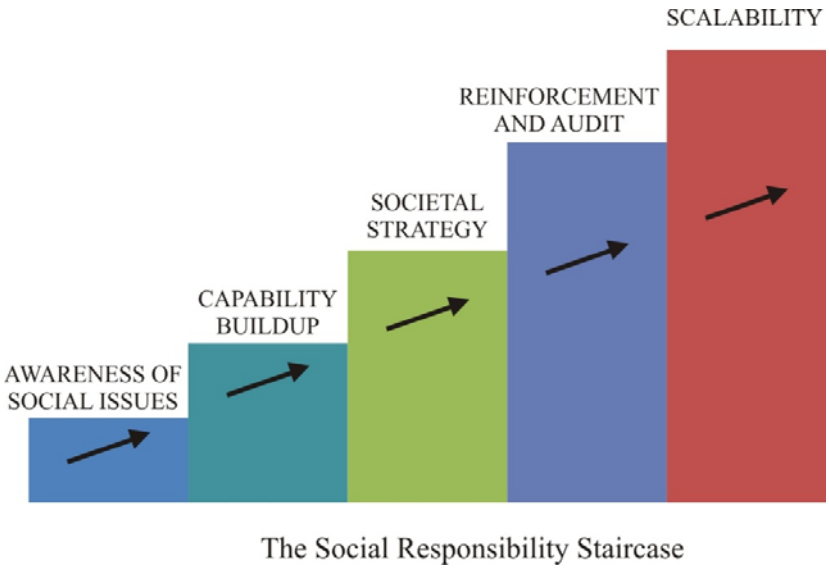


Figure 8.8

During the first stage, awareness of social issues, is what is of concern either because it has been made imperative or because the organisation's pro-activism has shielded it from an ad hoc response to the imperative and it can choose its area of focus (also read the description of Figure 8.7)

Once the issues are identified the capability build- up begins with management support and resource commitment (as explained in the case of Wal-Mart and Huawei and analysis of process of responsiveness).

Articulation of societal strategy which is an outcome of the political regulatory and choice dimensions is done. The measures for societal strategy may be simple numbers to begin with. Over a period of time the organisation leverages these across functions to enhance both its own performance and the impact.

Reinforcement and audit are done when the organisation begins to make resource commitment.

Having run a pilot with the above mentioned steps the organisation replicates for the same issue or another in a larger segment of the organisation.

Module summary

Summary

In this module we have studied the genesis, relevance and adoption of social responsibility by an organisation. The concern of the society for a responsible behaviour by the organisation had been developing over many years. As the problems of ecologic degradation and social inequities became grave the demand for more responsive action also grew. For the organisations, being responsive to social concerns was not easy. They did attempt being attentive to some issues in a standalone manner but that did not deliver the long term sustainable results society was looking for. Since societal demands can be met by a coherent strategy and corporate strategy is based on an analysis of the external factors in a turbulent environment aligning the societal strategy makes sense. The two are not different streams but a singular one. The key focus is can the organisation be socially responsible and commercially viable? The answer is it has to be and the mechanism by which the demands of the social concerns can be integrated with long term profitability concern may not be very smooth but would be with the innovations, experimentations with evolving models, technologies, and experiences.

Assignment

Assignment

In this module we have discussed the need to be socially responsible as well the three different paradigms that are needed to develop a coherent plan of action to be so. In your opinion what are the organisational and environmental barriers and resistance that an organisation can face while attempting to be socially responsible?

Assessment

Assessment

Explain to what extent are the organisations belonging to the construction industry in your country socially responsible. Use the social responsibility staircase to develop your answer. You may find the industry at the level of being socially responsible and in the process of articulating its societal strategy. You may in that case recommend what steps it needs to take to scale up its social agenda. In your answer you may make reference to the extent of regulatory compliance the benefits of the same in terms of public perception, the managerial capability development, etc.