UNIT 19 SUPPLY CHAIN MANAGEMENT IN SERVICE ORGANIZATIONS / NON MANUFACTURING SECTOR

Objectives

After reading this unit, you should be able to:

- discuss supply chain management of products vs. services;
- discuss the application of supply chain management principles to arange broad industries in different sectors.

Structure

19.1 INTRODUCTION

Though traditionally Supply Chain Management has been applied only for products and hence in the manufacturing sector, it is increasingly being recognized that the basic principles of Supply Chain Management are equally applicable in the service/ non-manufacturing sector also. With the tertiary sector growing at a faster rate than the other two and occupying a dominant share of GDP even in developing economies, it is critical that Supply Chain Management professionals develop an expertise in application of Supply Chain Management principles to this sector in order to enable their organizations to develop a sustainable competitive advantage and contribute to the economy by enhancing shareholder value. Though the basic principles of Supply Chain Management remain the same, the very nature of services makes it necessary to modify or adopt the same, as some traditional Supply Chain Management strategies are infeasible in case of services.

Hence, before beginning a discussion on the application of Supply Chain Management principles to services, it is important to understand the basic differences in the nature of products and services.

19.2 SUPPLY CHAIN MANAGEMENT OF PRODUCTS VS. SERVICES

The essential differences in the supply chain management of products vs. services are discussed below.

- ***Simultaneous Production/Consumption:*** A large number of services can only be rendered when actually demanded e.g. banking, nursing etc. This leads to the second major difference i.e. absence of "inventory" concept.
- ***Absence of "Inventory" Concept:*** As stated above it is not possible to "store" a number of services in order to do a capacity matching between demand and supply, as is possible in case of products. Hence, this needs to be done by building up resources rather than the services to do demand – supply matching.
- ***Low/no Cost of Inventory/Production:*** In a number of services/products (typically software), the incremental cost of either production or holding "inventory" is very low (or nil) in comparison to the value of product.
- ***"Instantaneous/Rapid" Production:*** In case of products/services, which can be digitally duplicated/copied, it is possible to "produce" virtually instantaneously at a very low cost e.g. movie prints, photograph copies etc.
- ***Rapid/low Cost Distribution:*** Similarly, in case of electronic digital distribution over channels such as Internet, the cost of distribution is very low and speed extremely rapid.
- ***"Impossible" Distribution:*** On the other hand, in case of some services, "distribution" is not possible as consumption has to happen at the spot of "production". (E.g. restaurants, hotels, etc.).
- ***Instantaneous Value Destruction:*** Unlike physical goods, which may gradually loose value over a time, services may incur sudden time related value destruction for e.g. once an aircraft takes off, the value of the unoccupied seats drops to zero.

Apart from these and such related other differences, most other Supply Chain Management principles and models (e.g. optimization, queuing theory, forecasting, DRP etc.) can be applied with suitable modifications to the service sector.

We will be discussing the application of Supply Chain Management principles to the following broad industries in the service sector, as they comprise a major part of the value generated by the sector.

1) *Financial services* - including banking, insurance, stock trading, FOREX trading etc. and allied services.
2) *Hospitality* - including hotels, restaurants, travel and tourism comprising road, rail, shipping and aviation industries pertaining to passenger transport.
3) *Transportation* - consists of goods transport by road, rail air or water including courier and post.
4) *Software* - though software may be considered a product also, we will look at the software development and distribution process from a service prospective.
5) *Communication* - this will include the Telco providing POTS as well as ISP's, mobile and satellite services etc. as well as broadcasting, telecasting and publishing industries.
6) *Healthcare* - includes hospitals, pharmacies and allied services.

7) *Consultancy* - this would include knowledge management activities as well.

8) *Education* - both classroom and distance.

9) *Government* - this would include municipal, administrative, defence, police, judicial etc. services.

10) *Retailing* - includes trading and value added reselling.

We will now look in detail at the emerging trends in the supply chain of the above-mentioned industries using a few examples from each sector.

Activity 1

Can you list some further differences in the supply chain characteristics of products and services?

.....

.....

.....

.....

19.3 FINANCIAL SERVICES SECTOR

In this section we will discuss about banking, online mortgages, credit cards and brokerages.

Banking

How banks are cutting costs and improving customer service - simultaneously - by changing their supply chains from brick and mortar branches to ATM's and phone and net banking

Electronic banking emerged in prototype form in 1975 and was introduced by some major banks as early as circa 1985. However, the absence of a critical mass of PCs and a PC friendly population stunted its growth. But today, there are 35 million plus PCs in US homes alone and the consumers there are now spending more on buying PCs than TV sets. Home banking software has come a long way too. The best part about e-banking is that, it cuts costs too (the estimated per transaction cost using an ATM is estimated at just 10% of that using a manual teller and net banking cuts that down further by about 90%!).

The banks have been distributing their services using the conventional supply chain for a long time. The key now is to understand that banking is a value added information business. The winners will be those who use technology to make it continually easier for customers to manage their money anywhere anytime at lower transaction costs.

Online mortgages

No brokers, no branches and lower costs - AFI shows the way

American Finance and Investment (AFI) is a new breed of lender with no branches and brokers. It aims to deliver a totally new experience to mortgage shoppers – the ability to finance a new house without setting foot outside the old one!

It's as easy as point, click and borrow. First you input data about your finances and your dream house. An online questionnaire then helps you choose from an array of loan alternatives. Once you have decided, you are qualified for a loan and offered a choice of mortgages.

As AFI sells mortgages directly to consumers, via the Internet and two call centers, it has none of the overheads of physical branches. The salaried call center agents can process four times as many loans as commissioned agents in the field.

The typical AFI consumer saves about $1500 in upfront fees. This is an enormous advantage as consumers who may have hesitated to borrow from a low –price, no-name may be more willing to do so now, given the huge cost advantage – a direct result of the reengineered supply chain.

Credit Cards

No forms, no waiting - Credit cards on top from NextCard

NextCard is an excellent example of using e-service to streamline the supply chain of a financial product. Earlier for applying for a credit card, you had to fill out double sided forms with lots of tiny boxes supposed to encompass your financial history including account numbers, addresses (office and residence), income etc. Now, in the US, an application for a NextCard Visa Credit Card can be made on-line in 30 seconds. All you provide is your name, address, social security number, annual income and a few minor details. NextCard has figured out how to integrate its website with the databases of the major credit bureaus, so that in just seconds, it identifies who you are, looks up your current credit balances, does a calculation based on that information and actually suggests which balances to transfer in order to get the lowest rate on NextCard. The application gets approved (or rejected) in just 30 seconds!

Brokerage

Charles Schwab shows the route to e-biz

Schwab is the supreme e-broker with 67% of its customers' trades going over the web. It boasts $263 billion in online revenue. Schwab.com now provides a place not just to trade stocks but also to write cheques, buy insurance and pay bills electronically. The potential exists for Schwab to go to the public and say, "why do you need a bank?" – on the strength of its unique supply chain.

Activity 2

Give an example of innovation in supply chain management for FOREX trading.

.....

.....

.....

.....

19.4 HOSPITALITY

In this section we will discuss about Hotels, Resorts and Airlines

Hotels and Resorts

WorldRes - How WorldRes adopted a business model that took it on the net startup's fast track and attracted $30 million from investors

Rather than just struggling to build a brand in a small niche, WorldRes raised and spent more than $10 million to build a reservation booking engine targeted at small hotels, inns and resorts that don't have enough business guests to justify a terminal and the costly links to global reservation systems like Sabre or Apollo.

Then, when the content sites, which serve such niches, had developed enough traffic that they were ready to move to transactions, WorldRes was there ready with its booking engine.

It functions as a virtual cash register that lets people check in real-time, the room and facilities of their choice and its availability at a particular time and make the reservation on-line.

Though, there are other booking engines available for the content sites to link up with WorldRes' competitors, all carry the burden of being older businesses that have migrated to the web while it is in the enviable position of being the only pure Internet play in leisure lodging.

This unique supply chain advantage has led to high investor valuation of WorldRes' stock.

It hopes to make most of its money on its booking engine, being the unseen, but lucrative back-end for thousands of resorts and small hotels that can't justify paying for a terminal and link to the global reservation systems.

This segment accounts for 85% of all hotels and WorldRes has exploited the weakness in the existing distribution system for small hotels. They have handled the complexity of a booking engine and hidden it from small hotels that are not technically sophisticated.

They have also made smart distribution deals with the portals like Expedia, to drive traffic to the hotels. With a mix of competitive supply chain technology that can turn content into commerce and high stock valuation to fuel acquisitions, WorldRes is an example of a company that is changing the way business is done in the hospitality sector to become a leading player in its chosen segment.

Airlines

Southwest Airlines - Their site is so easy to use that web travelers don't just research flights - they buy tickets

13.8% of visitors to Southwest's site book a ticket – a "look-to-book" ratio twice that of the nearest ticket booking rival and higher than that of any traditional retailer on the web.

This key to success in turning eyeballs into buyers is simple, to use web design. Instead of the infinity of choices offered by other dotcoms, Southwest delivers a page where a transaction takes just 10 quick clicks to complete using a popup giving fares and options to help users get a better flight or better price.

Activity 3

What can the aircraft charter services do in terms of supply chain activities to effectively compete with scheduled airlines?

.....

.....

.....

.....

.....

.....

19.5 TRANSPORTATION

In this section we will discuss about Package Delivery Services.

Package Delivery Services

Federal Express (FedEx) Logistics processes deliver over 99% of packages accurately and on time everyday, in spite of handling more than a million packages daily

In a highly competitive market, FedEx is the leader with 48% share. It launched its FedEx ship customer premises tracking software in 1994 itself. The worldwide supply chain consists of over 1,00,000 people, 500 jet aircrafts and 35,000 trucks. A time variance of even 30 minutes can wreck the schedule.

FedEx operates a super hub at the Memphis, Tennessee airport on a 240-acre site with 8,000 workers, unloading and reloading 130 Jumbo Jets using 171 miles of conveyer belts, countless trucks, cargo tags and forklifts exploiting robotic sorters.

There are relentless cost cutting efforts such as additional package sorting hubs to create less circuitous air routes. A product movement planner (a client/server system for planning air and truck schedules) employs a built-in algorithm that finds the least costly way to get a package to its destination. Productivity applications help field-station managers in weekly forecasting, local courier scheduling and city route planning. This help make light duty days more cost efficient by enabling appropriate staffing levels.

The renowned COSMOS package scanning/tracking system uses PC attached scanning gun along with older more sophisticated handheld Super Trackers, to read parcel bar codes. Smarter sorting capabilities like automated overhead laser scanners are constantly being invested in to augment package-handling processes. Using the “document sort”, workers manually sort by region a minimum of 38 pieces per minute.

Such continuous improvements in the widely acknowledged best practices keep FedEx at the leading edge of excellence in Supply Chain Management.

19.6 SOFTWARE

How Resounding Technology is using a low cost approach to achieve wide global distribution

Resounding Technology founder, Adam Frankl, uses “viral marketing” to distribute his software “Roger Wilco” that transmits voice over the Internet and lets users link up in virtual conference calls.

He posted a copy on a “freeware” website inviting anyone to give it a try and forward the web address to a dozen friends (who in turn would Zap it to dozen more – triggering a chain reaction).

Within 24 hours, 2,800 people in 46 countries had downloaded the software. In 30 days, it had spread to 1,00,000 people and the year-end target is to breach the one million mark.

Though this does not result in profits, on the Internet, hits matter more than profits and distribution alone creates wealth, as large companies are willing to buy reach at a

premium. Hence what matters is reaching the maximum number of users in the minimum amount of time.

To accelerate the effort, the company is now bundling its software with popular computer games giving it major distribution reach through retail outlets.

This innovative approach to Supply Chain Management has led to the company taking a lead in the highly competitive market space.

19.7 COMMUNICATION

In this section we will discuss about Internet, Voice Calls, Fax, Broadcasting and Publishing

Internet, Voice Calls, Fax

New technologies to deliver communication services - easier, faster, cheaper

The convergence of digital technologies, networks and telephones is delivering high-end capabilities with simplicity and prices that are affordable to even small business and home users.

After the emergence of super-simple networking kits and servers, it's time for high-speed Internet access. A new technology DSL or Digital Subscriber Line service provides an inexpensive easy way for small businesses and home users to get fast access to the Internet at speeds, approaching those previously affordable only 10 large corporations using costly dedicated leased lines. It is more than 50 times faster than an ordinary 56 KBPS modem and there is no waiting – the connection is always on.

Using the net to make phone calls is another way to reduce costs. It is estimated that by 2002, 18.5% of all domestic phone traffic in the US will be carried over data lines up from just 0.2% in 1999.

A new piece of hardware called a gateway server is the technology, bringing about the transition of moving long distance phone calls from traditional circuit switched networks to packet-switched networks like the Internet.

How it works is simple – First you dial the local or toll free number of the closest gateway server. You get an automated voice prompt and punch in the long distance number you want to reach. The server converts your voice signal into packet data and routes your call over the Internet. A server at the destination reconverts the data back to voice and directs the call over local lines. You pay only for the local connections on either end of the servers.

Internet fax services too are mushrooming. They save long distance charges needed to fax lengthy documents and are also a boon to the business traveler. He can dial up any of several on-line fax services from his laptop to send his document. Faxes can also be received this way through your e-mail inbox. These services are very handy for so-called broadcast faxing – sending one document to multiple fax machines all over the world.

Some of these services are free, while charges for others are nominal. Some software's even combine voicemail, multiple voice mailboxes, call tracking, faxing and paging.

Broadcasting to "Narrow casting"

The news you want, on your PC

A new piece of software brings personalized, updated news to the PC on your desktop - and as advertisers pay – it's free. PointCast is personalized news – retrieval service that takes advantage of the fact that many offices PCs are always turned on and connected to the network. Whenever the machine is idle for a few minutes, PointCast commandeers the screen and starts flashing headlines, weather reports and small-animated advertisements. A green ticker scrolls across the bottom, reeling off sports scores and the current prices of stocks – customized for individual interest. Click on a headline and up pops the full story. Click on the weather summary and you get a variety of weather maps and forecasts of specific cities of interest. Click on a stock price to get the current share price, a chart of the stocks rise and fall over the past month and a dozen or so stories about the company. Click on an ad and you will be connected to the company's website. The ads are always visible in one corner of the PointCast screen. They are animated, colorful and impossible to ignore completely – advertising at its best. Like all great software, PointCast hides its technological complexity. First you download the software from the company's website. Then you set your preferences by selecting categories of news you like, sports you want to follow and companies you want to track. You can even set PointCast to supply lottery numbers and your horoscope. Every hour or so, the software connects via. the Internet to a PointCast server. It gathers up the kinds of stories requested from various news services. The stories are automatically stored on the PC hard-drive, so that the news you want will be instantly available on your screen when you want it.

Thus, a startup, by innovating the news supply chain today delivers the kind of personalized news broadcast that big media companies have been trying to for years.

Publishing

How a fashion magazine launches its premier issue with 30,000 subscribers and expects to cross the circulation mark of 1,50,000 by its first anniversary using innovative distribution

While other big publishers spend $30 for every new subscriber, Ralph Clermont's "wink" averages just $2. Instead of relying on inefficient direct mail campaigns, he uses the Internet. Mass e-mails are sent and staffers make strategic postings in chatrooms operated by women oriented sites. These messages direct users to wink's website where they can sign up for a year's free subscription. On some days, daily subscriptions top 1,700. Thus an innovative supply chain used to reach potential subscribers helped make success of an idea that had failed six years ago when its launch was attempted the traditional way.

19.8 HEALTHCARE

In this section we will discuss about Electronic transactions and on-line health related information, Marketing healthcare – on-line, Selling medical equipments on the net and digital medical information

Electronic transactions and on-line health related information

Using the power of computing and the Internet to revolutionize the healthcare industry

The healthcare industry in US is the stingiest spenders on I.T. While most industries spend 5-10% of operating budgets, healthcare averages just 2.5%. 95% of medical

records are on paper. It is estimated that the overall waste in the industry is $300 billion that can be saved simply by using the Internet to cut paper jams and seamlessly link patients, doctors, hospitals, pharmacies and insurance companies (for e.g. the conventional cost of verifying a patient's insurance eligibility is $10 against that of on the Internet – 40 cents.)

However, the trend is changing. 48% of adult Internet users search of health information on-line. Healthcare business-to-business e-commerce is expected to jump from $6 billion in 1999 to $178 billion in 2003.

The legendary Jim Clark, founder of Silicon graphics and netscape, founded healthcare in 1995. After its merger with webMD, a Microsoft funded on-line health startup; it has emerged as a leader in areas as diverse as consumer health information on the web and electronic transactions between doctors and health insurers.

The supply chain benefits to its customers have been impressive for e.g. at a seven doctor office, staffers had formerly worked overtime to write as many as 50 physician referrals a day. After implementing Healtheon's on-line system, a referral now takes about 30 seconds to complete and send over the webMD portal.

At an independent practice association, which clears insurance claims for more than 2,500 doctors, a year ago 34 employees, each entered about 150 paper insurance claims a day into computer databases. Huge manuals guided the employees through the clearing or denying of the claim. With more than 2,00,000 claims coming in each month, the place was buried in paper. Today, a third of its claims arrive on Healtheon / webMD's network, which can process 3,500 claims in 45 minutes. The claims processing staff has been cut to 25.

Marketing healthcare – on-line

HealthCare's power Retailers

The supply side of the health-care industry is likely to see the emergence of new business models, notably power retailers who will use the Internet to create vast amazon.com style health care superstores. In addition, the health-care providers will have the chance to integrate functions that can lower the costs and risks of developing new sales channels and customer friendly servicing.

The process would work as follows:

An employee armed with an annual defined contribution from his employer will access an on-line retailer of health benefits and make a plan selection based on the features, risks and pricing that best meet the employee's needs. The on-line stores would take care of enrollment, card issuance, provider selection and other front-end services. Though the information requirements to provide an open and rational market place for health-care benefits (e.g. provider panels, coverage, family structure complexities, high quality data etc.) are staggering, the benefits are enormous.

It is estimated that in US alone, $18 billion of current spending can potentially be saved ($5 billion that the health plans spend on sales and marketing, $3 billion paid to benefit consultants for design, selection and other services and the $10 billion employers spend on internal administrative costs – a hidden often overlooked burden that adds roughly 10% to the $100 billion paid annually in employee premiums and claims – a direct cost of current supply chain inefficiencies).

Selling medical equipments on the net

A site where hospitals can click to shop

Hospital purchasing agents spend up to 15% of a hospital's total budget on equipments and furnishings. Locating and purchasing the items for a new room can take six months. Neoforma hopes to cut that time by two-third. Its website is an on-line catalog for the $150 billion-a-year clinical products industry. It aims to be a fully functioning exchange, selling most of the $1.5 million products in this category. To help suppliers, whose product information exists only in paper form, Neoforma has 60 odd workers in Bangalore, who will digitize their catalogs for them.

Hospital buyers can search the site by product or by the type of room that are outfitting. They can see floor plans for more than 1,000 rooms at one of the country's leading hospitals. On clicking on a room, a list of all the items that belong in that room – from life saving medical equipment to trash cans – appears. Click on a product and up pop descriptions, pictures and prices from multiple suppliers along with links to their websites.

The sites search engine is equipped with the world's most comprehensive taxonomy for medical products. The site thus acts to connect suppliers to customers, they did not even know existed. It has thus become a vital link in the supply chain of this crucial sector.

Digital medical information

Medicalogic, a dominant supplier of conventional systems for electronic medical records is testing a system that enables physicians to record and review patient information over the web from any computer wherever they happen to be. The new product is not only better, it costs only $199 a month which includes use of a new computer. While doctors pay an average of $25,000 a piece for the company's present non-internet medical records system. Thus the web has allowed Medicalogic to eliminate a major obstacle in the healthcare documentation supply chain.

Also under development is a website that provides patients with free access to their own records once again from any computer anywhere – records that are currently spread across dozens of pharmacies, doctor's offices and hospitals, much of them in paper form.

19.9 CONSULTANCY

Managing Knowledge – The Consultants way

Consultancy firms can essentially be defined to be in the "Knowledge Management" business using the latest IT tools to improve and optimize the knowledge supply chain, which may be described as create-clarify-classify-communicate-comprehend-create, can generate an enormous competitive advantage for such firms. KPMG International uses a global knowledge-sharing platform, KWORLD and invests 1% of its US $10 billion revenue on Knowledge Management. This project involved international standardization of IT (software and hardware platforms). The challenge was to get all the best practices from each of the local offices into one system when each of the offices were used to managing their own systems.

The benefits were improved (productivity due to standardized interfaces and integration of e-mail with calendar, diary and scheduling). Offline mail access helps with 70% of staff having portable equipment and able to access their mail from clients' sites, home or even airport lounges. The entire exercise also involved training

thousands of people, which was entirely handled internally (including writing the course). The results were spectacular. E-mail usage grew exponentially before plateauing out at 1,00,000 per week. More than 50% of users are covered by Internet browsing and all users can browse the Intranets.

Thus there is a complete linkage to the centralized Knowledge Management content and a fully integrated practice management system – Nexus. This has resulted in an efficient, scam-less knowledge supply chain.

Major consulting firms, which are deeply concerned with the management of research time, are also the lead users of a new technology-software that allows Internet users to filter out extraneous information and zero in on the data they really need. Their practice areas are defined by area experts who determine the context, the competitive theories and 'hot' topics in which information takes shape. They need a technology that brings the highest quality content for each topic – technology that is now beginning to become available.

The Boston based knowledge management firm, context media, has a distinctive technology that relies on 'semantic tagging'. This entails a design intensive process in which software writers develop custom 'recognition frameworks' i.e. language rules for each topic. The software, once, deployed, automatically tags continuing streams of on-line documents every night.

This enables consultants to get documents that link to other documents on the same topic without having to waste time going back up some search hierarchy. The tagging software embeds invisible hooks into every article that downloads and a custom interface allows users in a particular working group to pull up selected articles instantaneously with a click. Such innovative net filters are helping to unclog the knowledge supply chain making it faster and more efficient.

19.10 EDUCATION

Delivering education through unconventional channels - triggered by the Internet, continuing adult education could become a great growth industry

Education is already grabbing a major chunk of GNP in developed economies. The US alone spends $1 trillion on education and training. This number will increase rapidly but the major growth is expected not in traditional schools (which currently accounts for 10% of GNP – up to high school 6%, colleges and universities 4%), but in continuing adult education – triggered by a supply chain revolution – online delivery. This opportunity has opened up, as knowledge is mobile, transferable and highly marketable.

However, with a potential market for continuing adult education embracing at least 40% of the typical developed country's workforce, the conventional supply chain using traditional institutions no longer suffices. It is too expensive and insufficiently accessible in a physical sense. Online teaching is not just time-efficient and cost-efficient, but also learning-efficient. It's flexibility and interactivity allows the student to control the content and pace and its ability to blend graphics and pictures with the spoken word and text gives it an advantage over the traditional classroom. Effectively, it gives a one-to-one teacher-student ratio, improving the productivity of education enormously. This new channel of distribution will complement the traditional media creating a new and distinct educational realm. This is the future of education and a global market potentially worth hundreds of billions of dollars – all created and accessible through the new education supply chain.

19.11 GOVERNMENT

Electronic - Governance - The Information Age Government

The advent of information technology as a highly leveraged enabling tool for delivery of services has by now been universally recognized. This has re-defined the fundamentals and has the potential to change the institutions as well as mechanisms of delivery of public services forever.

The objective of achieving E-Governance (EG) goes far beyond mere computerization of stand alone back office operations. It means to fundamentally change as to how the government operates and this implies a new set of responsibilities for the executive, legislature and the citizenry.

Within 5 years, a majority of the transactional services will be provided by way of Internet. A government Intranet can ensure smoother flow of data, communications and access to information by different ministries and department. Transactions between various departments of the government and other government organizations, if networked, can replace a substantial part of transfer of files and papers.

There should be a single web based front end for all government services to the public, with all departments and agencies operating websites that provide up to date information. E-mail should be incorporated into the normal range of contact methods and arrangements implemented for rapid response to e-mail queries. Use of local language for access will go a long way in spreading the use of such services. The public servants too need to be trained to bring about a change in mindset as well as in basic computer usage. The manual office procedures also need to be redesigned. Appropriate investment in IT infrastructure need to be made. Information kiosks in public places can enhance accessibility to public. Effective cyber laws are needed to validate and enforce such transactions.

Effective implementation of such steps will revolutionize the supply chain of government services.

Activity 4

What will be the differences in the supply chain of services provided by the government in a developed country (say the U.S.A) and a developing country (say India)?

.....

.....

.....

.....

.....

.....

19.12 RETAILING/TRADING

Freemarkets Inc. - How web auctions - a new B2B supply chain tool - are revolutionizing the multi trillion-dollar market for industrial parts

Freemarkets Inc, the Internet auction company founded in 1994 for $50 million was worth $7 billion in market capitalization within five years. It has lead to the rise of the

auction economy by implementing a break through idea that is having a seismic impact on 21st century industry. Using it big, shrewd buyers like General Motors, United Technologies, Raytheon, Quaker oats who thought that they were already getting rock bottom prices, have saved more than 15% on average buying parts, materials and services. Not only the prices, but the billions of dollars of transaction costs incurred by companies as blizzards of faxes, invoices etc, can be eliminated by automating orders, payments and products information by such electronic catalogs. However, unlike other auction sites holding sellers auctions' (where buyers enter their bids and the highest price wins) for standard processed materials, Freemarkets used its insight to take the Internet into a much bigger far more complex kind of corporate purchase – that for manufactured components. For manufacturers, 35% of sales (or 5 trillion dollars worldwide!) go towards purchasing industrial parts.

Though, constituting the largest part of cost of goods sold, they were also traditionally, the most inefficient to buy. Traditionally, the manufacturer typically sends out "requests for quotations" (RFQ's), a few months before the existing contract expires, problem was that these could be sent only to a limited number of candidates and often did not spell out a lot of other important terms apart from the specifications. As these terms (e.g. delivery schedule, supplier inventory etc) can have an enormous impact on the total acquisition cost, the bids typically also differ in the terms offered. Hence it's extremely difficult to pick the best deal. Also, as the bids were sealed, the suppliers have no idea what prices their competitors are offering. Hence, they had to take a blind guess at how low they must go to win.

Hence, largely most manufacturers choose the path of least resistance by keeping the current supplier as long as he is willing to keep the price more or less flat.

Freemarkets unshackled the power of the purchaser by turning the once secretive RFQ into an open bidding war. Standardizing absolutely every item in the RFQ, turning industrial parts into commodities, does this. All that remains is to find the lowest price, best done through an auction.

Freemarkets not only conducts the auction but also acts as a consultant showing new clients, how to spell out every possible requirement in their RFQ's. It is also an expert at finding and screening suppliers. The buyers can then shortlist the field to those it wants to invite as bidders.

The auction itself is a tense 20 – 30 minute sweepstakes climax. These are called "buyer's" or "reverse" auctions as the buyer quotes the initial starting price and the bids move downwards. Linked over the Internet, the sellers don't have to guess at their competitors' bids as they can see exactly what the opposition is bidding, in real time. Thus a revolution in the procurement end of the supply chain is cutting millions off the purchase bills of big buyers while at the same time offering a new business opportunity to intermediaries like Freemarkets.

19.13 SUMMARY

Traditionally when we talk about Supply Chain Management we think for products and manufacturing. The basic principles of Supply Chain Management are equally applicable in the service/non-manufacturing sector also. This unit has taken up discussions on the application of Supply Chain Management principles to the broad industries in the service sector viz. Financial services, Hospitality, Transportation, Software, Communication, Healthcare, Consultancy, Education, Government and Retailing. These industries comprise a major part of the value generated by the sector.

19.13 SELF ASSESSMENT QUESTIONS

1) What strategies can be used to desynchronize production and consumption in case of services?

2) How can one compensate for the absence of inventory to meet demand fluctuations in case of services?

3) Suggest some ways to make distribution possible in case of the "*impossible distribution*" examples.

4) Suggest some supply chain strategies for treasury management.

5) List the supply chain principles embodied in a "*debit card*".

6) What supply chain strategies can rail companies use to stop the erosion of market share to air travel in case of passengers and road in case of freight?

7) How can telephone companies protect their markets from competition from ISP's using supply chain strategies?

8) Which players in the healthcare sector are likely to die out as a result of changing supply chain scenario?

9) What are the peculiar characteristics of "*knowledge*" as a product relevant to its supply chain management?

10) What is the future of brick and mortar educational institutions given the revolution in the educational supply chain?

11) How can government overcome infrastructure bottlenecks to streamline its supply chain?

12) Comment on the prospects of retailing of services as a future growth industry.

13) In the new banking scenario, branches are a liability – comment.

14) Outline a supply chain strategy for timeshare resorts to enable them to get a competitive advantage over traditional hotels.

15) How can bulk freight carriers take advantage of technological innovations to streamline their supply chain?

16) Why is software more a service than a product given its supply chain characteristics?

17) What impact will m-commerce (*mobile commerce*) and d-commerce (*digital commerce*) have on traditional e-commerce (*electronic commerce*)?

18) How can traditional book, music, television and film industry react to new distribution technologies to enhance customer value delivery?

19) With more medical information available online than a human mind can assimilate, how will the role of doctors change in delivery healthcare services?

20) With information freely available on the Internet, the demand for consultants will reduce – comment.

21) What are the essential differences in a B2C and a B2B supply chain. List the respective characteristics that necessitate such differences?

19.13 REFERENCES AND SUGGESTED FURTHER READING

1) Above The Crowd; Banking in the New Millennium, FORTUNE, 06/07/1999

2) American Association of Health Plans, Washington, D.C.: www.aahp.org

3) Bill Gates, *Business @ the Speed of Thought*, Warner Books, 1999

4) "Bringing Banks Online", FORTUNE, 01/24/2000

5) Charles C. Poirier, "The Path to Supply Chain Leadership", Fall 1998 *Supply Chain Management Review*

6) Christopher Helman </forbes/by/CHelmanx.htm>, "On A Wink And A Prayer", from May 29, 2000 Issue </Forbes/00/0529/>

7) David Bovet and Yossi Sheffi, "The Brave New World of Supply Chain Management", Spring 1998 *Supply Chain Management Review*

8) eBenX, Minneapolis, Minn.: www.ebenx.com

9) For more discussion on health care's new electronic marketplace, visit the Strategy + Business Idea Exchange at www.strategy-business.com/ideaexchange/

10) "Going, Going, Gone!" *FORTUNE*, 03/20/2000

11) Health Care Financing Association, Baltimore, Md.: www.hcfa.gov

12) James D. Krasner and Michael Soignet, CASE STUDY – "Strategic Vision Drives Domino's Pizza Distribution", Fall 1997 *Supply Chain Management Review*

13) James W. Michaels, "Drucker's Disciple", *Forbes Global* (05-15-2000), May 16, 2000

14) J.Philip Lathrop and David C. Carlebach, "HMOs 'R' Us: A Prescription for the Future," Strategy+Business, Fourth Quarter 1998

15) John McCarron, "Stand By for the Next 'Worst Leg' of Our Health Insurance Trip," Chicago Tribune, February 14, 2000

16) Nicole Ridgway </forbes/by/NRidgway.htm>, "Plowing The Web", From May 29, 2000 Issue </Forbes/00/0529/>

17) "NEWS TRENDS; THE COMPETITION HEATS UP IN ONLINE BANKING", *FORTUNE*, 06/26/1995

18) 18.Peter F. Drucker, Peter Drucker Is High On Webucation "Putting More Now Into The Internet", *Forbes Global* (05-15-2000), May 16, 2000

19) Peter J. Metz, "Demystifying Supply Chain Management", Winter 1998 *Supply Chain Management Review*

20) Robert E. Sabath and David G. Frentzel, Robert E. Sabath is vice president of Mercer Management Consulting Inc. David G. Frentzel is a consultant to Mercer and principal of Northeast Logistics, "Go for Growth! Supply Chain Management's Role in Growing Revenues", Summer 1997 *Supply Chain Management Review*

21) Rayport, J. and Sviokla, J. "Exploiting the Virtual Value Chain" Harvard Business Review, November/December 1995.

22) Robyn Meredith </forbes/by/RMeredit.htm>, "Digital Drive", On The Cover </forbes/Section/OnTheCov.htm>, From May 29, 2000 Issue </Forbes/00/0529/>

23) Ron Winslow and Carol Gentry, "Companies Consider Letting Employees Handle Their Health-Benefits Decision," *The Wall Street Journal*, February 8, 2000

24) Silvia Sansoni </forbes/by/SSansoni.htm>, Technology </forbes/Section/Technolo.htm>, Internet </forbes/SubSect/Internet.htm>, "Word-of-modem", Issue </Forbes/99/0705/>, July 5, 1999

25) Shailagh Murray, "Why Health Insurance That Works Still Fails to Catch on Broadly," *The Wall Street Journal*, January 18, 2000

26) "The Trouble With Web Advertising", *FORTUNE*, 04/12/1999

27) "The New Online Mortgages", *FORTUNE*, 04/13/1998

28) Walter J. Doherty and Ahrvind J. Thadani, "The Economic Value of Rapid Response Time" <http://vmdev.gpl.ibm.com/devpages/JELLIOTT/evrrt.html>, 1982 and 1997.