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8. Strategic Management in Small Business	363
Organisation Life Cycle 364	
Strategic Management 368	
The Essence of Business Ethics 373	
Summary 378	
Key Words 379	
Exercises 379	
References 380	
Worksheet 8.1 382	
Worksheet 8.2 382	
Worksheet 8.3 382	
Worksheet 8.4 383	
Worksheet 8.5 384	
Worksheet 8.6 385	
Worksheet 8.7 385	
Worksheet 8.8 386	
Worksheet 8.9 387	
9. Financial Management in Small Business	388
Importance of Financial Management 389	
Working Capital Management 391	
Accounting and Book Keeping 398	
Financial Statements 402	
Financial Ratio Analysis 415	
Summary 418	
Key Words 419	
Exercises 419	
References 420	
10. Marketing Management in Small Business	421
Importance of Marketing 422	
Customer Relationship Management (CRM) 424	
Marketing of Services 431	
Export Marketing 434	
Summary 446	
Key Words 446	
Case Studies 447	
References 449	
Annexure 10.J 450	

11. Production Management in Small Business	453
Production Management 454	
Materials Management 458	
Productivity 465	
Break-Even Analysis 473	
Total Quality Management 476	
Environmental Management System 486	
Summary 489	
Key Words 490	
Exercises 490	
References 491	
12. Human Resource Management in Small Business	493
Importance of Human Resource Management 494	
Human Resource Development 495	
Industrial Relations, Labour Laws, and Environmental and Pollution Control Laws 499	
Summary 514	
Key Words 515	
Exercises 515	
Case Studies 516	
References 516	
Index	518

Strategic Management in Small Business



Dyan Mandira of a Business Ashram, in Karnataka, India. Shown in picture is the statue of Swami Vivekananda, who is known for value systems. The business strategies are derived from vision and mission statements of an enterprise.

"Business is like a war in one respect. If its grand strategy is correct, any number of tactical errors can be made and yet the enterprises prove successful."

—Robert E. Wood

Learning Objectives

- ⇒ To identify the phases in the organisation life cycle and organisation renewal cycle
- ⇒ To understand the importance and process of strategic management
- ⇒ To identify the essence of business ethics

ORGANISATION LIFE CYCLE

The small business management calls for a wide variety of talents far beyond those of the persons performing or in charge of any single business function in a large undertaking. This is because of the fact that, by and large, a small business is dependent on promoters' skills.

New ventures pass through transitional stages that present challenges to their founders. These transitional stages are represented by an organisational life cycle. This life cycle requires changes in entrepreneurial behaviour, and because many entrepreneurs cannot adapt to new role responsibilities, their ventures can fail or be terminated. In some instances, the venture survives but the entrepreneur is ousted. Consequently, there are many issues to consider for successfully managing ventures during their transition from embryonic to mature organisations.

The organisation life cycle comprises five stages: start up, expansion, consolidation, revival, and decline. These are explained in terms of three variables: growth, product/market definition, and organisation. As the venture progresses from one stage to the next, conditions change, requiring different decisions for managing growth, developing products and markets, and organising the company.

Start-up Stage

During this stage, growth is inconsistent, sales seldom meet a founder's expectations, and they can occur haphazardly. In extreme circumstances—markets will be chaotic spurts and disappointing sputters. This chaos can absorb entrepreneurs in their daily struggle to survive. In the worst-case scenario, markets may be dormant, leaving the entrepreneur bewildered. If consistent growth does not provide a pattern of sales targeted to narrow market niches, confusion persists. During this initial stage, entrepreneurs modify their products, change distribution systems, alter services, and experiment with marketing tactics in an attempt to survive, they are "fighting fires" every day. The venture's objectives also are undifferentiated from those of the founders. The organisation is therefore a personal expression of a single entrepreneur or a few partners. It follows that the psychological characteristics of founders largely determine how the venture progresses through the start-up stage.

SNAPSHOT

- ◆ The organisation life cycle comprises five stages: ***Start up, Expansion, Consolidation, Revival, and Decline.***
- ◆ Reversing a company's pattern of poor performance is called turning it around. For entrepreneurs who survive the earlier stages and who are also capable of turning their ventures around, the metamorphosis is complete.

Expansion Stage

During this stage, rapid growth results in a pattern of success that is useful for evaluating market position

and new product potential. The venture is transformed from a single-line enterprise operating in a limited market to a multilane company penetrating new markets. Product and service lines are broadened through innovation and development, and the organisation expands through functional authority. Decision-making may be centralised during early growth, but departmentalisation ensures dispersion of authority. To meet these challenges, entrepreneurs must enlarge the enterprise and delegate authority for functional coordination.

Consolidation Stage

As competition intensifies within a growing industry, businesses are faced with marginally smaller incremental shares of markets. The result is a competitive struggle at a slower rate of growth during what is often called an industry shakeout period. Weaker companies fail, some are sold or merged with others, and many consolidate to remain profitable.

Consolidation occurs differently for every organisation. Manufacturers may trim operations, reduce product lines, or retreat from marginally profitable markets. Service companies reduce staff, streamline distribution systems, and withdraw from high-risk markets. In all cases, organisations tend to shift authority downwards as middle-and higher-level staff are reduced to improve efficiency. The result is a leaner organisation.

A consolidated company can successfully maintain this downsized posture for a prolonged period of time; growth is not essential. The consolidated company, however, must rationalise having a smaller market segment with commensurate profits.

Revival Stage

The revival stage is one of "rekindling" organisational growth. Rapid growth can be achieved by clever repositioning of product lines and services through purposeful market segmentation. Repositioning sets the stage for a strategy of product or service diversification. In order to achieve rapid growth, innovation is essential, and because the company needs to incubate new ideas, greater responsibility is given to division managers for independent development. In effect, company executives attempt to revive a spirit of entrepreneurship in their operational managers by empowering them with authority for self-direction. As a result, organisations are restructured through product, geographic, or customer divisions, and functional hierarchy is subordinated to divisional leadership. To the extent that innovative products and services emerge, the company can experience a revival in growth. If repeated consistently, innovation results in a pattern of upward growth. Corporations with strong performance records recognise this cycling of innovations and therefore, commit significant resources to research and development.

Decline Stage

Growth declines once again if revival strategies are short-lived or ineffective. Companies in decline often are those that have diversified too widely or created excessively bureaucratic organisations. Consequently, it is not unusual to find that a declining venture has lost sight of its distinct competency in products or services that initially proved successful. Founding entrepreneurs, if they are still with their

ventures, will have failed to adapt to leadership challenges in previous stages and subsequently pushed their companies to the brink of disaster.

Successful ventures will not complete the life cycle; by definition, they avoid decline. They will have enjoyed growth through product or market expansion, consolidated when necessary, and experienced a revival of growth consistent with their capabilities and the industry in which they compete. This they will do by turning the venture around.

Turning the Venture Around

Reversing a company's pattern of poor performance is called turning it around; and for those ventures suffering from reduced sales and profits, the turnaround begins during the consolidated stage. More to the point, decisions made to achieve consolidation help reposition the company so that it can be "turned around". It is during the revival stage, however, that turnaround efforts are realised. This is the time when market segmentation becomes more keenly focused through customer-oriented activities. It is also when research and development begin to pay off in high-yield products and services. And it is the time when a streamlined organisation can regain the offensive for competing effectively.

For entrepreneurs who survive the earlier stages and who are also capable of turning their ventures around, the metamorphosis is complete. They will have grown with, and been transformed by, the responsibilities of managing their ventures. Although their roles are significantly different by the time they reach a revival stage, their responsibilities are no less challenging. As founders, entrepreneurs have to be visionaries and aggressive competitors. As turnaround managers, they have to inspire their employees to be visionaries and aggressive competitors. Therefore, they can neither lose their entrepreneurial zeal nor suffocate their organisations with controls. As this stage, the entrepreneur is a professional manager who leads but does not dominate, delegates but does not abdicate, and controls but does not stifle the organisation.

Studies have shown that envisioning, planning, and goal setting can improve organisational performance. Attractive visions of the future have great power. We call an organisation that is built around a deep sense of values, mission, and vision an essence-driven organisation. This kind of organisation has tapped the energy that

Box 8.1

Why Should an Organisation Have a Vision

- ◆ Brings people together around a common dream.
- ◆ Coordinates the work of different people.
- ◆ Helps everyone make decisions.
- ◆ Builds foundation for business planning.
- ◆ Challenges the comfortable or inadequate present state.
- ◆ Makes incongruent behaviour more noticeable.



Churchill, N. C. and V. L. Lewis (1983). "The five stages of small business growth," *Harvard Business Review*, 61 (3): 30–50.

knows its purpose and why it is important. Organisations that are tied to their essence are more powerful, command more commitment from employees and can get more work done in a changing environment.

Organisational Renewal Cycle

Organisations go through cycles as part of their growth and development. Organisations and groups choose different times to revisit and revise their inner identity. Most organisations start out with a clear purpose and a lot of energy. Organisations or teams passing this early phase are having fun and living their dream. They have a compelling vision, and they are propelled to make it happen.

Box 8.2 The Organisational Renewal Cycle

Phase 1 Creativity

- ◆ Work is for a clear purpose
- ◆ Excitement about a new idea model/product/market
- ◆ Lots of vision
- ◆ Chaotic/fun atmosphere
- ◆ Growth is fast and easy, almost natural

Phase 2 Stability

- ◆ Purpose stays the same
- ◆ Structure solidifies with policies, procedures, standards
- ◆ Controls set in, standards are enforced
- ◆ Management becomes more “professional”
- ◆ Thinking about the future and planning is done at the top

Phase 3 Crisis

- ◆ The environment changes
- ◆ Standards are enforced from the top
- ◆ People work harder
- ◆ Results slip
- ◆ Group runs out of steam, loses vitality

Phase 4 Renewal

- ◆ Revisit basic purpose
- ◆ Renew mission, values and vision
- ◆ Redefine, question what the organisation is doing
- ◆ Reconnect with customers/market
- ◆ Forge new directions

After its initial period of creative excitement, the organisation or group enters stability or managed growth. They build the structure to ensure that their purpose is carried out consistently and define the way things are done. But in doing so, they inevitably lose something. Organisations at this developmental stage predictably become set in their ways and lose their ability to innovate and respond to the marketplace. Eventually, company employees feel that the magic has gone out of the work and now it is "just" work. Sometimes a shift in the environment, maturing of a product or a crisis forces the organisation or group to act differently. It needs change.

DISCUSSION FORUM



- ◆ Explain the stages in the organisation life cycle with an example.
- ◆ Explain the concept of turning a venture around with an example.

STRATEGIC MANAGEMENT

Making effective strategic decisions is a theme that occurs throughout the organisational life cycle and the nature of the decisions taken at various stages changes as the company evolves. Entrepreneurs are preoccupied with survival during the start-up period; consequently, their strategies are limited to making a single product or service successful. With rapid growth, their strategic emphasis shifts to intense market development. As growth slows and the industry begins to shake out, entrepreneurs must adopt competitive strategies that can require severe retrenchment decisions. As entrepreneurs struggle to revive their ventures, they must focus their companies on distinct competencies that, in the long run, will stimulate growth and profitability.

A strategic plan is a blueprint to help develop and maintain a superior competitive advantage in the marketplace. Effective strategic planning helps you identify and take advantage of customer requirements, marketplace conditions, and your capabilities in order to establish superiority not only in your mind, but also in the mind of the customer.

For smaller businesses, strategic plans are especially important because these businesses are extremely vulnerable to the smallest changes in the marketplace. Changes in customers, new moves by competitors, or fluctuations in the overall business environment can directly impact their cash flow in a very short time frame. Negative impact on cash flow, if not anticipated and adjusted for, can force them to shut down. That is why they need to plan for their future. They need to anticipate what the future may hold and adjust their thinking and actions to compensate for any potential negative impact.

Small entrepreneurs generally feel that strategic planning is for large business houses; in fact it is very essential for small and medium enterprises. Strategic planning is a change-oriented process. It gives a formal direction to the business. Planning horizon is the time required to implement a major strategic change. Planning can be long-term, medium-term, or short-term. There are a variety of

perspectives, models, and approaches used in strategic planning. The way a strategic plan is developed depends on the organisation's leadership, culture, complexity of environment, size, expertise of planners, and so on.

Entrepreneurs too often procrastinate on annual planning. It seems a daunting task because they imagine annual planning to be a huge, time-consuming, difficult chore. Yet planning can be quick and easy. And it is an exercise in strategic thinking that helps you remove uncertainty, avoid surprises, pull your team together, and save time and money.

Strategic Planning: The Challenge

As a business owner or CEO, you can choose from a number of alternatives on how to run your business. Convinced that you have a good product, a wide-open marketplace, and little competition, you could well decide to just get on with it and let the pieces fall where they may. This attitude is understandable.

Often, we are so consumed with what has to be done today – hiring people, making sure the customer is happy, getting that product designed and manufactured – that we just do not have time to think about tomorrow or the next year. Somehow, tomorrow will just have to take care of itself. Sometimes this works. Businesses can and do succeed without a well thought-out long-range strategic plan. In fact, sometimes you will hear a business owner say, "I never believed that my business could be this big or that I could be this successful." However, since statistics show that many start-up businesses fail within the first five years, a business owner or CEO can give his/her business the best chance of succeeding by doing everything possible to control its future. Most of the large, well-recognised, and successful businesses that you hear about today had a vision and a long-range plan; that is what got them there. These business leaders knew where they wanted to go and they did what was necessary to make it happen.

If strategic planning improves results, why do small business owners even think twice about it? Here are some of the common reasons to avoid strategic planning.

1. *I'm a small business. I don't need strategic planning.* If this is your perspective, then you absolutely need strategic planning. If you believe you are small, and approach business in that manner, in all likelihood, you will remain small. Strategic planning helps you see beyond the present, and envision what you can be. More importantly, it helps you determine how to get there.
2. *I do not have the time for strategic planning.* Strategic planning does take time. It also will take commitment. The motivation to dedicate the time and effort must come from you. If you find the motivation, the payoff could be enormous.
3. *If I have to stick to a strategic plan, it might limit my choices on how I run my business.* It is true that in developing a strategic plan you will have to choose among various courses or paths. By choosing one, you implicitly reject the other. However, strategic planning is not a one-time event – it is an ongoing process. Your choices are based on the best available information. As the information and situation change, you re-evaluate and move forward again.

4. *If I follow a strategic plan, it may be wrong for my business. I cannot afford that.* All business activities involve risk. Strategic planning is no exception. The risk, though, is a calculated one, and, as such, is minimised. Your decisions are based on knowledge, not assumptions or intuition.

Strategic planning begins with a restatement of the mission of the venture. This mission statement should be evaluated to ensure that it reflects the long-term vision of the entrepreneur. If it does not, then it should be modified to do so.

Next is the situation analysis, which should reflect such issues as

- ◆ What is the present business situation? What is the state of the industry?
- ◆ What is the state of the economy? What products or services are most profitable? Why do people buy (or not buy) our products or services? Who are our major competitors?
- ◆ What are the strengths, weaknesses, opportunities, and threats to the venture in the long term (three to five years)? This is often referred to as a SWOT analysis.

Figure 8.1 gives a simple five-step planning process that can be done in a day or less. You will need a few hours of uninterrupted time (best done in only one or two

Box 8.3 Outline for a Strategic Plan

- ◆ Business mission.
- ◆ Situation analysis.
- ◆ Internal environmental analysis—includes a discussion of the venture's strengths and weaknesses.
- ◆ External environmental analysis—includes a discussion of the venture's opportunities and threats (industry and competitive analysis) in the market-place.
- ◆ Goal formulation.
- ◆ Strategy formulation.
- ◆ Formulation of programmes to meet goals.
- ◆ Implementation.
- ◆ Feedback and control.

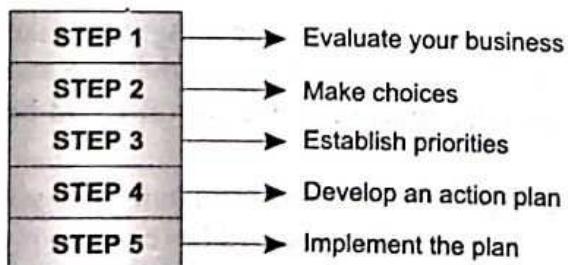


Figure 8.1 ■ Steps in strategic planning

sittings). So block off one day or two half-days. If you work with a partner, spouse, or key management team, participate in the planning process together.

Step 1 Evaluate your business

First look at what is important to you and decide where you are going. Define your prime purpose. This is what strategic thinking is all about. For this step, identify five or six key areas that are important and essential for your

business—cash flow, customers, employees, image, growth, productivity, and so on. Write them down. These are your organisational values.

In each of these areas, develop a crystal clear vision of where you are going. What is possible? What does it look like when you live up to your best expectations in each of these areas? Describe, in writing, what it looks like and feels like when you reach your expectations in each key area. This represents a picture of your future, as you prefer it to be. If you articulate a clear vision of your preferred future, focusing on those areas that are important to you and to your business, that vision becomes your destination. That clear vision allows you to set goals that will move you towards your preferred future. That vision provides motivation, energy, purpose, and direction.

Starting with a clear vision of what is possible helps you answer the question you must ask yourself each day—why am I doing this piece of work and is it taking me where I need to go? Strategic planning requires a vision.

A vision is a powerful mental image of what an entrepreneur wants to create in the future. It reflects what he cares about most, represents an expression of what the mission will look like, and is harmonious with the values and sense of purpose. Visions are the result of the head and heart working together. They are rooted in reality, but the focus is on the future. They enable exploration of possibilities and desired realities. As a result of this, they become a framework for what the entrepreneur wants to create, which guides him/her in making choices and commitments for action. To create a context for envisioning, it is necessary to have a clear idea of the environment in which the group or organisation exists. Listed below are several common areas that organisations review in creating a clear picture of their situation.

Environment and Current Situation Exploration

(Refer Appendix 1 for worksheets)

- ◆ Review the organisation's present situation (Worksheet 8.1)
- ◆ Review the organisation's history (Worksheet 8.2)
- ◆ Revisit the energy/essence of the founders (Worksheet 8.3)
- ◆ Assess your strengths and weaknesses (Worksheet 8.4)
- ◆ Assess opportunities and threats
 - a. Conduct environmental scan (Worksheet 8.5)
 - b. Conduct customers and competition analysis (Worksheet 8.6)
- ◆ Refer scale for SWOT (Worksheet 8.7)
- ◆ Assess SWOT (Worksheet 8.8)
- ◆ Identify the critical issues or choices that you face regarding the future (Worksheet 8.9)

Step 2 Make choices

This process includes telling the truth about your current reality. First, identify your greatest area of need. Where can you make the most definitive progress this year? To do this, rate each of the organisational value areas on a scale of 1 to 10, where 10 is wonderful and 1 is lousy. Rate each to see how well you are currently living up to that

value when compared to your vision of your preferred future. If you are doing this as a group, have each person describe his or her rating.

Step 3 Establish priorities

Use the completed ratings to select one or two areas where you have the greatest opportunity for improvement. Where is your greatest dissonance? In which value area would improvement translate into significant results? Which value area shows the largest gap between your preferred future and your current reality? Select one or two value areas as your priorities.

Step 4 Develop an action plan

You must get clear about who will do what and when. Start with brainstorming. Imagine all the possible actions which could move you towards your preferred future in the one or two value areas you have selected as priorities. Be creative here. Do not limit yourself to what you have always done or you will see the same results you've always seen.

After you create a list of possible action steps, group them into categories such as marketing, communications, facilities, employees, and so on. Usually, three to five categories will suffice. Now, go back through each action item in each category. Assign a person to be accountable for that action and determine when that action item will be complete.

Step 5 Implement the plan

Your plan has little value until you act on it. Each person must have a clear understanding of his or her individual accountability. If you are a one-person company, you must be clear on how you will accomplish your assigned tasks. This may include blocking off some time each week to concentrate on your action items.

Once or twice a month, review your progress. What is getting done? What is not getting done? Examine action items that are being pushed back. Either break them into smaller, easier tasks or decide explicitly that you are not going to complete a specific action item.

The payback for strategic thinking and planning comes in your ability to withstand change. An enterprise grounded with a clear direction and a plan to get there will have a focus on what is important and the flexibility to respond to new opportunities.

Benefits of Strategic Planning

- ◆ Improve your business decisions—you make decisions based on the best information available.
- ◆ Enhance your understanding of customers—the greater your understanding of customers, the better your chance to get them to spend more money with you.
- ◆ Improve customer relations—this one is simple. If you fully understand your customers, you will be better equipped to supply them with what they need.
- ◆ Increase the probability of beating competitors—if you can anticipate their actions, you can counter them.



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- ◆ Allows you to use resources more effectively—strategic planning helps you plan effectively for their use, optimising the return on your precious resources.

DISCUSSION FORUM



- ◆ What is strategic planning? Explain a simple five-step planning process.
- ◆ Discuss the benefits of strategic planning.

THE ESSENCE OF BUSINESS ETHICS

Ethics is a branch of philosophy. Its object is the study of both moral and immoral behaviour in order to make well-founded judgements and to arrive at adequate recommendations. A host of inventions, improved business organisations, and worldwide commerce not only changed the way we earn our living, they also radically changed our whole way of life and even modified our ways of thinking, especially by expanding of our perceived needs. These profound changes in our way of life also gave rise to a whole range of practical theories concerning the inner functioning and organisation of business activities; one of these disciplines is business ethics.

Business ethics evaluates and prescribes moral standards that match a specific sphere in modern society: the business environment. Business is now a prominent part of modern society with its own rules and a relatively independent status. The very basis of business ethics refers to an idea of how business fits into modern society as a whole, a social philosophy of business.

Entrepreneurship consists of personal skills as a leader, especially the ability to implement strategic marketing decisions. A highly performing entrepreneur thinks along situationalist lines. He or she does not always see marketing activities as a matter of a competitive struggle, with one side emerging the winner and the other side the loser. More specifically, besides competitive warfare for the survival of the fittest, there are other business games that allow for proper exchange of views and real partnerships. Also, morally involved entrepreneurs have great skills in convincing and motivating interlocutors, by setting a coherent and appealing example. Entrepreneurs can achieve a higher performance by personally integrating moral demands in corporate policies. Here, the term "higher" refers to a balance among three different moral requirements:

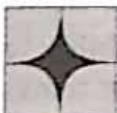
1. Meeting corporate goals, especially medium- and long-term profitability.
2. Ethically motivated job satisfaction.
3. The fostering of durable partnerships.

Ethically valid performance is produced by preventing unnecessary harm and by the ability to build constructive and durable partnerships with employees, consumers, and supplies. The corporate mission statement articulates the basic objective of ethical entrepreneurial performance. This mission statement should define the balance between two constituents:

- a. The strategic vocation of the corporation; and
- b. Its commitment to specific corporate responsibilities.

Box 8.4 Effective Code of Ethics

- ◆ *A valid motivation for its introduction* It should insist on important benefits for adopting and complying with the code. An "us too" attitude is not enough.
- ◆ *Broad acceptance within the company* Involve representatives from all departments in the process of elaborating the code. The code should be discussed, checked, and redefined before it is finally laid down.
- ◆ *Continuous feedback* Difficulties occur during the implementation of the code, and also as norms on how to act in specific situations change. This calls for feedback. Living up to a code is not simply a matter of blindly applying rules; it is part of a process.
- ◆ *Verification and control* Any inconsistencies between rules and practice should be disclosed. One method of achieving this is peer discussions. New guidelines should be drawn up if the rules prove inadequate in any way.
- ◆ *Integration into a broad company philosophy on corporate services and responsibilities* The set of rules should be part of a wider ethical mission statement. This may involve staff training programme, a company ethical committee, or discussions with external stakeholders.
- ◆ *Sanctions and control* Compliance with codes needs enforcement, both positive and negative. In order to become effective, some system of sanctions must exist. Freewheeling permissiveness would only lead to lip service. Many companies do now have severe sanctions against, for example, bribery.



CASE STUDY

Poly Hydron Private Limited, Belgaum, Karnataka

About the Enterprise

Polyhydron Private Limited (PPL) is the flagship company of the **Polyhydron Group of Industries**. Three young, dynamic entrepreneurs, **S.B. Hundre**, **V.K. Samant**, and **D.S. Chitnis** started a company called **Hyloc Hydrotechnic** in 1974. In the course of time, two more companies were established, namely **Polyhydron Pvt. Ltd.** in 1982 and **Polyhydron Systems Pvt. Ltd.** in 1986 (now known as **Oil Gear Towler Polyhydron Pvt. Ltd.**).

PPL is situated in Machhe Industrial Estate, Belgaum, Karnataka. It manufactures hydraulic radial piston pumps, valves, and accessories. It has an effective stockist network throughout India which markets PPL products. Polyhydron products are priced unbeatably low and PPL has changed the prices only marginally in last 15 years. This strong marketing strategy is maintained through careful implementation of Just in-Time production system, Kan ban system et al. wherein waste elimination is the key. PPL has maintained a compound growth rate of 32.5 %. In the year 2000-01 it made a turnover of Rs 9 crore with an employee strength of 72.

PPL's Mission

"We shall nurture an ethically managed organisation and we shall not exploit our customers, employees, suppliers, government, society, and nature."

PPL's Vision

"We shall create an island of excellence through focus on customer-employee empowerment and continuous improvement."

PPL's Management Philosophy

"To recognise our responsibility as individuals and towards ourselves for future development of a healthy culture.

"To accept the fact that our businesses are no longer private affairs, but they are public enterprises entrusted to us."

"To promote general welfare in the society, respect humanity, and develop people."

PPL's Uniqueness

(a) Management by Soul

PPL is the only hydraulic valve and pump manufacturing company in India which does not have any foreign collaboration. Its "Just-in-Time" production system implementation has borne unimaginable benefits inspite of the non-conducive environment in the country. One of the very few companies in India to practise "ethical management", it has developed the concept of "business ashrama". What good ethical behaviour comes down to is soul – where you house your values, your purpose in life, including the picture of the kind of person you want to be. Without your soul you have nothing to guide you.

The soul, which Suresh B. Hundre, CMD, calls the "Jiva" of Polyhydron is deep rooted in culture, and is expressed as a mission statement—"We will nurture an ethically managed organisation. We will not exploit our customers, employees, suppliers, government, society, and nature."

(b) Managing with a conscience: you don't have to cheat to win

PPL has adapted by replacing the old "we against them" mentality with a new perception of "us" that encourages the growth of profitable relationships with employees, customers, clients, suppliers, and alliance partners. It stimulates, creativity and a daptability to change, promotes excellent service and communication, builds trust, and energises the work force.

There is no security at the gate. The system is fully transparent. The financial information is opened to all stakeholders.

Profit Sharing at PPL

Profits generate funds (taxes) for the government, which in turn serves society and the nation. Profits also provide wages for the employees. But the manner in which the profits are made should be ethical.

Figure 8.2 below, developed by S. B. Hundre, depicts the relation between the goal, means, and the time required to accomplish the goal. Therefore, the goal should be to make now as well as in future, and not just now.

PPL operates under the overall umbrella of ethical management, which guides all the decisions taken by the organisation. Hundre says, "I will live up to my values and never compromise."

Polyhydron shares its net profit in the following manner.

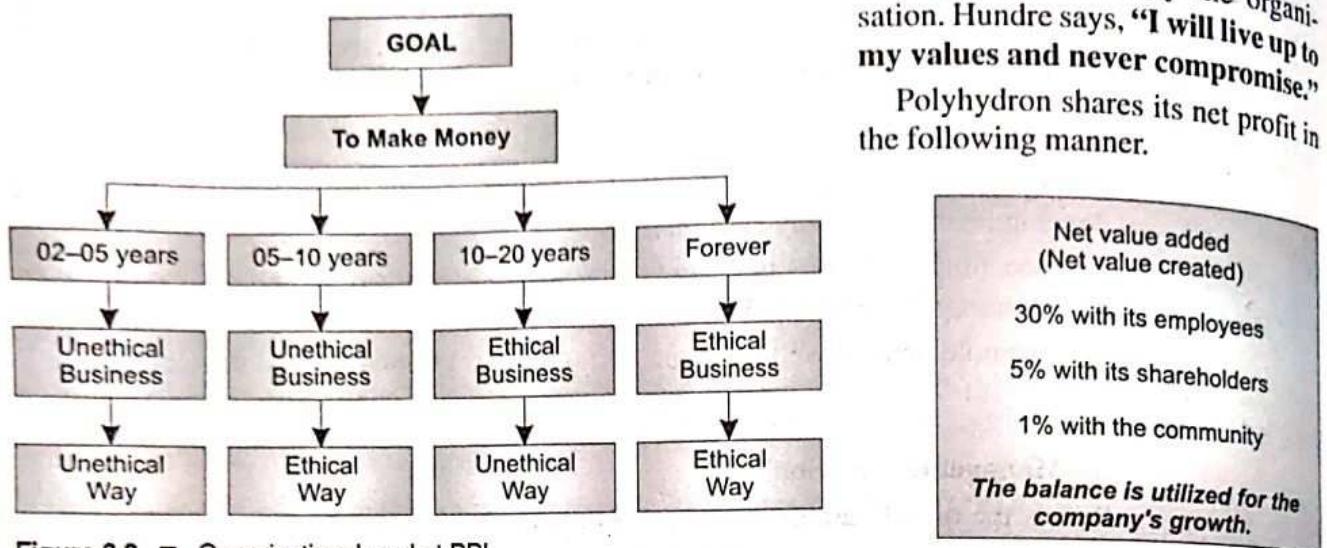


Figure 8.2 ■ Organisational goal at PPL

Innovation at PPL

At PPL, it is innovation that works. The knowledge of employees, training and development, technology knowhow, and the dedication and commitment of Managing Director S. B. Hundre, have not only improved factory efficiency but have also helped discover new, innovative products, for instance, directional control valve in 2002–03, feed and power hand pumps in 2001–02, mono block directional control valve in 2001–02, pilot-operated pressure relief valve in 2001–02, joystick controlled pilot oil unit in 2001–02, cartridge directional control valve in 2001–02, radial piston pumps 11 p.m. 750 bar, and solenoid directional control valve.

Quality at PPL

Each employee in PPL is responsible for the management of quality. There is no quality department as quality in Polyhydron is defined as the right of every person. Ethical employees lead to quality work and quality work leads to quality products. The company defines quality as value for money. The availability of products at a reasonable price and at an acceptable quality level are the trademarks of Polyhydron. At PPL, honesty is not a policy, but "the policy". It believes in building quality from the source. "Self-inspection is the best inspection" is also the policy at PPL.

PPL's Quality Policy

Polyhydron strives to achieve quality by keeping its rate of improvement higher than the rise in customer expectation.

- (1) Each machine is defined as a factory and independent charge is given.
- (2) No corruption activities from either side.

- (3) Due and full contribution to the ex-chequer.
- (4) To improve the knowledge of workers, the company has a well-stocked library.
- (5) To maintain good health and hygiene of the workers, gym facilities are provided.
- (6) Initiatives are made to create awareness among employees about the benefits of yoga, Vedanta, and so on, and they are encouraged to spend some time for such activities.
- (7) To progress as a zero-debt company.
- (8) Encourages sports activities by providing sports equipment to the workers.
- (9) Encourages BBA and MBA students to undertake projects and promotes industry-institute interaction.
- (10) Suitable ideas of the employees are respected and put into practice.
- (11) All gifts to the company from suppliers and customers to any official/company are shared among employees through a lottery system.
- (12) Due consideration has been given to building a plant layout with maximum natural lighting and ventilation.
- (13) Open door system without receptionist or supervisor at factory level.
- (14) A cooperative credit society has been established to help workers in their personal endeavours.
- (15) Personal loans and advances are extended to employees resolve their financial problems.
- (16) Formula-based incentive system of 30:70 among employees and company is established and practised.
- (17) To enable customers to get their products early, depots have been established all over the country.
- (18) Recruitment of employees through training and induction programme and not through advertisements.
- (19) The quality of product is never sacrificed to enhance profit.
- (20) Collections are expedited, payments to suppliers are also expedited.

Box 8.5 Code of Ethics

- ♦ The company strictly follows the code of ethics that states, “We at POLYHYDRON can say without hesitation that our management philosophy is what we live by. But the code of ethics is what the company insists every one has to follow even though it means loss to the company. Because there is no greater loss than to lose the respect of the people.”
- ♦ “Each of our employees is responsible for the integrity and the consequences of his own action. The highest standard of honesty, integrity and fairness must be followed by each and every employee while engaging in any actions with customers, competitors, supplier, the public, and other employees.”

Fruits of Ethical Practice at PPL

- ◆ *Employees:* Increase in salary, productivity bonus, efficiency, and so on
- ◆ *Customers:*
 - (i) Depots close to customer's business houses
 - (ii) Quality product at minimum cost and in time
- ◆ *Suppliers:* Single supplier, prompt payment and constant assistance
- ◆ *Government:* Prompt in paying advance income tax (Won an award for the same)
- ◆ *Society:* Liberal donations and continuous financial support to people in need.
- ◆ *Fellow entrepreneurs:* Constant effort to propagate the advantages of ethical business practices.

SNAPSHOT

- ◆ The very basis of business ethics refers to an idea of how business fits into modern society as a whole: a **social philosophy of business**.
- ◆ An effective code of ethics should integrate into a broad philosophy of a company on corporate services and responsibilities and is a part of its mission statement.



Visit www.business-ethics.org to learn more about business ethics and visit www.polyhydron.com to know more about "Temple of Ethics".

Polyhydron is known for its **ethical management**. People from all over India visit the company to interact and understand the systems. It has become a kind of "**pilgrimage centre**" for the corporate world of India. It can be said that managing business ethically is no

longer an option in the new millennium. To evolve any business into an ethical one requires tremendous effort and commitment at all the levels in the organisation. This has been proved at **Polyhydron Private Limited, Belgaum**.

DISCUSSION FORUM



- ◆ What are business ethics? How can an entrepreneur strike a balance between private interests and moral demands?
- ◆ Study the case of Polyhydron Private Limited and discuss in small groups why it is called as the "Temple of Ethics".

SUMMARY

- ◆ The organisation life cycle comprises with five stages: start up, expansion, consolidation, revival, and decline. These are explained in terms of three variables: growth, product/market definition, and organisation. As a venture progresses from one stage to the next, conditions change, requiring different decisions for managing growth, developing products and markets, and organising the company.
- ◆ Making effective strategic decisions is a theme that occurs throughout the organisational life cycle and the nature of the decisions taken at various stages changes as the company evolves.
- ◆ Strategic planning begins with defining the vision and mission of the venture. The mission statement should be evaluated to ensure that it reflects the long-term vision of the entrepreneur.

- Business ethics evaluate and prescribe moral standards that match a specific sphere in modern society: the business environment. Business is now a prominent part of modern society, with its own rules and a relatively independent status. The very basis of business ethics refers to an idea of how business fits into modern society as a whole, a social philosophy of business.

KEY WORDS

- | | | |
|------------------------------|--------------------------|----------------------|
| • Organisation life cycle | ◆ Mission | ◆ Crisis |
| • Start up | ◆ SWOT | ◆ Renewal |
| • Expansion | ◆ Strategy | ◆ Environmental scan |
| • Consolidation | ◆ Organisational renewal | ◆ Business ethics |
| • Revival | Cycle | ◆ Code of ethics |
| • Decline | ◆ Creativity | ◆ Philosophy |
| • Turning the venture around | ◆ Stability | ◆ Quality policy |
| • Vision | | |



EXERCISES

1. Project work 8.1: Divide the class into small group of four to six members. Visit a local SSI. Using the worksheets (8.1 to 8.9) given at the end of the chapter in Appendix 1, assess SWOT of the enterprise.

2. Activity 8.2: You are a senior software consultant in your firm's "Knowledge enterprise" which consists of six people with various specialties. As a result of yours and your partner's work the enterprise has been doing well for the last five years. Your boss has identified a business opportunity in the Middle East during a recent visit there and wants to diversify by opening one more enterprise in the Gulf. Your boss has already decided on the individuals for the new office. However, he asks you to select a person from your group to head the new office in the Gulf. The person best qualified is your immediate assistant, Rajiv. He is experienced and he has successfully led five software projects. If he were sent to the Gulf a big vacuum would be created in the office here and it would be difficult to replace him. At the same time your partner is interested to send his niece, Geeta, who is a graduate from the local university but has not worked with a knowledge enterprise. If you recommend Rajiv, which creates a vacuum, you would still have problems from Geeta. If you recommend Geeta to go to the Gulf the boss would be happy and you would be rid of her.

What is your recommendation? Write your recommendation in A4 size paper single line spacing not exceeding two pages.



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КОМПАНИЯ О ВНТ РОУНОВИХ С.А. ТЕЗНЕКНОВ

С.А. Тезнекнов – это не просто электронный магазин, это целый и полный цикл услуг для бизнеса, от концепции до реализации. Администрация компании имеет большой опыт в работе с различными производителями, что позволяет нам предложить широкий ассортимент товаров для различных сфер деятельности. Наша главная задача – помочь вам в развитии вашего бизнеса, обеспечивая высокое качество продукции и надежность сервиса.

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Financial Management in Small Business



An entrepreneur in Karnataka declaring the financial performance of his small business enterprise.

"Everything that can be counted does not necessarily count; everything that counts cannot necessarily be counted."

—Albert Einstein

Learning Objectives

- Understand the importance of financial management
- Learn the functions of financial management
- Explain working capital management and various working capital schemes.
- Learn book keeping and accounting policies
- Understand financial statements—balance sheet, profit and loss account, cash flow statement
- Understand the meaning, purpose, and significance of financial ratio analysis
- Get familiar with commonly applied methods of depreciation, accrual, and prepayment adjustment

IMPORTANCE OF FINANCIAL MANAGEMENT

Financial management is a managerial activity concerning the finances of the firm. It deals with planning, control, and management of financial resources of the firm. It is not enough to only raise the finance for industrial activity; it is necessary to manage it properly as well. Financial management is assuming importance in the modern context what with the most crucial decisions of the firm being those which relate to finance. A small industries unit has to undertake four important activities as a part of its business: (1) Finance, (2) Production, (3) Marketing, and (4) Human Resource Management.

There exists an inseparable relationship between finance function on the one hand and the production, marketing and other functions on the other. Finance is at the root of any business activity. Therefore, there is a need to properly manage it.

Functions of Financial Management

Financial management involves two types of functions: (i) Managerial finance functions and (ii) Routine finance functions.

Managerial finance functions require skilful planning, control, and execution of financial activities. Routine finance functions, on the other hand, do not require great managerial ability to be carried out. They are clerical in nature and incidental to the effective handling of the managerial finance functions.

Managerial finance functions for small industries are as follows.

- (1) Estimating financial requirement
- (2) Identifying sources of finance
- (3) Raising of finance
- (4) Proper use of finance
- (5) Control of finance

(1) **Estimating financial requirement:** Before starting an industrial unit, it is necessary that an entrepreneur estimate its financial requirement. He should scientifically calculate the fixed capital and working capital requirements.

The project report must be prepared with the help of a finance expert or a consultant.

- (2) **Identifying sources of finance:** Once the total financial requirement is known, the entrepreneur should identify the sources from which finance can be raised. There are many sources open to a small industrial unit such as (i) personal funds, (ii) funds from friends, (iii) banks, (iv) financial institutions, and (v) public deposits.

After a careful analysis the entrepreneur should decide from which source he can raise funds.

- (3) **Raising of finance:** Raising of finance does not mean mere collection of funds. It has four important dimensions: (i) Right source, (ii) Time schedule, (iii) Cost, and (iv) Adequacy.

The raising of finance should be adequate, at the right time, from a proper source, and at the right price or cost. Finance raised should be adequate and sufficient. This helps in the smooth running of business.

An entrepreneur should select the right type of source to raise finance from. This requires a lot of thought. The projection of time, that is, when the finance is needed, at what stage and so on should also be given consideration. All the finance is not required on the first day. One can phase out the time for collecting funds. Funds should be collected as and when required. This will reduce the cost (interest charges). Finance should be so arranged that it becomes available at the proper time, neither too early nor late. The cost aspect should also be considered while raising funds.

SNAPSHOT

Financial Management involves two types of functions:

- ◆ Managerial finance functions
- ◆ Routine finance functions

(I) **Managerial finance functions for small industries are as given below.**

- ◆ Estimating financial requirement
- ◆ Identifying sources of finance
- ◆ Raising of finance
- ◆ Proper use of finance
- ◆ Control of finance

(II) **Routine finance functions are listed below.**

- ◆ Supervision of cash receipts and payments
- ◆ Safeguarding cash balances
- ◆ Record keeping (i.e. accounting)
- ◆ Custody and safeguarding of securities, insurance policies, and other important documents
- ◆ Taking care of mechanical details of outside finance
- ◆ Regular return of borrowed funds

- (4) **Proper use of finance:** Finance raised for the purpose of business activity should be carefully used. The project report prepared by the entrepreneur with the help of experts indicates clearly how the finance collected should be used. Financial discipline has to be observed to keep the enterprise in good health. Money should not be used for any purpose other than purely business activity. Many units become sick because of lack of proper use of finance.

- (5) **Control of finance:** Control relates to establishing proper procedures and systems to check the financial activity of the business enterprise. A business should be carried out as planned in the project report. Income and expenditure should be kept under control. A review should be made periodically to know whether the business is being carried out on proper lines or not.

Routine finance is incidental to the effective execution of the managerial finance functions. They involve a lot of paper work and time. They deal with procedural aspects. Important routine finance functions are listed below.

- (1) Supervision of cash receipts and payments
- (2) Safeguarding cash balances
- (3) Record keeping (accounting)
- (4) Custody and safeguarding of securities, insurance policies, and other important documents
- (5) Taking care of mechanical details of outside finance
- (6) Regular return of borrowed funds.

Financial management at the firm level also requires proper management of fixed assets, working capital, and costs. Fixed assets themselves cannot generate profits. Idle fixed assets do not generate profits. They should be properly used and managed. Repairs, maintenance, replacement, and revaluation of assets needs skilful management.

 Visit www.entrepreneur.com to learn about financial management in small business.

The management of working capital has become an important activity. The proper management of capital ensures good health for business. It is also essential that an entrepreneur should make continuous cost analysis and try to minimise costs by evolving effective methods.

"Do not borrow funds which you cannot repay. That harms your reputation and business."

"Financial discipline is of utmost importance for business and industry."

DISCUSSION FORUM



- ◆ Discuss the importance of financial management in a small business.
- ◆ Explain the functions of financial management.

WORKING CAPITAL MANAGEMENT

Entrepreneurial inefficiency with regard to managing working capital is one of the darkest areas of management of small-scale enterprises. As a result, a large number of units fail to survive the initial

enthusiasm. This is true both in India and abroad. In the context of finance for the small-scale industry, it would not be out of place if we make certain observations based on empirical evidence.

1. Lack of production planning has assumed the nature of a characteristic in the small sector with the result that small units do not care to maintain delivery schedules. This leads to loss of customers and an increased need for working capital.

2. Apart from managerial incompetence, ignoring standard accounting procedures catch the entrepreneurs unaware of the cash flow positions.
3. Severity of competition necessitates lowering of prices and credit sales for longer periods whereas being small, the units get only limited credit while buying new materials from the suppliers. Small and retail purchases also means higher purchase prices.

On the demand side, the nature of a production organisation is such that the need for working capital is relatively larger in relation to its fixed capital. The supply of internal and external sources of funds is constrained. Some of the internal constraints are that in general it is not possible to visualise a very significant increase in sales over a short period; small units do not have any control over market prices; and profit margins are generally lower so that nothing is left to plough back into the unit. The external constraints include institutional insistence of margins, securities, and regularity of payments.

The need for working capital will depend on the input stock, production time, output inventory, credit sales, delay in receipt over normal credit period, and trading conventions. In addition, the share of raw materials in the total value of output, operating expenses such as raw materials, wages-salaries, factory overheads, provision for depreciation and advance tax payments also influence working capital. The level of working capital is affected by lack of internal resources, low productivity, and diversion of funds to other uses.

Despite the fact that credit to the small sector is brought under "priority", and the Credit Guarantee Corporation of India and Industrial Development Banks of India guarantee schemes, finance is still a major constraint for the SSI sector in India. The present policy is to extend credit on the basis of the purpose rather than security. The policy of the government is to see that "no worthwhile scheme of small or village industries is given up for want of credit". The reality, however, does not conform to the rosy picture projected by lending institutions.

A study by the Reserve Bank of India revealed that a large number of managers at the branch level were not fully aware of the various schemes available to the small sector. The approach towards the small sector is negative arising out of a fear that the probability of loan not being repaid is high. Therefore, officers at the branch level would not like to be "accountable" to the higher authorities for overdues. The applications are, therefore, rejected or delayed to frustrate the borrower.

Owing to the poor information system, a large number of small entrepreneurs are not fully aware of the various credit schemes available to them. It is also not known that though loans are time bound, they can be rescheduled in case of repayment problems. The entrepreneurs fear that a failure or delay in repayment will invite interference from the bank.

The entrepreneurs in the small sector are very critical about the existing procedures, which are complex, costly, and, at times, confusing. The forms have not been drawn up keeping the general level and type of education in the country. Very often a small entrepreneur finds it difficult to meet the proforma requirements of the bank. At the branch level, the "accountability"-fearing conservative officers consider the

incomplete form, inadequate information or documents as sufficient grounds for rejecting the loan application irrespective of the "purpose". This may provide room for emergence of corruption in financial institutions.

Banks insist that the borrower maintain proper books of accounts and submit monthly, quarterly, and annual reports. Small entrepreneurs, particularly proprietary organisations, would find this inconvenient and costly. Though third party guarantee is not to be insisted upon in case of small loans, it is almost compulsory. Many small entrepreneurs who take up self-employment for the sake of its independence find this dependence along with the display of bank's name board prominently as irritants. These are some of the reasons why indigenous sources of finance continue to be active in the small-scale sector even today.

Apart from managerial incompetence, ignorance about standard accounting procedures find the entrepreneurs unaware of the cash flow the positions. The severity of competition necessitates a lowering of prices and credit sales for abnormally longer periods whereas being small, the units get only limited credit while buying. As a result, a study found that the working capital requirements in the small sector are 43 per cent of sales against only 27 per cent for large units.

It is highly desirable for every entrepreneur to undergo, at least, a minimum competency training in the management of working capital. This is all the more important in the context of State patronage and special subsidies for promoting entrepreneurship among technically qualified persons. Many people enter the small-scale sector on the basis of mere general observations and faulty motivations. The fact that one is able to deliver the goods does not mean that the other can do the same. Decisions must be based on specific facts than general notions. It may be noted that no theory can sell a product or manage an enterprise.

Entrepreneurial development programmes should be undertaken only by those who have aptitude, interest, and capacity for running small units. An elementary course could be introduced as an applied component subject at the three-year degree level in colleges for spotting talent. Those who are motivated and confident should be drawn to Entrepreneur Development Institute for intensive courses. The institute could also function as a link among trained entrepreneurs and government agencies and financial institutions for setting up small units.

Estimating Working Capital – A Simplified Approach

A simple method of estimating the need for working capital is based on the average "manufacturing cycle" presented in Figure 9.1.

By manufacturing cycle we mean the total process. It begins with the possession of cash/credit to buy inputs. The raw materials are processed into finished goods. The end product is sold in the market. A part of it is directly sold for cash and the remaining on credit, realisable after a stipulated period of time. When it is realised, the cash returns to the manufacturer. Thus the cash, which was spent by the manufacturer, comes back to him after a lapse of time. It is, therefore, called a cycle. The cycle will differ from industry to industry.

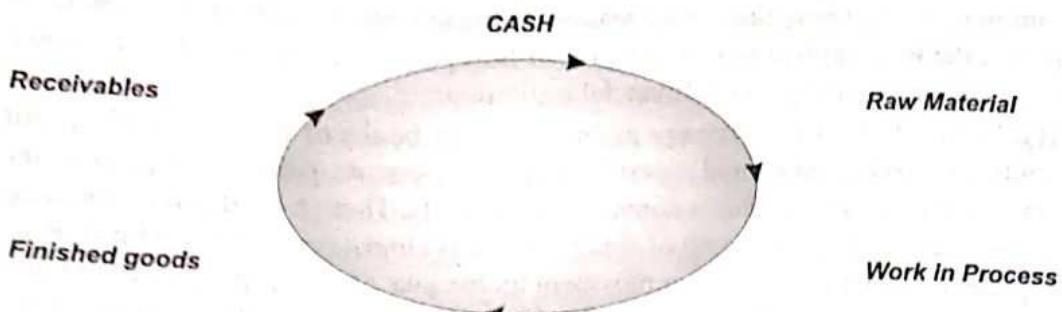


Figure 9.1 ■ Working capital cycle

Illustration 1

Assume that production is 100,000 units per annum

Total production cost	Rs 90,000 p.a.
One manufacturing cycle	120 days (that is, three cycles a year)
Working capital needed	Total Cost/Manufacturing Cycle
	= Rs 90,000/3 = Rs 30,000

The minimum working capital requirement of the firm is Rs 30,000.

Illustration 2

This is known as an accounting model and is based on the day-to-day operational behaviour of the enterprise in particular and the industry in general.

The working is based on the following assumptions.

- (a) Raw material requirements 3 months' consumption
- (b) Process period 1 month
- (c) Finished goods stock 1 month
- (d) Credit by suppliers is 1 month
- (e) Credit to debtors 2 months
- (f) Total production cost Rs 10,000 (includes Rs 1000 unpaid)
- (g) Raw material Rs 6,000 (that is, 60 per cent of production cost)
- (h) Manufacturing cash expenses Rs 3,000
- (i) Margin money
 - (i) Raw material 20%
 - (ii) Work in progress 33.33%
 - (iii) Finished goods 20%
 - (iv) Debtors 20%

Based on the assumptions, the enterprise in question would need a total working capital of Rs 49,500 at any given point of time. Given the margin policy of banks, an entrepreneur will have to find Rs 11,500 from his own sources. The bank, if satisfied with the proposal, will lend a maximum of Rs 38000 under various schemes especially available for the small-scale sector.

EXHIBIT 9.1 Calculation of Working Capital

Details	Period (month)	Cost × Period (month)	Total WC	Margin (Rs)	Bank Finance
RM	3	Rs 6000×3	18000	3600	14400
WIP	1	(RM) 6000×1 + (CE) $3000 \times .5$	7500	2500	5000
FG	1	EM + CE 9000×1	9000	1800	7200
Debtors	2	at cost 9000×2	18000	3600	14400
Cash	-	-	3000	-	3000
			55500	11500	44000
Creditors		6000×1	(-) 6000	-	(-) 6000
Total			49500	11500	38000

Note: RM Raw Materials WIP Work in Progress CE Cash Expense FG Finished Goods WC Working Capital

Valuation of Stock-in-Trade

As the figure of closing stock would materially affect the trading results, it becomes necessary to see that the greatest possible care and trouble are taken to include this item at a fair and correct value. For this reason, inventories of unsold goods on hand at the close of each trading period should be prepared most carefully under the strict supervision of some responsible person. All quantities as entered on the stock sheet and the rates should be rechecked by competent and reliable persons. Some independent assistants should check even the extensions and calculations made by one set of clerks.

The basis of valuation generally adopted is the actual cost price. If, however, any part of the stock is damaged or shop-soiled or has become obsolete or not saleable, due allowance will have to be made for such depreciation in value. Unsold stock should never be valued at the selling price, if that price exceeds the cost price. If the unsold goods are valued at selling price, the result would anticipate a profit upon them, which may or may not be realised. In other words, the profit on goods should only be brought into account when they are actually sold and delivered.

If, however, the market price is less than the cost price, then a loss has evidently been incurred, since the goods can only be sold at a loss. Under such a circumstance, they should be valued at the market price.

Bear in mind that the figure of closing stock has to be shown on the credit side of the trading account in order to ascertain the gross profit. Thus any over-valuation or under valuation of this item will show results, at once misleading and false. The following principles may be laid down as sound in determining the value of the stock of unsold goods on hand.

1. Profit on goods is deemed to have been earned only when the goods are actually sold.
2. No profit should be anticipated and taken credit for until it is earned.
3. If there is any chance of loss likely to arise, such anticipated loss must be immediately provided for.

In view of the above rules, it follows that, the stock of unsold goods should be always valued at cost price or market price, whichever is lower.

Cost Formulas

Determination of the value of inventories requires the use of cost formulas to be applied to purchases made at different prices/production achieved in lots at different costs over a period. A variety of cost formulas, or cost flow assumptions as they are commonly known, are used to determine the value of stock in such cases. These are given below.

1. First-in First-out (FIFO)
2. Last-in First-out (LIFO)
3. Weighted Average Cost (WAC)

SNAPSHOT

A simple method of estimating the working capital is based on the "average manufacturing cycle".

- ◆ The cost formulas used for the valuation of stock are
(a) FIFO, (b) LIFO, and (c) WAC
- ◆ Some of the important ratios used for managing working capital are
(a) Debtor's turnover ratio; (b) Creditor's velocity ratio; (c) Stock turnover ratio; (d) Current ratio; and (e) Stock-working capital ratio.

FIFO As per the FIFO formula, it is assumed that the items of inventory which were purchased or produced first are sold or consumed first. Consequently, the items remaining in inventory at the end of the period are those most recently purchased or produced. This formula usually assigns higher value to inventories since recent purchases/production are usually characterised by higher prices/costs.

LIFO As per the LIFO formula, it is assumed that the items of inventory which were

purchased or produced last are sold or consumed first. Consequently, the items remaining in inventory at the end of the period are those purchased or produced the earliest. This formula usually assigns the lowest value to inventories since the earliest purchases/production are usually characterised by lower prices/costs. The formula provides a big relief to business during periods of inflation.

WAC As per the WAC formula, the cost of each item is determined on the basis of the weighted average of the cost of similar items at the beginning of the period and the costs of similar items purchased or produced during the period. The average may be calculated on a periodic basis, or as each additional shipment is received, depending upon the circumstances of the enterprise. This formula usually assigns lower value to inventories as compared to FIFO.

The revised standard issued by the Institute of Chartered Accountants of India (ICAI) recognises FIFO and WAC, not LIFO.

Working capital management will be easier in case entrepreneurs are familiar with some important financial ratios.

1. Debtor's Turnover Ratio

$$(\text{Debtors} + \text{Bills receivable}) / (\text{Net credit sales}) \times 360 \text{ days}$$

This ratio reveals how many days credit is outstanding by debtors. When credit is allowed to buyers, they are expected to pay the money within the

specified time limit allotted to them. During this period, the cash is blocked for debtors. The ratio shows, on an average, the time taken for the recovery of money from buyers. It can be compared with the standard time allotted and any deviation reveals the excess or deficit, as the case may be, in terms of time needed for recovering blocked funds. Fewer the days, the better it is for the firm.

2. Creditors' Velocity Ratio

$(\text{Creditors} + \text{Bills payable}) / (\text{Net credit purchases}) \times 360 \text{ days}$

As in the case of credit sales, while purchasing raw materials, a supplier allows a credit period to the buyer who made the payment within a specified time. Creditors' velocity ratio states that the rate at which payment is to be made from time to time, which helps to know the net cash flow.

3. Stock Turnover Ratio

$(\text{Cost of goods sold} + \text{Average stock holding}) = (\text{Selling price gross profit}) / (\text{Opening stock} + \text{Closing stock})$

This ratio specifies the rate at which the stock is turned over. It shows the marketability of a product. The rate at which stocks are sold helps to analyse the profitability position of a concern. It helps to formulate production policy.

4. Current Ratio

$(\text{Current assets} / \text{Current liabilities})$

This ratio shows the funds available with the firm in terms of current assets to meet the current liabilities. It reveals the firm's solvency short-term financial strength, and also whether it is over capitalised or exposed to over trading.

Though 2:1 is considered to be the ideal current ratio, the composition of current assets is equally important. If the majority of current assets are in the form of stock, which is not easily realisable, even with a 2:1 current ratio, the unit will face severe liquidity problems. Therefore, it is the quality of the ratio rather than the ratio per se that is important.

5. Stock-Working Capital Ratio

$\text{Closing stock} / (\text{Current assets} - \text{Current liabilities})$

This ratio is worked out to know the position of working capital vis-a-vis raw materials, inventories, work-in-progress and so on. Normally, the raw material cost constitutes around 60 per cent of the total cost of production. This brings forth sufficient liquidity to invest in the purchases and finished goods.

Most of these ratios have been standardised in terms of normative values based on historical experience. Any deviation from such values indicates inefficient management of funds.

Working Capital Schemes

Some of the working capital schemes available with most scheduled banks, particularly the State Bank of India, are listed below.

1. Professionals and Self-employed Scheme: Margin is 25 per cent. No ceiling. Interest is 15 per cent and repayment renewal every year.

2. Small-scale Industries Liberalised Scheme: Margin is 20 to 25 per cent. The loan is need based and the interest works out to 13 to 16.5 per cent. Renewable every year.
3. Self-employment to Educated Unemployed Youth: Available to youth in the 18 to 35 years age group with SSC or equivalent qualification and family income below Rs 10,000 p.a. No margin will be insisted on. Maximum amount available is Rs 35,000. Interest rate is 10 to 12 per cent. Renewable every year.
4. Small Business Finance: Margin is 20 to 25 per cent. Loan available upto Rs 1 lakh, which carries interest ranging between 11.5 per cent and 15 per cent p.a. and is renewable every year.
5. Entrepreneur Scheme: It is available to technically qualified persons and carries an interest ranging between 12.5 and 14.5 per cent. Renewable every year.

Visit www.planware.org for improving skills on working capital management.

DISCUSSION FORUM



- ◆ Discuss the importance of working capital in small business.
- ◆ Explain the cost formulas used for valuation of stock.
- ◆ Name the important ratios used for working capital management.

ACCOUNTING AND BOOK KEEPING

The Accounting Process

The process that leads to the measurement of financial performance and position of an enterprise passes through the following stages.

1. **Documentation** of business transactions that are capable of being expressed in terms of money, by way of what is known as *a voucher*. A business enterprise carries out a number of activities and executes a number of transactions that could relate to purchase, sale receipts and payments, and so on.
2. **Recording** of vouchers in a daybook is called a *journal*. A daybook is the book which records transactions chronologically on a daily basis; hence the term.
3. **Classifying** the transactions so recorded by their nature, for example, putting all purchase transactions at one place chronologically so as to enable an understanding of the total build up and effect of that particular activity. This is done through a book called a *ledger*.
4. **Summarising** the transactions so classified to understand and appreciate the total build up and effect of various activities. This is done through a statement called the *trial balance*. This document provides the net effect of all transactions, by their nature, carried out by the enterprise during a particular period.

5. Bifurcating the trial balance into *profit and loss account* and *balance sheet* to measure the financial performance and position, respectively, of the enterprise.

SNAPSHOT

- ◆ The various stages in accounting process are: documentation, recording, classifying, summarising, and bifurcation.
- ◆ The important books to be maintained by a SSI are: purchase book, sales book, cash book, journal, and ledger.

Invariably, small entrepreneurs do not keep proper and regular books of account, which makes it difficult for them to prepare a financial statement showing the results of the business operation at the end of the year. It is always advisable to keep a proper book of account in double entry system (where for each transaction, debit is always equal to credit). It will help businessman not only in preparing various statements showing profit or loss for the business but

also for purposes of taxation and submission to financial institutions and government when the enterprise has long-turn growth prospects.

Types of Books of Accounts

Books of accounts may be broadly divided into two.

- (1) Book of prime entry: All transactions of the enterprise are recorded first in the book of prime entry.
- (2) Ledger: All transactions entered in the book of prime entry are transferred under respective heads in the ledger. The ledger contains separate heads such as Salary Account, Customer Account, Suppliers Accounts, and so on.

Though not essential for a small-scale unit, it is desirable to maintain the following books in a business organization.

- (1) Purchase book: Records all purchases of goods on credit.
- (2) Sales book: Records all sales of goods on credit.
- (3) Purchase return book: Records return of goods to suppliers.
- (4) Sales return book: Records return of goods by customers.
- (5) Cash book: Records cash and bank transactions.
- (6) Petty cash book: records all petty expenses.
- (7) Bills receivable book: Records "bills receivable" transactions.
- (8) Bills payable book: Records "bills payable" transaction.
- (9) Journal: Records other transactions which do not find a place in books of accounts mentioned above.

It may not be necessary for a small-scale unit to maintain all the books of accounts given above. However, the following books are essential.

- (a) Purchase book
- (b) Sales book
- (c) Cash book
- (d) Journal
- (e) Ledger

All petty expenses can be recorded through a cash book and purchase/sales returns; bills receivable/ payable transactions can be recorded through the journal.

Specimens of Essential Books

a. Purchase Book

EXHIBIT 9.2 Purchase Book

Date 1	Name of Supplier 2	LF 3	Description of Goods 4	Bills Nos. 5	Amount (Rs) 6	Remarks 7

Note: LF Ledger Folio

When a purchase is made, enter the date in Col. 1, the name of the supplier in Col. 2, details of goods bought in Col. 4, the bill number in Col. 5, and the amount of the bill in Col. 6. Col. 7 is meant for remarks such as the due date and mode of payment to be made and so on. As each item will be ultimately transferred to the ledger for drawing trading, profit and loss accounts, balance sheet and so on. The ledger page to which it is transferred could be entered in Col. 3 of the purchase book. A random check of Col. 3 will reveal whether any item is omitted from the profit and loss account or not. This also helps auditing. The same approach may be used to make entries in the sales book.

b. Sales Book

EXHIBIT 9.3 Sales Book

Date 1	Name of Customer 2	LF 3	Description of Goods 4	Inv. Nos. 5	Amount (Rs) 6	Remarks 7

c. Cash Book

EXHIBIT 9.4 Cash Book

Receipts Side						Payments Side					
Date 1	Particular 2	LF 3	Cash 4	Bank 5	Date 6	Particular 7	LF 8	Cash 9	Bank 10		

The cashbook has two sides—1 receipts and payments. All cash transactions are entered in the cash book. If any item is sold directly for cash, it will be written on the receipt side, as cash will be received. In case a payment is made in cash, it will go into the payment side. An additional column for noting the voucher numbers can also be added to the cash book for denoting the serial number of vouchers for accounting convenience. Otherwise, the voucher numbers are written along with the particulars. All cash deposits to and withdrawal from banks will also be entered in the cash book.

d. Journal

EXHIBIT 9.5 Journal

Date 1	Particulars 2	LF 3	Debit 4	Credit 5

E. Ledger

EXHIBIT 9.6 Ledger

Debit Side				Credit Side			
Date 1	Particular 2	Folio 3	Amount 4	Date 5	Particular 6	Folio 7	Amount 8

- Note:
1. "LF" in books of prime entry stands for Ledger Folio. Every transaction is transferred from the books of prime entry to the respective accounts in the ledger. The page number of the ledger on which a particular account is transferred is the ledger folio.
 2. In the ledger "folio" means the page number of the book of prime entry from which the particular account is transferred to the ledger.

The ledger is a book of secondary entries. All entries in the ledger are transferred from one or the other book of prime entries. The ledger compartmentalises accounts into different prominent heads of receipts and payments. As a result, all statements of accounts are drawn from the ledger.

At the end of the accounting year, all ledger accounts are balanced and a list of balances is prepared, known as the trial balance. In most cases, there may be a difference between the bank balance shown by the cash book and the bank pass book due to reasons, among others, such as cheque issued/deposited before the year but not presented/cleared before the end of the year, and so on. Therefore a bank reconciliation statement is prepared to reconcile the difference between the balances in the cash and bank pass books.

After preparing the trial balance, final accounts showing operational results for the year are prepared. These are divided into two statements.

- (1) Trading and profit and loss account: It shows the profit and loss of the business for the year. These accounts represent a systematic enumeration of receipts on the one hand and payments or provisions on the other. The nature of balance between the two sides will reveal profit or loss.
- (2) Balance sheet: It shows the values of liabilities and assets of the enterprise as on the last date of the year for which it is drawn.

In the subsequent year, all previous net balance sheet items, that is, liabilities and assets, are transferred to the corresponding new ledger sheets and then transactions of the new financial year are recorded. This provides continuity in operational results in addition to revealing changes in the net worth of the enterprise.

For the purpose of taxation, entrepreneurs are advised to maintain the following additional documents: (a) receipts, (b) payment vouchers, and (c) stock statements.



Visit www.icai.org to learn more about accounting procedure

It is not necessary that one should be a qualified accountant to maintain proper books of accounts. The fundamentals of accounting can be learned through books or by attending refresher courses. It is desirable to have a qualified consultant for periodic help and

advice. Maintenance of proper books of accounts is like "a stitch in time" as it will save the entrepreneurs from many a difficult situation. It will also improve operational efficiency of the unit.

Having prepared the trial balance, it is now possible to start preparing the financial statements: the profit and loss account and the balance sheet. The balance sheet, however, is a "moment-in-time" document which will show all that a business owns (its assets) and the sources of funding for those assets (its liability).

DISCUSSION FORUM



- ◆ Explain the accounting process. What purpose does this process serve?
- ◆ What is the significance of the following in measuring the financial position of an enterprise? ■ Voucher ■ Journal ■ Ledger ■ Trial balance
- ◆ Name the important types of books of accounts.

FINANCIAL STATEMENTS

Financial statements are the most important part of financial reporting. They are no longer meant for just the promoters or owners of an enterprise. Based on this financial information, a business formulates its strategies for revenue enhancement, cost economies, efficiency and improvements, restructuring of its operations and further expansion/diversification for creating and enhancing the wealth of its stakeholders.

SNAPSHOT**Components of Financial Statements**

- ◆ Balance sheet
- ◆ Profit and loss account or income statement
- ◆ Cash flow statement

A complete set of financial statements normally comprises:

1. a balance sheet;
2. a profit and loss account or income statement; and
3. a cash flow statement.

Balance Sheet

A balance sheet shows the financial status of a business at any given moment in time. It shows the items which are owned by the business, its assets, and sets these off against a list of claims on these assets by those who provided funds to buy those assets, and its liabilities. The balance sheet is, therefore, akin to a photograph of the financial state of the business showing, on the one hand, what the business has and, on the other, where the money came from to acquire those assets. The balance sheet will always balance. This is because of the dual aspect rule and the fact that every debit has a credit. If a balance sheet does not balance, then an error has been made in recording the fundamental dual effect of transactions made by the business.

Features of balance sheet

1. Prepared as on a given date
2. Comparative position
3. Vertically drawn—horizontal form out of fashion
4. Grouping and sub-grouping of assets and liabilities
5. Details in schedules and notes to the accounts
6. Matching of assets and liabilities
7. Signed by the person who prepares it and auditors

Various accounts of balance sheet

Assets (Application of Funds)

Assets are things of value acquired by a business at some cost to the business. The balance sheet does not simply list those assets but displays them in a logical order by subtotaling fixed assets (or long-term assets) and current assets (or short-term assets). Conventionally, the distinction between fixed and current assets has been one year. Thus, if the asset is expected to remain in the business in an unaltered form for more than one year, it is classed as a fixed asset; if not, it is classed as a current asset.

Fixed Assets: The permanent assets which a firm could have are fairly common to almost all businesses/companies and would normally be classified as below.

- ◆ Land and buildings
- ◆ Plant, machinery, and equipment
- ◆ Fixtures and fittings
- ◆ Motor vehicles
- ◆ Investments

Expenditure on acquiring such assets does not appear in the profit and loss account; it appears in the balance sheet alone.

Current Assets: The classification of current assets is common to most businesses and would appear as below.

- ◆ Stock
- ◆ Work-in-progress
- ◆ Finished goods
- ◆ Debtors (people who owe the business money)
- ◆ Bank
- ◆ Cash

The order in which current assets (as well as fixed assets) appear in the balance sheet is said to be in the reverse order of liquidity, that is, the most permanent comes first, and the asset which is closest to being turned into cash comes last.

The above distinction between fixed and current assets need not always hold true. For example, trucks would normally be considered to be fixed assets except in an enterprise whose business is to sell trucks. In such a case, any trucks it has would be more properly classified as its stock, that is, as a current asset.

A more useful distinction, therefore, may be that fixed assets are those which are acquired to enable a business to function on a long-term basis, whereas current assets allow the business to function on a day-to-day basis and are the result of everyday transactions.

Liabilities (Sources of Funds)

Liabilities should not be regarded as debts (although they frequently are) but as sources of finance where the money came from to buy the enterprise's assets. As for assets, liabilities do not appear as a simple list in the balance sheet but are distinguished between long-term and short-term liabilities (or current liabilities). The general one-year rule applies to separate them.

Current Liabilities: Current liabilities are generally debts, which a business is legally bound to repay within one year. The normal current liabilities to be expected in a balance sheet are given below.

- ◆ Trade creditors
- ◆ Taxation provision
- ◆ Short-term loans
- ◆ Dividend payable (for limited companies only)
- ◆ Bank overdrafts

Included in trade creditors are all suppliers of goods and services who are awaiting payment on the date of the balance sheet and could include any cost which a business is likely to incur.

Long-term Liabilities: These are the sources of finance which have been supplied on a long-term basis and are not due for repayment in less than one year. It is normal to

see such liabilities categorised into those supplied by owner's capital and those supplied by other parties such as banks.

The owner's capital is normally shown thus.

Capital Introduced (or Opening Balance) Plus Current Year's Profit Less Personal Drawings

Note that it is normal, except in the case of limited companies, to show the personal drawings, or personal wages, of the owners as a deduction from capital, since theoretically, all money in a business belongs to them and they can, if they wish, take everything out, not just what they have decided to take.

How does a balance sheet look?

After picking out the debit and credit balances which would go into the profit and loss account, the trial balance will be left with items of debit and credit balances which will be taken over by the balance sheet.

Step 1

- ♦ The debit balances that go into the balance will be listed under assets.
- ♦ The credit balances that go into the balance will be listed under liabilities.

Step 2

Having done so, you will see that the total of assets and liabilities will not become equal. If the liabilities appear larger than the assets, the difference should be equal to the loss posted in the profit and loss account. If the assets appear larger than liabilities, the difference should be equal to the profit posted in the profit and loss account.

Step 3

You will now enter the amount of profit or loss, as the case may be, under liabilities or assets side of the balance sheet in order to make the two sides equal.

A typical balance sheet

Typically, a simple balance sheet of a small business will look like the one in Exhibit 9.7.

Contingent liabilities

When we draw up our balance sheet, as on the last day of the year, we would be putting down all the items which show our obligations under the head "Liabilities". Liabilities so shown are obligations which have actually crystallised and which we shall have to discharge. In other words, these are absolute obligations which are actually descended on the business and are not subject to any condition.

On the other hand, in the course of running a business, you may feel that some obligations may possibly occur upon happening or non-happening of an event. For example, you may have received a claim from your supplier for an amount which you dispute. However, the debt becomes absolute and is recognised as a liability within the balance sheet.

Such liabilities which arise only upon occurrence or non-occurrence of an event are called "contingent liabilities". These liabilities do not form a part of the balance

EXHIBIT 9.7 Balance Sheet of ABC and Sons as on March 31, 1995

Liabilities	Assets
Partner's capital	Fixed assets
Balance as per last year	Land, building
Add: Share of profit transferred	Less: depreciation
Less: Drawings	Plant and machinery
	Less: Depreciation
Partner's current account (cr)	Capital
	Work-in-progress
Reserves	Investment and Deposits
General reserve	Deposit of telephone
Revaluation reserve	Lease deposit with landlord
Others	Deposit with customs/excise dept
Profit transferred from P&L A/c	Security deposit with electricity board
	Loans and advance
	Advance paid for capital goods
	Advance to staff
	Loans of associates and sister concerns
Secured loans	Current assets
Cash credit (against hypothecation of stock and book debts)	Cash and bank balance
Term loans (against mortgage of plant, machinery, or building)	Book debts (consider good)
Unsecured loans	Inventories (raw material and packing material, stock-in-process, finished goods, consumable stores and spares)
Current liabilities and provisions	Advance paid for raw materials
Creditors for supplies	
Creditors for expense	
Provision for tax	Miscellaneous expenses
	Preliminary and preoperative expenditure
	Deferred revenue expenditure
	Goodwill, patent, copyright, royalty
	Partner's current A/c (debit)
	Loss transferred from P&L A/c

sheet since the balance sheet records only absolute admitted obligations. By way of information to the reader, the business firm will usually indicate contingent liabilities as footnotes outside the purview of the balance sheet.

You have now drawn up the balance sheet of your business as on the last day of the accounting period. Using as an example the trial balance of N. Shah. His balance sheet can be drawn up as under.

EXHIBIT 9.8 Balance Sheet of N. Shah as on 6/1/19xx

Fixed assets		
Equipment		Rs 2,200
Office equipment		Rs 416
Vehicle		Rs 1,800
		Rs 4,416
Current assets		
Debtors	Rs 1,568	
Bank	Rs 1,244	
	Rs 2,812	
Less: current liabilities		
Creditors		Rs 2,812
Net assets		Rs 7,228
Opening capital		Rs 4,800
Add: profit		Rs 528
		Rs 5,328
Less: personal drawings		Rs 100
		Rs 5,228
Creditors		Rs 2,000
Long-term loans		Rs 7,228

- (1) The phrase in the title "as on 6/1/19xx" indicates that the balance sheet applies only to that moment in time. The balance sheet of 7/1/19xx could be different. If, for example, Shah withdrew another Rs 20 on 7/1/19xx, then the bank figure would differ, as would the personal drawing figure.
- (2) The figures are at cost price. The market value of assets could be, and probably is, quite different.
- (3) Note the format of the balance sheet. There are a number of formats which could be used in presenting the assets and liabilities of a business but this particular method is most common nowadays for businesses which are not limited companies.

This particular format balances net assets with long-term sources of finance (opening capital, retained profits, and long-term loans). Current assets are netted off against current liabilities as it is more sensible to display similar items together. In this case, current assets and current liabilities are the result of the normal operations of a business and, as such, are linked to each other. The difference between current assets and current liabilities is called "working capital". This represents the cost of current assets which have not been acquired on credit but have been financed by the business itself.

Adjustment to Trial Balance

The example of N. Shah above is a rather simplified introduction to the construction of financial statements. There are a number of complications which can, and do arise in practice. Some of these complications will now be considered.

The trial balance of a business is incomplete in that it does not always show all transactions up to a given date. It will not show the value of stock on hand on the balance sheet date, nor will it show debts which the business will have incurred but for which the business has yet to receive a bill. For example, presumably N. Shah has a telephone, which he has used. Obviously, in using the telephone, he is incurring cost, but that will not be shown in the trial balance if Indian Telecom has still to invoice him.

The trial balance has to be adjusted and the principal adjustments which will now be considered are for

- ◆ stock;
- ◆ depreciation;
- ◆ accrued charges; and
- ◆ prepayments.

Stock Adjustment

Business in either retailing or manufacturing will buy large quantities of stock during a year either for resale or for use in the manufacturing process. At the end of year, such business will undoubtedly have unsold or unused stock on hand.

The matching principle requires that only the cost of purchasing stock, sufficient to account for the volume of sales made in an accounting period, should be used in determining profit. This means that excess stock purchased during the year must be discounted when determining the value of the goods actually sold.

Theoretically, this is a relatively simple process. For example, if a business has 100 units of stock at the start of a year, buys 1,200 units during the year, and has 150 units on hand at the end of the year, then the volume used, or sold, would be as follows.

Opening stock	100	
Add: bought in		1,200
Total available for use	1,300	
Less: closing stock		150
Total used		1,150

By applying unit costs to the volume of stock, quantities would become values, and the total used figure would become the cost of sales value for inclusion in the profit and loss account.

The value for cost of sales is, therefore:

$$\text{OS (opening stock)} + \text{P (purchase made in one year)} - \text{CS (closing stock)}$$

Depreciation Adjustment

As mentioned earlier, the purchase of assets does not appear in the profit and loss account. One of the reasons for this is that an asset is going to endure over more than one time period and affect more than one time period's profits. It was previously explained that it would be "unfair" if the cost of an asset were to be charged against one year's profits when subsequent years would also benefit.

Depreciation is simply a means of allocating the original cost of an asset over the years in which it will be used. In accounting, depreciation is not an attempt to measure the decline in value of an asset; it is just a means of equitably spreading the cost over an asset's useful life. All assets (except, usually, land) have a finite life, although the length of that life may be determined by various factors such as

- (a) Normal wear and tear;
- (b) Obsolescence;
- (c) Passage of time; and
- (d) Technological advance.

No matter what causes assets to have finite lives, all assets ought to be depreciated over their expected periods of economically useful lives. As with the valuation of stock, there are a number of ways that the annual depreciation can be calculated. Two methods in particular, however, predominate in business—straight line method and reducing balance method.

Straight Line Method

In this method, the net cost of an asset is depreciated evenly throughout its expected life. Thus, each year will bear an equal proportion of the cost.

For example, assume a business has bought a machine for Rs 10,000. It is expected to have a useful life of five years after which it will be of no value. (Note: the value to be depreciated is the net cost of the machine to the business. In this case, the net cost is Rs 10,000. If, after five years, the machine could be sold for scrap for Rs 1,000, then the cost to be depreciated would be Rs 9,000, since that would be the net cost of the machine to the firm. The annual depreciation charge is

$$\frac{(\text{Net cost}) \text{ Rs } 10,000}{(\text{Useful life}) \text{ 5 years}} = \text{Rs } 2,000$$

Depreciation is just not a cost to the profit and loss account but its effect is also seen in the balance sheet as a "holding bay", where the cost of the asset is held until it can be transferred to the profit and loss account.

Reducing Balance Method

In this method, each year rather than having an arithmetically equal share of the cost, bears an equal percentage of the asset's value. In the above example, this could be 40 per cent. The percentage is applied not to the original cost but to the reduced balance after deducting the previous year's depreciation (hence the method's name).

EXHIBIT 9.9 Straight Line Method of Depreciation Adjustment

	Years				
	1	2	3	4	5
Opening balance	10,000	8,000	6,000	4,000	2,000
Less depreciation (shown in P&L a/c)	2,000	2,000	2,000	2,000	2,000
Balance (value in each year's balance sheet)	8,000	6,000	4,000	2,000	—

Which method ought to be adopted will depend on the expected wear and tear pattern of the asset. The two methods described above have different depreciation charges annually; the straight line method has high charges in the earlier years of the asset's life and the reducing balance method has low charges in the later years.

EXHIBIT 9.10 Reducing Balance Method of Depreciation Adjustment

	Years				
	1	2	3	4	5
Opening balance	10,000	6,000	3,600	2,160	1,296
Less depreciation (shown in P&L a/c)	4,000	2,400	1,440	864	518
Balance (value in each year's balance sheet)	6,000	3,600	2,160	1,296	778

Accrual Adjustment

An accrual is an estimate of a bill which the business knows is due at the year-end but for which it has yet to be invoiced. The usual accruals would consist of the telephone account and the electricity account. Interest account can also be an example.

In the working to produce the accounts the following journal entries would be required:

Debit telephones a/c	275
Credit accruals	275

Prepayments Adjustment

Accruals adjustment is required for expenses which, although incurred, have not yet been invoiced. The opposite can also happen; that is, a business could incur expenditure in one year, which is relevant to the subsequent year. For example, a business may have a year-end, 31/3/19xx. If the business paid its annual insurance premium for the year ended 31/3/19xx in March of the current year, the expenditure would have been incurred in 19x9 but would refer to the year 19x0.

The prepayment adjustment is used to apply the matching rule of accounts and, in the above case, removes the cost of the premium from 19x9 and includes it in the cost of 19x0.

If the insurance premium were Rs 350, the appropriate journal entry in the workings to produce the final accounts would be:

Debit prepayments	350
Credit insurance	350

The effect on the final accounts would be to increase the prepayments accounts (a current asset, similar to debtors) and decrease the expense of insurance in the profit and loss account.

Profit and Loss Account

The statement of profit and loss depicts the total income of the company, expenditure incurred in deriving that income, income tax payable to the government, net profit

earned, dividend paid to the shareholders, and profit retained and ploughed back into the company.

Features of profit and loss account

- ◆ Prepared for a given period
- ◆ Comparative position
- ◆ Vertically drawn
- ◆ Grouping of income and expenditure
- ◆ Details in schedules and notes to the accounts
- ◆ Appropriation of profit and transfer of balance to balance sheet
- ◆ Signed by person who prepared it and auditors

The profit and loss account begins with gross profit on the income side. All general administrative expenses relating to establishment are shown as expenses. Income from non-business sources such as rent received from premises or idle machines hired out and so on, are also accounted for.

The expenses side also shows "Reserve for doubtful debts", the quantum of which is determined based on past experience. Self-assessment of income tax is also made according to the income tax Act; the amount payable is shown as "Provision for tax" on the expenses side. If the income side becomes heavier after all these items are listed, the result is a net profit. If the expenses side becomes heavier, the result is a loss. The amount of net profit or loss, as the case may be, shown by the profit and loss account, is then transferred to the balance sheet.

The objective of the profit and loss account is to determine the level of profit or loss earned by a business in an accounting period. It does this by listing all revenue income and then deducting all revenue cost, which have been matched to the accounting period being considered. The first task, then, is to examine the trial balance and identify all revenue items. To facilitate matters at this stage, the following definitions may help.

- ◆ Revenue income would include all income that a business normally expects to earn in an accounting period. For the majority of business, this would normally be restricted to sales, fees earned, and interest received. It would not include sources of cash such as capital introduced, loans raised, grants received, or income from the sale of assets. Such sources are not "normal" or renewable.
- ◆ Revenue costs would include all costs which a business would normally expect to incur every year. They are recurrent costs and the business receives nothing permanent in return. Examples of such costs would be wages, raw materials, power, interest paid, and rent.

Costs, which provide a business something permanent, such as a new vehicle, would be excluded since that would be capital expenditure (or the provision of an asset). The repayment of loans would also be excluded (although money is spent on repaying a loan, there is no real cost incurred in returning to somebody that person's own money).

The format of the profit and loss account is normally divided into two parts. First, there is the trading account (or manufacturing account if the firm is in manufacturing) which identifies the profit made in just buying units and then selling them. The manufacturing account identifies the profit made in making something and then selling it. This difference in either the trading profit or the manufacturing profit is referred to as the firm's gross profit.

The profit and loss account starts with the gross profit and deducts from that all the remaining revenue costs incurred. Although there is a distinction made between the trading account and the profit and loss account, this distinction is normally only seen in the accounts of large organisations. The accounts of smaller businesses normally do not distinguish between the two accounts except by highlighting the gross profit.

Using as an example the trial balance of N. Shah, his profit and loss account can now be drawn up as shown below.

EXHIBIT 9.11 N. Shah Trading and Profit and Loss Account for the Period 1/1/19xx to 6/1/19xx

Sales			
Less:	Cost of sales		Rs 2,853
	Purchase of raw materials		
		Gross profit	
Less:	Expenses		Rs 1,364
	Rent		
	Insurance		Rs 150
	Stationery		Rs 360
	Delivery		Rs 70
	Interest		Rs 16
	Wages		Rs 100
	Travel costs		Rs 240
		Net profit	Rs 25
			Rs 961

How does a profit and loss account look?

The profit and loss account of a concern is usually divided into two sections. The first section is termed the trading and manufacturing account, which is so framed as to show the gross profit.

Gross Profit

It is the difference between the cost of goods that have been sold and the proceeds of their sales, without any deduction for distribution expenses and general establishment charges.

Net Profit

Gross profit less the operating expenses will give the net profit. A company's total revenues less total expenses for a set period is its net profit.

EXHIBIT 9.12 A Typical Form of a Trading and Manufacturing Account

Dr.	Rs	Cr. Rs
To stock at commencement		-----
" Manufactured Goods	-----	-----
" Stock-in-process	-----	-----
" Raw materials	-----	-----
" Purchase of raw materials	-----	-----
Less: returns	-----	
		Stock at end :
		Manufactured goods
		Stock-in process
		Raw materials
" Carriage	-----	
" Wages	-----	
" Motive power	-----	
" Factory rent and taxes	-----	
" Coal and coke	-----	
" Water	-----	
" Oil	-----	
" Belting	-----	
" Sundry manufacturing expenses	-----	
" Repairs to factory building	-----	
" Repairs to plant	-----	
" Depreciation on factory building	-----	
" Depreciation	-----	
" Gross profit (transferred to P&L A/c)	-----	

Trading and manufacturing account helps in ascertaining gross profit and monitoring its increase or decrease from year to year as an effective measure to control business results.

DISCUSSION FORUM

What is depreciation? Outline the mechanics of two methods of depreciation.

Cash Flow Statement

A cash flow statement depicts the cash generated and utilised by a company. This statement completes the set of financial statements. It is to be understood that the cash flow statement is a "derived" statement—derived from the balance sheet and profit and loss account. The cash flow statement is prepared under the indirect

method, unlike the balance sheet and profit and loss account which are "primary" statements as they are constructed directly from the accounting records.

A cash flow statement provides information about the historical changes in cash and cash equivalents of an enterprise by classifying cash flows during the period from operating, investing and financing activities. Cash has been defined as comprising cash on hand and demand deposits with banks; cash equivalents are short-term, highly liquid investments that are readily convertible into known amounts of cash and which are subject to an insignificant risk of change in value. Cash flows refer to inflows and outflows of cash and cash equivalents.

Box 9.1 Features of a Cash Flow Statement

- ◆ Prepared for a given period.
- ◆ Comparative position.
- ◆ Vertically drawn.
- ◆ Cash flows from operating, investing and financing activities.
- ◆ Reconciliation with the opening and closing balances of cash and cash equivalents.
- ◆ Indirect method for cash flows from operating activities.
- ◆ Signed by the person who prepared it and auditors.
- ◆ A derived statement.



Visit www.icai.org for framework of financial statements.

A cash flow statement, when used in conjunction with the other financial statements, provides information that benefits its users in a number of ways as given below.

1. It enables users to evaluate the changes in net assets of an enterprise, its financial structure including its liquidity and solvency, and its ability to affect the amount and timing of cash flows in order to adapt to changing circumstances and opportunities.
2. The information is useful in assessing the ability of an enterprise to generate cash and cash equivalents and enables users to develop models to assess and compare the present value of the future cash flows of different enterprises.
3. It enhances the comparability of the reporting of operating performance by different enterprises because it eliminates the effects of using different accounting treatments for the same transactions.
4. Historical cash flow information is often used as an indicator of the amount, timing, and certainty of future cash flows.
5. It is useful in checking the accuracy of past assessments of future cash flows.
6. It helps in examining the relationship between profitability and net cash flow.

FINANCIAL RATIO ANALYSIS

Ratio analysis is a comprehensive tool of analysis in that it seeks to measure and establish cause and effect relationships between either two items of a balance sheet or of a profit and loss account, or both the balance sheet and the profit and loss account. Ratio analysis is thus a relative and more focused analysis of financial statements. It is of particular significance in the following cases.

SNAPSHOT

The Important financial ratios are:

- ◆ Return on investment (ROI) ratios
- ◆ Solvency ratios
- ◆ Liquidity ratios
- ◆ Turnover ratios
- ◆ Profitability ratios
- ◆ Du Pont analysis
- ◆ Capital Market ratios

- Comparison against industry benchmarks
- Inter-firm comparison because absolute figure comparison will lead to nowhere
- Intra-firm comparison
- Analysis of chronological performance over a long period.

Ratios are classified according to their functions and objectives and are given below:

1. Return on investment (ROI) ratios
2. Solvency ratios
3. Liquidity ratios
4. Turnover ratios
5. Profitability ratios
6. Du Pont analysis
7. Capital market ratios

1. Return on Investment (ROI) Ratios

Maximisation of ROI is the ultimate objective of an enterprise and it is the ultimate measure of the efficiency of performance of a management. It is the expectation of a high return that motivates equity shareholders to continue with the company and new investors to put in their money in the company's equity. Three major ROI ratios are:

- (a) Return on Net Worth (RONW)
- (b) Earnings per Share (EPS)
- (c) Cash Earnings per share (CEPS)

(a) *Return on Net Worth(%):* The ratio measures the net profit earned on the equity shareholders' funds. It is the measure of overall profitability of a company after discharging the cost of borrowed capital and income tax payable to the government.

$$\text{RONW} = (\text{PAT} - \text{Preference dividend}/\text{Equity shareholder's funds or Net worth}) * 100$$

PAT is Profit after Tax

(b) *Earnings per Share(Rs):* The ratio measures the overall profitability in terms of per equity share of capital contributed by the owners.

$\text{EPS} = \frac{\text{PAT} - \text{Preference dividend}}{\text{Weighted average no. of equity shares outstanding}}$

(c) *Cash Earnings per Share (Rs)*: The ratio measures the overall cash profitability in terms of per equity share of capital contributed by the owners. It is a refinement of EPS in that it takes into account the cash earning, and not accrual based earnings.

$\text{CEPS} = \frac{\text{PAT} - \text{Preference dividend} + \text{Non-cash charges}}{\text{Weighted average no. of equity shares}}$

2. Solvency Ratios

The capacity of an enterprise to discharge its obligations towards long-term lenders indicates its financial strength and ensures its long-term survival. It is important to analyse the capacity of an enterprise to raise further capital borrowings. These are particularly useful for financial institutions, banks, and other lenders to assess the creditworthiness of a company and the attendant financial default risk. The various solvency ratios are:

- a. Net Asset Value (NAV)
- b. Debt Equity – D/E
- c. Interest Cover
- d. Debt-Service Coverage Ratio (DSCR)

(a) *Net Asset Value (Rs)*: The ratio measures the net worth or net asset value per equity share. It thus seeks to assess to what extent the value of equity share of a company contributed at par or at a premium has grown or the value/wealth that has been created for the shareholders.

$\text{NAV} = \text{Equity shareholders' funds} / \text{No. of equity shares}$

(b) *Debt Equity (Times)*: The ratio measures the proportion of debt and capital.

$\text{Debt Equity Ratio} = \text{Long-term debt} / \text{Total net worth}$ (Equity shareholders' funds + Preference capital)

(c) *Interest Cover (Times)*: The ratio measures the capacity of a company to pay the interest liability it has incurred on its long-term borrowings out of its cash profits.

$\text{Interest Cover} = \text{PAT interest on long-term debt} + \text{Non-cash charges} / \text{Interest on long-term debt}$

(d) *DSCR (Times)*: The ratio measures the capacity of a company to pay the instalments of the principal due and the interest liability it has incurred on its long-term borrowings out of its cash profits.

$\text{DSCR (Times)} = \text{PAT} + \text{Interest on long-term debt} + \text{Non-cash charges} / \text{Interest on long-term debt} + \text{Instalments of principal due}$

3. Liquidity Ratios

The capacity of an enterprise to discharge its suppliers and service providers and to meet its day-to-day expenses indicates its liquidity and ensures smooth continuity of operations, which in turn has a strong bearing on the long-term survival of the

company. These are particularly useful for the suppliers, employees, providers of services, and lenders to assess the short-term financial default risk attached to a company. The five major ratios here are:

(a) *Current Ratio (Times):*

Current assets, loans and advances + Short-term investments/Current liabilities + Provisions + Short-term debt

(b) *Quick Ratio (Times):*

Current assets, Loans advances – Inventory + Short-term investments/Current liabilities + Provisions + Short-term debt net working capital limits

(c) *Collection Period to Customers (Days):*

Receivables*365/Credit sales

(d) *Suppliers' Credit (Days):*

Payables*365/Credit purchases

(e) *Inventory-holding Period:*

Inventory*365/Cost of goods sold

4. Turnover Ratios

The efficiency with which the assets and resources of a company are utilised in generating operational revenue has a direct bearing on the top line. It is, therefore, important to study the turnover ratios. The four major ratios are:

(a) *Fixed Assets Turnover Ratio (Times):*

Net sales/Net block of fixed assets

(b) *Net Worth Turnover ratio (Times):*

Net sales/Net worth

(c) *Debtors Turnover Ratio (Times)*

(d) *Inventory Turnover Ratio (Times)*

These two ratios have been discussed under the group of liquidity ratios in a different manner.

5. Profitability Ratios

These ratios analyse the profitability of a enterprise at different steps, or at intermediate levels of business activities. The major profit margin ratios are:

(a) *Multi-step Profit Margins to Sales Ratio:* These are GP, PBDIT, OP, PBTEOT, PBT, PAT

For example, $GP\% = GP * 100 / \text{Net sales}$

(b) *Ratios of Individual Costs and Expenses to Sales (%):*

Raw materials consumed (%) = Raw materials * 100 / Net sales

(c) *Ratios of Other Income, Extraordinary Items and Prior Year Adjustments to PBT and/or Net Sales (%):*

Other income to PBT (%) = Other income * 100 / PBT

- (d) *Effective Tax Rate (%)*:
Current income tax* 100/PBT

6. Du Pont Analysis

Du Pont analysis seeks to measure the relationship between net profit margin and net worth turnover, which is the ultimate overall profitability ratio.

$$\frac{\text{Net Profit}}{\text{Total Assets}} = \frac{\text{Net Profit}}{\text{Net Sales}} \times \frac{\text{Net Sales}}{\text{Total Assets}}$$

7. Capital Market Ratios

The capital market has become a major source of capital, both equity as well as bonds or debentures for the industry. It is necessary for the entrepreneur to have the knowledge of these ratios. The major ratios are:



Visit www.venturline.com for financial ratio analysis.

- a. EPS
 - b. Price earning ratio—P/E (Times) = Market price of the equity share/EPS
 - c. NAV
 - d. Market price to NAV (Times) = Market price of the equity share/NAV
 - e. Market capitalisation (Rs) = No. of Equity shares O/S * Market price
 - f. Yield to investors (%)
(Dividend received + Market appreciation) * 100/Initial investment
- Note: EPS and NAV have already been discussed under ROI ratios.

DISCUSSION FORUM



- ◆ Outline the importance of ratio analysis.
- ◆ What are the core ratios?

SUMMARY

- ◆ Financial management involves two types of functions:
Managerial Finance Function
Routine Finance Functions
- ◆ A simple method of estimating the working capital is based on the "average manufacturing cycle". The cost formulas used for the valuation of stock are
(a) FIFO, (b) LIFO, and (c) WAC.
- ◆ Some of the important financial ratios used for managing working capital are:
(a) Debtor's turnover ratio, (b) Creditor's velocity ratio, (c) Stock turnover ratio, (d) Current ratio, and (e) Stock-working Capital ratio.
- ◆ The various stages in accounting process are: documentation, recording, classifying, summarising, and bifurcation.

- ◆ The important books to be maintained by an SSI are: purchase book, sales book, cash book, journal, and ledger.
- ◆ The components of a financial statement are:
 - (1) Balance sheet;
 - (2) Profit and Loss account or income statement; and
 - (3) Cash flow statement.

The important financial ratios are: Return on investment (ROI) ratios, Solvency ratios, Liquidity ratios, Turnover ratios, Profitability ratios, Du Pont analysis, and Capital market ratios.

KEY WORDS

- | | | |
|------------------------|--------------------|-------------------------------------|
| ◆ Accounting procedure | ◆ Fixed asset | ◆ Cash book |
| ◆ Annual report | ◆ Financial ratios | ◆ Journal |
| ◆ Assets | ◆ ICAI | ◆ Ledger |
| ◆ Auditor | ◆ Inventory | ◆ Return on investment (ROI) ratios |
| ◆ Balance sheet | ◆ Liabilities | ◆ Solvency ratios |
| ◆ Capital | ◆ Liquidity | ◆ Liquidity ratios |
| ◆ Cash flow statement | ◆ Net profit | ◆ Turnover ratios |
| ◆ Credit | ◆ FIFO | ◆ Profitability ratios |
| ◆ Current Asset | ◆ LIFO | ◆ Du Pont analysis |
| ◆ Debit | ◆ WAC | ◆ Capital market ratios |
| ◆ Equity | ◆ Purchase book | ◆ Working capital management |
| ◆ Financial statements | ◆ Sales book | |

EXERCISES

Activity 1: Divide the class into small group of four to six students. Collect the annual report of a local SSI. Study the annual report and examine the financial statements of the enterprise and prepare a 20-minute Power Point presentation on financial management in a small business and present in the class. Request your professor to lend his supervision for this exercise.

Problem 1: A proforma cost sheet of a company provides the following particulars.

S. No.	Elements of Cost	Amount per Unit
1	Raw material	80
2	Direct labour	30
3	Overheads	60
4	Total cost	170
5	Profit	30
6	Selling price	200

The following further particulars are available.

- Raw materials are in stock for one month
- Credit allowed by suppliers is one month
- Credit allowed to customers is two months
- Lag in payment of wages a week and a half
- Lag in payment of overheads is one month
- Materials are in process for an average of half month
- Finished goods are in stock for an average of one month
- $\frac{1}{4}$ of output is sold against cash

Cash in hand and at bank is expected to be Rs 25,000. Prepare a statement showing the working capital needed to finance a level of activity of 1,04,000 units of product.

You may assume that production is carried on evenly throughout the year. Wages and overheads accrue similarly and a period of four weeks is equivalent to a month.



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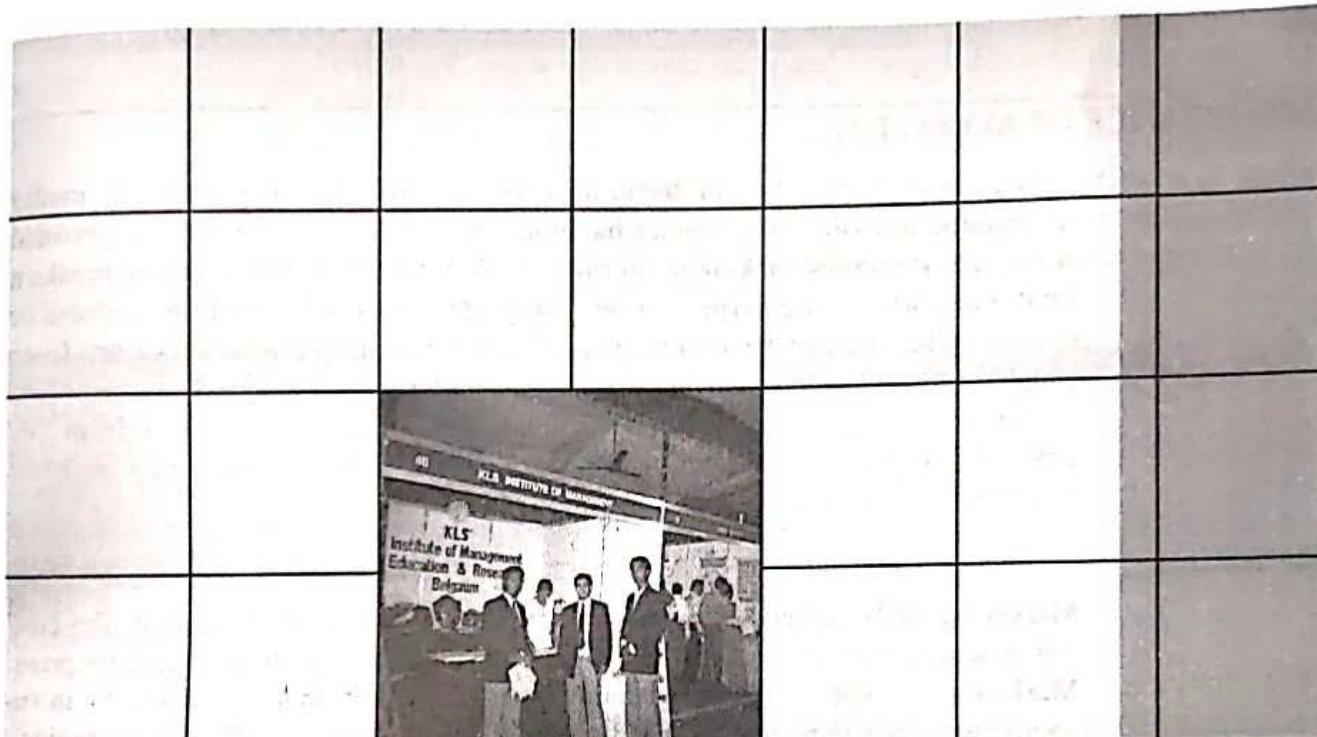
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Marketing Management in Small Business



Entrepreneurs from Tamil Nadu, participating in a trade exhibition. These entrepreneurs are marketing their products/services in the exhibition.

"The Customer is the most important person in our organization. He is not dependent on us. We are dependent on him ... He is doing a favour by giving us an opportunity to do so."

—Mahatma Gandhi

Learning Objectives

- To understand the importance of marketing in SSI
- To identify the common marketing problems faced by SSI
- To identify the marketing process of SSI
- To understand the significance of service marketing
- To identify the prevailing export environment and procedures, formalities, and documentation required for exports

IMPORTANCE OF MARKETING

A large-scale business can have its own formal marketing network, media campaigns, and sales force, but a small unit may have to depend totally on personal efforts and resources, making it informal and flexible. Marketing makes or breaks a small enterprise. An enterprise grows, stagnates, or perishes with the success or failure, as the case may be, of marketing. "Nirma" is a marketing success story. Even a highly efficient production unit may be rendered useless if the product cannot find a market. Though financial and technical assistance are available from the government and through other agencies, a faulty marketing strategy may generate problems of repayment of loans.

Definition

Marketing can be defined as a process which identifies, anticipates, and satisfies customer needs efficiently and profitably in keeping with the objectives of the enterprise. Marketing is a specialised and dynamic area. It requires appropriate actions in response to market demands by developing suitable products and effective strategies.

Common Marketing Problems Faced by Small-scale Industries

1. **Lack of brand image:** Consumers may be guided by brand image. Large-scale units formulate their strategy and create and monitor the market with the help of media. In such an environment, small-scale units with limited propaganda and advertising will find it difficult to penetrate the market.
2. **Lack of sales force:** Small units cannot afford to maintain a well-oiled sales force manned by efficient personnel.
3. **Product quality:** Small-scale units in the initial stages have a serious limitation of product quality. It is costly and difficult for a small unit to have quality testing and evaluating equipment. With the result that, competition will have to be in terms of product prices rather than quality. The stipulation of minimum wages on the one hand and low labour productivity on the other makes it difficult for small units to compete in terms of prices. They may, therefore, be compelled to reduce the profit margin or use low-priced inputs or zero wage family labour.

4. **Credit sales:** The small-scale sector is invariably called upon to sell on credit. However, when it comes to purchasing inputs, they are denied liberal credit facilities. With the result that small units often have to borrow excessive working capital than what is legitimately needed. The effective interest cost increases the general cost of production and prices, making it noncompetitive. The small enterprise in a way faces a buyer's market while marketing its products and a seller's market while buying raw materials.
5. **Low prices:** Price determination in the small business is generally non-institutional. The prices quoted by large enterprise are accepted together with pre-determined terms of sale. In case of small enterprises, the prices are "bargained" on a one-to-one basis and brought down to the lowest level possible.
6. **Local and limited market:** Small enterprises generally cater to the needs of the local and limited market due to prohibitive cost of creating a wider distribution network. This is a blessing as well as a curse for the enterprise. The addition of transport cost will make the product noncompetitive in upcountry markets.

SNAPSHOT

- ◆ Marketing makes or breaks a small enterprise.
- ◆ Marketing can be defined as a process which identifies, anticipates, and satisfies customer needs efficiently and profitably in keeping with the objectives of the enterprise.
- ◆ **Common marketing problems faced by small-scale industries are:** lack of brand image, lack of sales force, product quality, credit sales, low prices, and local and limited market.

Marketing Process

The enterprise exists for marketing its products. As such, marketing is interrelated with all other stages in their respective sequences. A simple marketing system is shown in Figure 10.1. The process comprise the following stages.

Visit www.smenetwork.net to learn about marketing strategy in small business.

1. **Identification of opportunity:** Identification of a product or service which holds ample potential for commercial exploitation.
2. **Market survey:** The purpose of a survey is to verify whether the entre-preneur's perception of the product or service corresponds with that of the customer's. It leads to the identification of prospective customers, their extent, and dispersion in the area. It will further indicate whether any modification of the idea is called for.

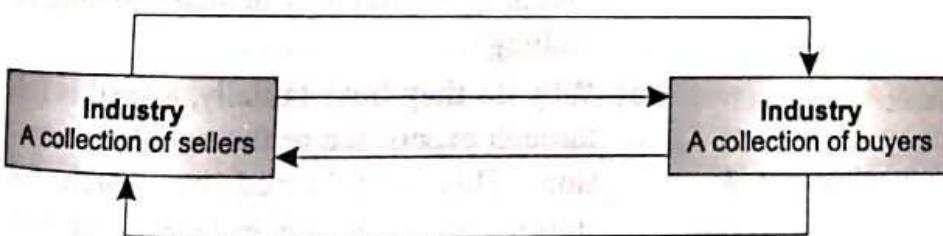


Figure 10.1 ■ A Simple Marketing System

3. **Choosing the target market:** Choose the market with full awareness of its strong and weak points.
4. **Designing marketing strategies:** Suitable strategy has to be devised to enter the market and to gradually build up and sustain the product.
5. **Implementation of marketing programmes:** Proper planning is required for effective implementation of marketing programmes. A time frame has to be chalked out for specific activities in their order of sequence and put into practice with concerted effort.

DISCUSSION FORUM



- ◆ Discuss in small groups the importance of marketing management in small business.
- ◆ Explain the common marketing problems faced by small-scale industries.

CUSTOMER RELATIONSHIP MANAGEMENT (CRM)

A realistic understanding of customer behaviour makes marketing easier. Customer complaint is not personal. It is regarding a product or service or the process system involved in making products or planning services. CRM focuses on meeting the individual needs of customers. The skill requires building a customer database and doing data mining to detect trends, segments, and individual needs.

- (i) **Who buys:** Knowledge of market size and nature will help plan the marketing activities for better results. A rough estimate of the following will suffice in many respects.

- ◆ Number of customers
- ◆ At what rate will they purchase?
- ◆ Where are they located?
- ◆ What are their special characteristics, including cultural, social, economic and lifestyle pattern?

- (ii) **When do they buy:** The pattern of demand for all goods is not the same throughout. Information about variation of demand with time, if any, will help

make the products available when they are in demand. The following questions may be addressed.

- ◆ Is the demand seasonal?
- ◆ What is the trend of demand—rising or falling?

- (iii) **Why do they buy:** Initially, a need is felt through experience or through demonstration. This is followed by search for information as one comes face to face with many alternative solutions. An evaluation is

SNAPSHOT

- ◆ CRM focuses on meeting the individual needs of customers. The skill requires building a customer database and doing data mining to detect trends, segments, and individual needs.
- ◆ The business, as a whole, engages in different marketing activities. The combination of all such activities is called a "marketing mix". Though there are many elements in a marketing mix, a popular classification consists of "4 Ps"—**product, promotion, price, and place.**

made on the basis of the product's function, appearance, cost, and so on and then a final decision on purchase is made.

Past purchase experience, if satisfactory, leads to repeat purchases. And without being asked or paid for, the consumer recommends it to others as well. This information is important as feedback to judge the impact of the product in the market in true perspective.

Box 10.1 Customer Satisfaction Index (CSI)

CSI is generally calculated based on market research. It is known that, a satisfied customer will influence five more persons to buy the product/service. Whereas a dissatisfied customer will express his emotions to eleven persons. In case of 2 percent customer complaints, the CSI is calculated as

$$\text{CSI} = \frac{98 * 5 - 2 * 11}{5} = 93.6\%$$

Market Segmentation

Demand for an item, in terms of quality, size, price, performance, and so on may not be uniform throughout the market it may be segmented. For example, some people will opt for a simple agitator type of washing machine, others semi-automatic, still others for an automatic version.

Customer preferences may be due to differences in economic, demographic, and psychological factors. While selecting a target market this point should be kept in mind—whether to cater to a single segment, or all the segments, depending on the capacity of production and managerial ability to control.

The present Indian scenario is so diverse and full of contrasts and contradictions that you can sell almost anything. It is estimated that 30 crore Indians have enough disposable income to buy the ever-multiplying range of consumer goods. And the number is steadily on the rise. It is not that the rest of the population is lagging far behind. Consumerism is infecting them also. The scenario presents a vast spectrum of paradoxes—at one end are the poor and illiterate with limited needs and at the other end are luxury goods in all their variety and abundance.

At one extreme there are highly knowledgeable and discerning customers, and at the other are the ignorant. On the one hand, the most sophisticated baiting techniques are employed to hook customers, while on the other, primitive modes of marketing still persist. Choose judiciously.

Of course, one should take note that due to proliferation of communication this distinction is fast dissolving. Some time back, the price of an LG compressor, a top class brand, was about Rs 5,000 and the second best brand, Khosahla, was Rs 3,000, while an unknown brand of the same capacity was available for only Rs 300.

Similarly, take the case of any other item, say cosmetics—powder, nail polish, lotion, and so on—available in posh air-conditioned beauty parlours or classy shopping arcades in big cities as well as in remote village roadside shops filled with dust and fleas. The brands are different. It is also true that better brands are making

inroads in these areas also. The Reynolds refill, costing many times more than its cheaper cousins, is being sold in the same market. There are innumerable such examples.

Such paradoxical coexistence is likely to endure for a long time to come. This kind of situation offers unlimited flexibility in the choice of products. Make it your business to take full advantage of the situation.

Market Research

Market research, which you have earlier carried out while selecting a product and its market, does not end there. It should be a continuous process—always collecting information from all sources—evaluating your position in the market and modifying strategy, if necessary.

It need not be a full-scale research project for smaller firms. Simple observation may be useful to gauge market reaction. The choice between methods and scale of research activity will depend on two factors. First, the depth and accuracy of the information required, and second, the budget available. Both factors may be lacking in smaller firms.

For a majority of smaller firms, keeping their eyes and ears open to what is happening in the market, especially whatever affects their business and readiness to take adaptive course of action, will suffice. However, one can take note of the trend indicated by secondary information. In any case, it is required to remain very alert and alive to the market situation.

Marketing Mix

Business, as a whole, engages in different marketing activities. The combination of all such activities is called a "marketing mix". Though there are many elements, a popular classification consists of the "4 Ps"—*product, promotion, price, and place*.

Product

This is the core element of the marketing mix. The rest is built around it. It includes everything a customer gets—design, quality, packaging, and guarantee and after-sales service.

There is no ideal or appropriate mix. It all depends on the requirement of the target market. Different market segments require different grades of quality and sophistication. Careful attention should be given to the tangible and intangible elements of the product to create an overall impact in the market.

Promotion

It is a means by which a business creates an awareness for its product among customers. Information on the product is a prerequisite for making a purchase. Success or failure of a venture depends mainly on the effectiveness of promotional efforts made for marketing the product. A cursory glance at the arena—what the big and small players are doing—will be quite enlightening.

- (a) High-tech and high-budget advertisement: Through electronic media (radio and TV) the entire arsenal in the psychological armoury is deployed to outdo the competitors' advantages.

- (b) Advertising through print media: Newspapers, journals, periodicals, and so on. Eye-catching advertisements loaded with carefully chosen words create a longing for the goods.
- (c) Sponsorship of regional, national, and international events provide good scope for advertisements.
- (d) Display of posters, placards, and hoardings during national and international sports and other events.
- (e) Participation in exhibitions and fairs—local, regional, national, and international—which ever is available and affordable.
- (f) Putting up attractive hoardings and billboards at strategic locations on highways and roads.
- (g) Pasting posters and leaflets.
- (h) Distribution of leaflets through newspaper vendors. Distribution at public places, and in trains and buses. Dropping these into personal letterboxes.
- (i) Direct mailing to prospective customers. Addresses of prospective customers should be resourcefully and tactfully collected from various sources.
- (j) Personal contacts through dealers and old customers.
- (k) Door-to-door sales. Earlier, it was almost non-existent. Now it is on the increase.
- (l) By offering small gift packs with the message or a product sample with other fast-selling goods.
- (m) By offering inaugural or fixed-duration discounts.
- (n) Announcing a hire-purchase scheme, and so on.

Modern advertisements aim beyond merely creating awareness. They actively motivate customers to buy. Thirty seconds advertisements during TV serials are presented to leave a lingering impression in the minds of the viewers. Often, visuals are addressed to children, who are easily influenced and who compel their parents to purchase.

Database marketing is also making inroads into the country. All information—likes, dislikes and other predictions—about prospective customers are collected and processed in a computer. Based on this information, a prediction is made about when the customer is likely to feel the need for a particular product.

Advertising is a highly specialised area and highly creative people run the business. To requisition their services will make you substantially poorer. Depending on your capacity and necessity, select the medium you can afford and use it with profit. In any case, advertise you must, otherwise nobody will come to know about your product.

Price

Pricing comprises basic price, discount, and credit policy. What should be the price on cash and on credit? Prices should be decided in the light of production costs, demand, and competition. Pricing policy is related to different

qualities, and again, to different market segments. One manufacturer may be able to supply a high-quality product at a certain price while another in the same industry offers a cheaper product at a lower price to another market segment.

A good example of this policy would be Nirma. When it was being launched, Surf was the dominant brand in the market targeting the high price segment. Nirma targeted its detergent at a section of people that was hesitant to use any brand of washing powder because of its prohibitive price. Most people in this segment used cakes of washing soap. To them, washing powder was used only by the affluent. But when Nirma offered them a quality detergent at an affordable price, many of them made the switch. Not only that, some consumers of Surf switched over to Nirma as well.

Costing and Pricing in SSI Units

The cost of a product has two components. One is the fixed cost which does not vary with the change in production level. The other is the variable cost which varies according to variation in the level of production. Details of these two costs are given below.

Fixed cost

1. Factory rent
2. Salary of staff
3. Interest on loan
4. Depreciation charge on machinery
5. Taxes and interest rates
6. Water and power charges
7. Miscellaneous fixed expenses

The difference between the selling price of a product and its variable cost is known as contribution. Any SSI unit should have total contribution from operations, equal to the fixed cost incurred by it to enable it to reach the break-even point—the point of no loss or profits. Any sales below the break-even point will result in a loss for the unit while production/sales above the break-even point will mean profits.

A rudimentary idea of costing can be had by referring to what is known as the cost ladder.

Cost Ladder

Direct material cost + direct labour cost	= Principal cost
Principal cost + overheads	= Factory cost
Factory cost + selling expenses	= Ex-factory cost
Ex-factory cost + profit	= Selling price
Selling price + discount	= Market price

The major variables are material and labour costs and overheads. Direct material cost will vary according to the prevailing market condition. Direct labour cost will vary according to the skill, efficiency, or productivity of labour. It can be controlled

by employing skilled, experienced, quality-conscious, and productive labour and by better supervision and management. Use of the latest technology and machinery will also have a direct bearing on productivity.

Overheads should be kept low, especially in the initial stages, by keeping the managerial and administrative staff to the minimum without affecting the overall operation of the firm. Selling expenses also should be kept within reasonable limits. When the eminent NRI industrialist, Swaraj Paul, decided to set up a steel plant in the UK, many of his friends advised him against the decision on grounds that he would not be able to compete in the market due to high labour costs. However, Swaraj Paul did not heed the advice and made a success of his venture. He made it possible not by paying lower wages to the labour but by improving efficiency and productivity.

The per unit profit margin has a bearing on the volume of sales. With high volume of sales, the profit margin can be kept low. An attractive discount package to dealers and retailers will motivate them to boost sales. A practical pricing policy should be framed by keeping in mind all the factors mentioned above.

EXHIBIT 10.1 Profit and Loss Account of a SSI Unit Manufacturing Steel Glasses

	<i>Expenses</i>	<i>Income</i>
1.	Variable Sales	Rs 3,1,2000
2.	Raw materials @ Rs 13/- per glass. S.S. sheets 13.20 quintals for 24000 glasses in a year @ Rs 16000/- per quintal	Rs 2,11,200
3.	Fixed	
4.	Factory rent	Rs 18,000
5.	Wages	Rs 24,000
6.	Interest on loan	Rs 6,000
7.	Electricity	Rs 18,000
8.	Depreciation	Rs 9,000
9.	Miscellaneous fixed expenses	Rs 6,000
10.	Total fixed expenses	Rs 81,000
11.	Net profit	Rs 19,800
		Rs 31,2000

We may draw the following conclusions from a study of the above account.

(i)	Selling price per glass	Rs 13
(ii)	Raw material cost/glass	Rs 8.80
(iii)	Contribution per glass	Rs 4.20
(iv)	Fixed expenses	Rs 81,000
(v)	No. of glasses to be sold to recover fixed expenses	Rs 19,286
(vi)	Minimum monthly sales to recover entire fixed cost or break-even sales	1,608 glasses/month

Thus, the following inferences can be drawn from the above analysis.

1. The SSI unit can produce 2,000 glasses/month.
2. The unit has to sell a minimum of 1,608 glasses per month to start achieving profits. There will be losses below this level and there will be profits above this level.
3. To increase profit volume, either the selling price has to be increased or raw material cost has to be reduced. In other words, profit volume is directly proportional to the contribution achieved by the SSI unit.
4. At present the net profit to sales ratio is 6.35 per cent. With a view to increasing the profitability of the industry, the entrepreneur has to increase production level from the existing 2,000 glasses/month to a higher level.

Place

This is to make the product available to the target market. It includes physical movement of the product and the type of distribution channels or dealership to be employed.

Big firms have their zonal or regional authorised agents or dealers spread over the entire country. The dealers, in turn, work with sub-agents or distributors and retailers, or directly with the customers, depending on the type of the goods—consumer, industrial, or pharmaceutical. Travelling salesmen book orders from retailers and the consignment follows from the dealers or directly from the manufacturers.

Though they cannot afford to have zonal offices, small firms too are devising their own ways of doing business. They also receive regular orders for goods. Entry may seem to be difficult. Employ ingenuity.

Interestingly, it has been observed that many authorised dealers of known brands also stock other unknown or new brands of goods. They also insist on the customer buying the lesser-known brand. The secret is a higher margin of profit. The small entrepreneur must be ready to sacrifice a portion of his/her profit in a bid to enter the market. It need not necessarily be a great sacrifice. With fewer overheads and low labour costs coupled with better planning and management, a small unit may be able to reap good profits.

This does not mean that small-scale industries are better managed. That is generally not the case. There is scope for economising at various stages and optimising the use of man and machine without sacrificing quality and productivity. Adequate attention needs to be paid to this aspect, which has been neglected by small-scale entrepreneurs due to ignorance. This drawback can be remedied by equipping small-scale entrepreneurs with the necessary information through short-term courses in the required area under EDPs organised by various institutions and agencies.

Offer better incentives than others' agents. Tackle the local retailers exactly in the same way—gradually expanding the radius of operation. At present, due to stiff competition, retailers, in most cases, get everything at the point of sale. Small-scale mints must adopt the same practice.

Employ salespersons on terms and conditions suitable to the unit. It can be on a fixed monthly salary. The person must report daily progress and discuss the strategy for the next day. The salesperson may be given extra commission in addition to the



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monthly salary if he or she exceeds a certain quota. Nowadays, there is no dearth of young persons looking for such an opportunity.

The Canteen Stores Department (CSD) of the defence services is a big customer of consumer durables and non-durables. It has many branches all over the country and many more are being opened in places where this facility was not available earlier.

Shopping by television is also set for expansion in this country.

Quality, packaging, and price will be the deciding factors in case of consumer goods. Add performance, durability, and versatility for consumer durables. The entrepreneur's own promotional skill is never to be ruled out. The entrepreneur can evolve a personal strategy for marketing. It is very important for the survival of a small-scale unit. You may seek help from NSIC or any other government agency.

DISCUSSION FORUM



- ◆ What is CRM? Discuss the tools used in CRM.
- ◆ Explain the concept of marketing mix.

MARKETING OF SERVICES

India's Growing Services Sector

In line with the global trend, the services sector in India is growing rapidly. During 2004, the share of services in the country's GDP was 54.2 per cent, up from the 51.5 per cent recorded during 2003. And all indications are that this growth will get accelerated not only because of burgeoning of services within India, but also because of their increasing export.

India's high capabilities in Information Technology, and its booming IT software exports which now account for 2 per cent of the GDP are well known. In addition, there is the most popular segment of its services sector, the entertainment industry, particularly films and TV, which happen to be among the fastest growing in the world. Indian films are popular across West Asia, Afghanistan, Central Asia, Russia, South Africa, and South East Asia. They are now penetrating the Western world, thanks both to the uniqueness of the entertainment offered by them, which transcends cultural barriers, and also the Indian global diaspora.

Even though the service sector is more than twice the size of the manufacturing sector in most highly industrialised economies, both the study and the practice of marketing have focused on manufacturing industries much more than on the services sector. The growing competitive market for services means that a marketing orientation has become essential for the competitive survival for service industries too.

Differences between Goods and Services Marketing

Although there are some tools, concepts, and strategies that can be generalised to all marketing situations, it is important to understand that marketing management tasks in the services sector differ from those in the manufacturing sector in several respects. However, it should be recognised that each of the distinguishing characteristics discussed here is only a generalisation and does not apply equally to all types of services.

Intangible nature of the service product: While goods are tangible, services are intangible. A manufactured good can be wrapped up and taken home, becoming the property of the purchaser. It is different in the case of services, for example, motor repairing, supplying information, offering an insurance policy, maintenance and rental services, catering, running a creche, beauty parlour, laundry, hair cutting saloon, school, or hospital, and so on

More contacts between customers and service personnel: Few consumer goods involve contact between customers and the manufacturer's employees. Customer-contact tasks are usually delegated to independent retail intermediaries such as stores, dealerships, and approved service suppliers (all of which are, of course, service business). There is more contact in the case of industrial goods, since these are often sold directly rather than through intermediaries.

In contrast, almost all services entail direct contact with the service supplier, usually in person or else by mail or telephone. Frequently the demeanour and behaviour of service personnel play an important role in determining whether or not customers are satisfied.

Customer involvement in production: Service operations can be divided into "front office" and "back office" components; customers are exposed to the former, not to the latter. In high contact services that are delivered directly to the customer—such as passenger transportation, health care, and restaurants—the front office represents a relatively large proportion of the total service operation.

Interactions among marketing, operations, and human resources: A distinction needs to be made between the marketing function and the marketing department in a service firm. The former embraces all activities experienced by customers. The department, by contrast, is simply an organisational unit that is responsible for some (but not necessarily all) of the marketing activities performed by the firm.

Problems in controlling product quality and consistency: Since many services are consumed as they are produced, the final "assembly" and delivery of product elements must take place under real-time conditions. Mistakes and shoddy work in the front office are likely to be noticed by the customer before they can be caught and corrected by a quality-control inspector. In contrast, there is a better chance of catching such problems in the back office or in a manufacturing plant.

Absence of inventories: Since a service is a deed or performance rather than a tangible item that the purchaser gets to keep, it cannot be inventoried. Unused capacity in a service business is like having a running tap in a sink with no stopper. The flow is wasted unless customers are present to receive it. And when demand exceeds

SNAPSHOT**Differences between Goods and Services****GOODS**

- ◆ Tangible
- ◆ Standardised
- ◆ Production separate from consumption
- ◆ Non-perishable

SERVICES

- ◆ Intangible
- ◆ Heterogeneous
- ◆ Simultaneous production and consumption
- ◆ Perishable



Refer Zeithaml V. A. and M. Bitner (2000). *Services Marketing*. 2nd ed. New Delhi: Tata McGraw-Hill.

capacity, customers are likely to be sent away disappointed, since no inventory is available for backup. Finding ways of smoothing demand levels to match available capacity is thus a key task for marketers in capacity-constrained service firms that face significant variations in demand. Examples include transportation, lodging, and repair shops.

Importance of the time factor: Although convenience of location is often stressed as a key success factor for many services, convenience of scheduling is often just as important. The service must be available when the customers want it as well as where they want it—an important rationale for extending the working hours in many service businesses. A second aspect of timing concerns the

duration of service delivery from initial request to final conclusion of the service transaction.

Structure of distribution channels: Unlike goods, which require physical distribution channels for moving goods from factory to customers, many service businesses either use electronic channels or combine the service factory retail outlet and consumption point into one.

However, a distinction should be drawn between service execution and concept design. As a result of the high capital cost of achieving broad distribution of services to numerous "factories in the field", there is a growing trend for developers of a service concept to contract out execution of that concept to individual entrepreneurs working as franchisees.

Key Success Factors in Services Marketing

What does it take to succeed in marketing? Each situation, of course, has its own specific requirements. However, there are a number of key factors that tend to characterise successful service businesses, as discussed below.

Clearly articulated positioning strategy: Once a service firm has selected a positioning strategy, it must articulate this clearly to both prospective customers and its own employees.

Clarifying the elements of the product package: As concluded by a study, service is redefined as all actions and reactions that customers perceive they have purchased. The product package can usually be divided into the core service offered by the firm, such as transportation of goods between two points, and various supplementary services provided to customers, such as acceptance of orders, billing and documentation, problem solving, and other service extras.

Emphasis on quality: Developing a quality service begins with determining the customer's needs (which may vary on a segment-by-segment basis). These needs must be transformed into service specifications, and actual execution of service

procedures must then conform to specifications. It is important that the firm (say a consulting company) communicates clearly to customers what level of service they should expect and adhere to this level, for customer satisfaction tends to reflect the difference between expectations and reality. Failure to meet expectations is almost sure to result in disappointment.

Customer retention: Few service firms rely on one-time sales for the bulk of their business. Getting repeat business is often more important to financial success than winning new customers—not least because obtaining a repeat sale from an existing customer usually involves only a fraction of the effort entailed in acquiring a new customer.

Collecting and using customer data: Most service firms collect extensive data on their customers for operations and accounting purposes (consider how much a hotel learns about each guest, or how much data a bank collects on a customer's background and use of the bank's services). These databases are potentially marketing goldmines.

Close relations among marketing, operations, and human resources: In the services business, operation is the pivotal function. It not only creates the product but is also responsible for its delivery.

Soliciting feedback from customers and employees: Feedback from customers helps the firm determine whether or not it is doing a good job. It may also provide insight into ways of improving the quality of service and even ideas for new services not currently offered.

Top management commitment: Without the support of the Chief Executive Officer and other members of the top management team, it is almost impossible for a service organisation to achieve and maintain a strong marketing orientation.

In many successful service firms, top executives practise what has been called “management by walking around”, spending time at service delivery locations in an effort to stay close to both their employees and their customers.

DISCUSSION FORUM



- ◆ Discuss the difference between goods marketing and services marketing.
- ◆ Explain the key success factors in services marketing.

EXPORT MARKETING

The liberalisation policy of the government since July 1991 has created a most congenial atmosphere for exports. Both exports and imports are almost free from being subject to negative lists. Many items, therefore, can be exported without a licence.

The export industry is another sector which holds great promise for any type of enterprising entrepreneur. During 2001–02, the registered SSI sector accounted for 87% of the total exports with only 14.5% of the exporting units. It is one of the direct and tangible outcomes of the liberalisation policy. However, India's global market share continued to remain low. There is a need for stepping up export activity for obtaining an equitable share in the global market. During 2004–2005, a great shift in the composition and diversity of destinations of export goods is visible, reflecting growth of industrialisation and globalisation in the country. Increase in the value of exports from SSI is given in Table 10.1.

TABLE 10.1 Value of Exports from SSI

Year	Total Exports	SSI Exports	% of SSI of Total
1980–81	6,711	1643	24.5
1990–91	44,042	17785	30.0
1996–97	1,17,525	39,250	33.4
1999–2000	1,59,561.00	54,200.00	33.9

Source: Development Commissioner SSI

Under the liberalised conditions of expanding opportunities, SSI's contribution to this sector may be of enormous significance. Prior to the rush of foreign inflows, export business was the main source of earning the much-needed foreign exchange for the country. Today, the scenario, as far as forex reserves are concerned, is different, but export continues to be a desired objective. That is why the government is eager to give more and more incentives to the export sector.

An entrepreneur in the export business needs to know the export environment and procedures of not only India but also of the country or countries to which the firm's products or services have to be exported. The entrepreneur should possess knowledge of not merely the needs and wants of people of that country, but also their culture and customs.

Foreign Trade (Development and Regulation) Act, 1992

The act defines export as taking out of India any goods by land, sea or air. This definition does not specify the form of goods. Hence, it includes re-export of imported goods in any form or condition.

Foreign Exchange for Export Promotion

An Act to provide for the development and regulation of foreign trade by facilitating imports into, and augmenting exports from India and for matters connected therewith or incidental thereto. The foreign exchange rules for export promotion have been totally liberalised. Exchange is now available for business visits, participating in fairs and exhibitions, remittances, purchase of documents, and so on. All exporters other than export houses, are allowed to open an office overseas or have a representative abroad, the condition being that this would lead to the earning of additional foreign exchange.

Foreign Industrial and Technology Agreement

The Reserve Bank of India is now empowered to grant approval for foreign investments upto 51per cent of foreign equity in high priority industries and trading companies primarily engaged in export activities. The RBI will also automatically approve foreign technology agreement involving payment upto Rs 1 crore.

Basically, exporters may be placed in two categories:

- (i) Manufacturer-exporters
- (ii) Merchant-exporters

To become a manufacturer-exporter you need not go the roundabout way. You may start exporting directly on your own from the very beginning. It all depends on your preparation and managing capability. Merchant-exporters, as the name suggests, do not manufacture any goods. They export goods produced by other agencies.

There is another indirect way of exporting goods—by supplying to the established export houses within the country. It is like supplying finished goods to merchant-exporters. This way you can avoid all the hassles of fulfilling export formalities.

There are two categories of exports.

(i) Outright (Sale) exports

Normally, most exports are made on an outright sale basis against a firm price and no return of the unsold goods is made.

(ii) Consignment exports

Here the importer abroad is at liberty to return the unsold goods, although exports may or may not be against a firm price.

Export Incentive Schemes

The system of export incentives or assistance like Cash Compensatory Support (CCS) or Export Import (EXIM) scrip licences has been abolished.

Procedural Simplification

Simple procedures both for exports and imports have been introduced. Regional licensing authorities have been empowered for the purpose. A number of documents have been standardised. The new documents are fewer in number. There is now only one application form for export licenses.

New Markets

In tune with the new liberalisation policy, India has opened new markets by allowing trade with South Africa, entering into new agreements with the CIS (Commonwealth of Independent States) countries, and also by resumption of rupee trade to a limited extent with the Russian Federation.

For entering the export business, there is no qualification and age bar. There is absolutely no gender bias. Finance can also be managed. Verbal and written commu-

nication ability should be good. Initiative and drive should be present in abundance as well as an enterprising spirit. Having decided to be in the export business choose between manufacturing and merchandising. Check that the following conditions are fulfilled.

- (a) A good office in a business locality, equipped with telephone and fax.
- (b) Ensure that the necessary expertise is available with respect to export documentation, marketing, shipping, and so on.
- (c) Exporter's Code Number issued by RBI has to be obtained through an application, supported by relevant documents.
- (d) The Importer-Exporter Code Number (IEC) has to be obtained from the Regional Licensing Authority under the office of the Director-General of Foreign Trade (DGFT), Ministry of Commerce.
- (e) The unit must be registered with the respective Export Promotion Council to entitle you to the benefits granted under the EXIM Policy. There are different EPCs for different kinds of goods. Ascertain under the purview of which council your items fall.
- (f) Open a current account with an authorised foreign bank.
- (g) Registration with sales tax authority.

These are the most essential requirements to be fulfilled before starting any kind of export business.

These are to be followed, in sequence, by a market study, identifying buyers, going through with the enquiries, sending samples or arranging inspection visits, scrutinising export orders, arranging money from banks, packaging befitting the international standards, pre-shipment inspection, excise and customs clearance, booking the material, obtaining insurance cover, submission of documents to banks, and finally collecting payment through bank.

It is advisable to take the assistance of Indian agencies and organisations for identification of foreign markets. Foreign trade agencies and delegations, trade journals and literature, industrial exhibitions, and so on may provide valuable clues.

While identifying the market, due consideration must be given to factors such as the size of the market, characteristics of demand, consumer requirements, trade channels and the cultural and social differences that may affect the business. The existing competition, if any, and potential competition from other countries has to be studied carefully. A clear-cut marketing strategy has to be chalked out. It embodies the selection of a target market, determination of the product, as well as the price, promotion and distribution policies that the enterprise must implement. This calls for drawing up a concrete export-marketing plan as a step-by-step guide to successful implementation of the strategy taking all the involved issues into consideration.

Special emphasis has to be placed on high quality and a timely delivery schedule. Quality should be of global standard. If quality is maintained, low labour costs in India lend a competitive edge in the international market. However, low labour costs may also result in a low-quality product. Obtaining an ISO 9000 certification will enhance credibility and lead to easy acceptance in the international market.

Sources of Finance

Financial assistance is provided by many organisations—EXIM Bank, ICICI, IDBI, NSIC and a majority of the commercial banks. There are two types of export finance available for exporters—pre-shipment and post-shipment finance.

Pre-shipment finance

- (i) Packing credit
- (ii) Advance against cash incentives
- (iii) Advance against red clause L/Cs and
- (iv) Advance against deemed exports

Post-shipment finance

- (i) Foreign bills negotiation/purchase
- (ii) Advance against foreign bills for collection
- (iii) Advance against cash incentives and duty drawbacks
- (iv) Advance against International Price-Reimbursement Claims (IPRC)
- (v) Post-shipment Credit in Foreign Currency (PSCFC)

These are fund-based limits as money is extended as soon as the formalities are completed. There are also non-fund-based limits to exporters to enable them to fulfil their export commitments in the form of various types of guarantees—bid bonds, performance guarantees, and so on. In order to avail export finance the following eligibility conditions have to be fulfilled

- (i) All exporters must possess the Exporters Code Number issued by RBI and also the Import-Export Code number.
- (ii) The exporter should be in possession of valid export orders.
- (iii) The exporter should be able to satisfy the bank that he has the wherewithal to fulfil the export order within the stipulated time limit.
- (iv) Goods intended for export must be permissible for export as per the export policy.

All the export finance from the bank is covered under Whole Turnover Packing Credit Guarantee (WTPCG) and Whole Turnover Post Shipment Guarantee (WTPSG) of ECGC (Export Credit Guarantee Corporation), for which monthly premium is deducted from the exporter's account.

When you decide to export, you must formulate an export strategy. This will tell you where you are going and how you should get there. The strategy and preparation for export marketing is shown in Figure 10.2.

You should also make an export marketing plan to implement the strategy. Before making the plan, you should gather the basic data and analyse it. It should focus on your marketing objectives, market segment, and positioning of your product.

You should also do an analysis of your strengths, weaknesses, opportunities, and threats (SWOT). This would help in knowing your competitive advantages as well as prospects for sales and profitability.

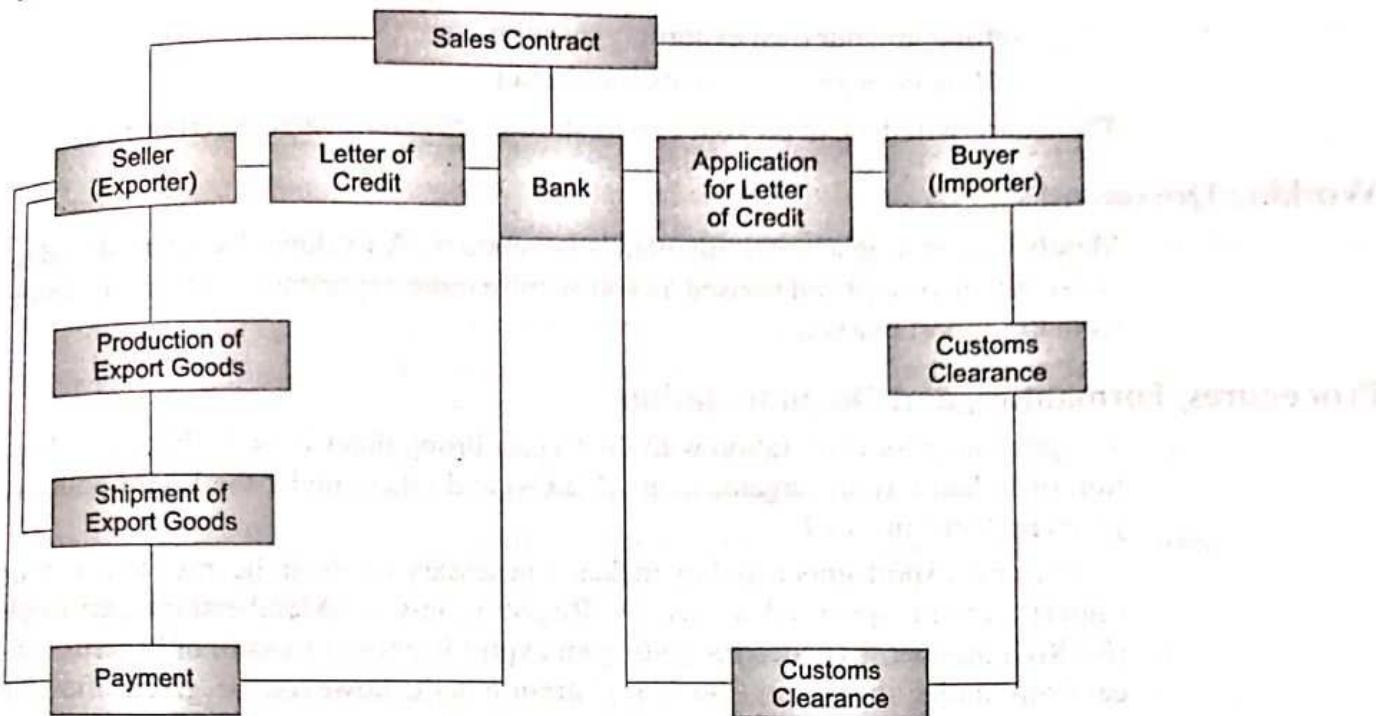


Figure 10.2 ■ Strategy and Preparation for Export Marketing

Market Segmentation

It is important that you decide to whom you want to sell your product/s. Different consumer groups exist varying in levels of income, age, lifestyle, occupation, and education.

Market Research

You, as a small-scale entrepreneur, cannot afford to collect data on export markets and export potential. So, you should get published data to assess the market, after evaluating it for reliability and accuracy.

Product Characteristics

Next, you should consider the product you want to export. Many products must undergo significant modifications if they are to satisfy customer and market requirements abroad. Some products require changes to increase their appeal in export markets.

Export Pricing

You should consider additional costs like international freight and insurance charges, product modification costs, import duties, commissions, and foreign exchange risk coverage, which are not there for the domestic market, while setting an export price.

Distribution Channel

You should also consider distribution options like

1. exporting through a domestic exporting firm; or

2. setting up your own export organisation; or
3. selling through a representative abroad.

The choice will depend on your export strategy, resources, and export market.

Working Document

Merely formulating a marketing plan is not enough. A working document should be constantly reviewed and revised as you acquire more experience, data, and feedback from the export market.

Procedures, Formalities, and Documentation

The procedure for registration with the Export Promotion Councils (EPCs), Federation of Indian Export Organisations (FIEOs) and others under the EXIM policy is given in Annexure 10.1.

The new export-import policy makes it necessary to obtain licenses to export or import certain specified items. A Registration-Cum-Membership Certificate (RCMC) number is needed for getting an export licence or to avail of benefits/concessions under the policy. Such registration will, however, be given after the exporter/importer has become a member of an EPC.

The registration as an exporter is of two kinds, namely, manufacturer exporter and merchant exporter. An exporter may obtain a RCMC from any one of the EPCs relating to his main line of business. Hence, only one registration is required even if the exporter is engaged in exporting products falling in more than one group.

Obligations

The registered exporters are under certain obligations.

1. To furnish monthly returns of their exports.
2. To abide by such other conditions including floor space condition and export obligation, if any
3. To avoid indulging in any fraudulent, unfair, or corrupt practices/commit breach of any law.
4. To fulfil or utilise satisfactorily any quota allocated for export, and so on.

Facilities and benefits

Exporters are entitled to such facilities and benefits as may be provided under the export-import policy. They are also given a number of facilities by the Export Promotion Councils to accelerate their effort. These facilities include raw materials, spot disposal, trade information, foreign samples, trade promotion, brand publicity, export assistance, membership of trade delegations, study-cum-research, attend seminars and conferences, and consignment wise inspection.

Applications and application forms

Application for allotment of a code number has to be made in Form CNX which includes a Declaration for Exporters code (RBI) number about the applicant's not being on the caution list, undertaking about income tax, permanent account number/GI number for exporters (RBI) code number of associate firms RBI code number and

Bank's Certificate to be sent with application for IEC number (Importer/Exporters Code).

Application for registration with Export Promotion Councils has to be made in the approved format. There are separate formats required for registration with different Export Promotion Councils, and separate proformas of undertaking registration.

It is required to get a token acceptance by the buyer on the proforma invoice given by you and confirmation by you as an exporter, after

- ◆ you have identified product/s and market;
- ◆ discussions with any buyer have materialised and reached a point of confirmation of an order or receipt of an order form; and
- ◆ a request to you to send a proforma invoice to enable the buyer to open a letter of credit according to your terms and conditions.

Receipt of the proforma invoice signed by the buyer completes the formalities.

Pre-shipment formalities

The Export (Quality Control and Inspection) Act was enacted by the government of 1963 amended in 1984 to ensure that the image of India made products in overseas market was not spoiled by any exporter by supplying sub-standard material. Certain items covered under compulsory quality control and pre-shipment scheme are not allowed to be exported without a certificate from the Export Inspection Agency by the Customs and shipping formalities.

These formalities are more or less the same at all the major ports in the country though there are some minor variations related to port trust rules and regulations.

A general idea about the different stages of custom examination and procedural/documentation formalities to be observed for clearance of export cargo for loading on vessel and final shipment is as under.

After the documents are passed by the customs department and necessary charges are paid, goods could be shipped and the entrepreneur should send 'Shipment Advice' in the prescribed format to the importer.

Submission of documents to bank

For purchase/collection/negotiation under L/Cs, you must, after shipping the goods, hand over the relevant documents to your bank for onward dispatch to the overseas correspondent bank, which will arrange payment of the same to your banker. You can receive no payment directly except in cases of general permission granted by RBI.

Documents are handed over to the bank with a request either to negotiate the documents if they are drawn under the letter of credit or to purchase the documents where the bank has granted pre-shipment facility to you.

Box 10.2 Documents Required for Exporting

- ◆ Bills of Exchange
- ◆ Bills of Lading
- ◆ Commercial Invoice
- ◆ Original Letter of Credit, If any
- ◆ Customs Invoice
- ◆ Insurance Policy/Certificate
- ◆ Packing List
- ◆ Foreign Exchange Declaration Forms
- ◆ Bank Certificate of Export Realisation
- ◆ Other relevant documents

Organisational Export Assistance

Export marketing is a highly specialised activity which requires organisational support at various stages, including selection of product/s, identification of overseas markets and customers, selling techniques and incentives, assistance and facilities granted against export.

There would also be a need for orientation of different policies concerned with export and import. The various organisations or institutions supporting export are mainly connected with foreign trade. These organisations are grouped together as given in Box 10.3.

Box 10.3 Various Organisations Supporting Exports

- ◆ Policy and service support organisation
- ◆ Commodity specialisation organisation
- ◆ Training and research institutions
- ◆ Trading/service corporations
- ◆ Financial institutions
- ◆ Export promotion zones

1. Policy and service support organisation

(a) Ministry of Commerce

It has, with active cooperation of the Ministry of External Affairs, created a network of commercial sections in Indian embassies and high commissions in various countries.

It has set up an Exporters Grievances Redressal Cell to assist exporters in dealing with their grievances affecting exports. The ministry carries out its responsibilities and activities through advisory bodies, organisations, and so on.

(b) Ministry of Textiles

The Ministry of Textiles is primarily responsible for policy formulation, development, regulation, and export promotion of the textile sector including sericulture, jute, and handicrafts. It also has a separate export promotion advisory board. There are four advisory boards under the Ministry of Textiles.

- (i) All India Handloom Board
- (ii) All India Handicrafts Board
- (iii) All India Powerloom Board
- (iv) Wool Development Board

2. Commodity specialisation institutions

The government has established a number of organisations for improving production and promoting the export of commodities and products/services, which make considerable contribution to our foreign exchange earnings. These specialised institutions are, in most cases, financed/controlled by the government. These are as follows.

- (i) Export Promotion Councils (EPCs)
- (ii) Commodity Boards (CBs)
- (iii) Development Authorities
- (iv) Miscellaneous organisations

The Federation of Indian Export Organisations (FIEOs), though not counted among the EPCs, has the same functions as any EPC and is discussed in Chapter 4.

(i) *Export Promotion Councils*

The main activities of the EPCs are as follows.

- (a) Registration of exporters and issue of registration-cum-membership certificate
- (b) Providing a forum and link between the government and their members for consideration and implementation of schemes for export production and marketing
- (c) Collection and dissemination of information primarily on export opportunities
- (d) Sponsoring and inviting business delegations, sales teams, study teams for developing exports
- (e) Arranging distribution of raw materials, marketing assistance, or allocation of scarce items for export production
- (f) Allocation of export quotas for items like textiles
- (g) Fixation of floor price (minimum export price)
- (h) Arranging buyer-seller meets
- (i) Foreign publicity through schemes
- (j) Any other issue covering production and marketing of products under its purview

(ii) *Commodity Boards*

Commodity Boards are also to be regarded as Export Promotion Council.

(iii) *Development Authorities*

There are two Development Authorities namely; a) Marine Products Export Development Authority and b) Agricultural Products Export Development Authority.

3. Training and research institutions

(i) *Indian Institute of Foreign Trade (IIFT), New Delhi*

It is the primary institution which gives training in export marketing techniques. It has several programmes including a full-time postgraduate diploma in International Trade and a Master's Programme in International Business. It conducts a number of short-duration training programmes ranging from 2–3 to 15–21 days for executives.

(ii) *Indian Institute of Packing (IIP), Mumbai*

It organises programmes on packaging technology. It also provides technical advice on the problems of packaging faced by industry and

trade as well as facilities for testing and evaluation of packages and packing material.

(iii) *National Institute of Fashion Technology (NIFT), New Delhi*

NIFT, New Delhi, works under the Ministry of Textiles for human resources development for the garment industry. It conducts professional programmes for apparel merchandising and marketing, fashion design, and garment manufacturing technology. It also provides consultancy services.

Besides, there are other institutions for training relating to production or marketing, such as the local Chamber of Commerce, SISIs, and NIESBUD.

4. Trading/service corporations

A number of trading and service corporations under the Ministry of Commerce and Textiles deal especially in exports/imports.

The State Trading Corporation Ltd. (STC) was primarily established to conduct foreign trade in an organised and collective basis with trading companies in eastern Europe and the former USSR. Now, due to liberalisation of foreign trade, disintegration of the USSR, and opening up of the new CIS states STC's, functions have undergone a sea change. The STC in Delhi and several regional and foreign offices have a special scheme for business associates and exporters, to provide them with financial and marketing assistance to sell abroad.

Some of the other corporations are as given below.

- (i) Minerals and Metals Trading Corporation Ltd. (MMTC)
- (ii) Mica Trading Corporation (MITCO)
- (iii) Spices Trading Corporation Ltd.
- (iv) Tea Trading Corporation of India Ltd.
- (v) Project and Equipment Corporation of India Ltd.
- (vi) Central Cottage Industries Corporation of India Ltd.
- (vii) Handicrafts and Handlooms Export Corporation of India Ltd.
- (viii) National Textile Corporation (NTC)
- (ix) Cotton Corporation of India (CCI)
- (x) National Handloom Development Corporation.

5. Financial institutions

There are two primary institutions for providing credit and finance and justifying export credit risk—EXIM Bank and ECGC. Besides these, other commercial banks and institutions such as IFCI, ICICI, and IDBI also provide finance for export and import.

(i) *Reserve Bank of India*

The RBI with its headquarters in Mumbai and several regional offices is the apex, central bank to authorise, extend, and regulate export credit

and transactions. It has framed and administered several schemes for export promotion by providing relending facilities, and authorising other banks to extend credit.

All export activities start from registration with RBI, by obtaining the Exporter's Code Number.

(ii) *EXIM Bank*

The Export and Import Bank of India is the apex institution for project finance and provides direct finance. It also coordinates the working of institutions engaged in financing export/import of goods and services. It has its headquarters in Mumbai and has several regional offices as well.

The EXIM Bank's lending emphasis is on deferred export credit for medium and long terms. It extends suppliers' credit, overseas buyer credit, lines of credit, and relending facilities to banks overseas.

The bank is also an intermediary between the Indian exporter and the overseas forfeiting agency. Forfeiting is an export finance option for supplier's credit.

(iii) *Export Credit Guarantee Corporation Ltd. (ECGC)*

ECGC also has its head office in Mumbai and has several regional offices too. It is the only institution which provides insurance cover to Indian exporters against the risk of non-realisation of export payments due to commercial and political risks involved in export on credit terms.

These are various other export promotion organisations especially for the small industries, which directly contribute about one-third of India's exports. These organisations are at the central as well as State level.

The Development Commissioner, Small Scale Industries (DCSSI) at New Delhi and a network of SISIs (Small Industries Service Institutes) and extension centres located in almost all States provide export promotion services to SSI and cottage units.

The other organisations are Directorates of Industries, which are departments of State governments, National Small Industries Corporation (NSIC), and exclusive export corporations in various States.

6. Export promotion zones (EPZs)

The EPZs have been set up to provide an internationally competitive duty-free environment for export production at a low cost. This enables the products of EPZs to be competitive, both quality-wise and price-wise, in the international market. There are seven EPZs in India: Kandla (Gujarat), Kochi (Kerala), Santacruz (Mumbai), Chennai (Tamil Nadu), Falta (West Bengal), Vishakapatnam (Andhra Pradesh), and Noida (U.P.).

Indian Exporter's Directory

This is a most useful publication for anyone interested in buying products from India. It contains full information to enable buyers to home in on Indian exporters



Visit www.exim.indiamart.com to learn more about EXIM policy.

DISCUSSION FORUM



- ◆ Discuss the prevailing export environment and formalities and documentation required for exports.
- ◆ Explain the institutions set up in India for promoting export marketing.

SUMMARY

- ◆ Marketing can be defined as a process which identifies, anticipates, and satisfies customer needs efficiently and profitably in keeping with the objectives of the enterprise. Marketing is a specialised and dynamic area. It requires appropriate actions in response to market demands by developing suitable products and effective strategies.
- ◆ A large-scale business can have its own formal marketing network, media campaigns, and sales force, but a small unit may have to totally depend on personal efforts and resources, making it informal and flexible. Marketing can make or break a small enterprise.
- ◆ Although there are some tools, concepts, and strategies that can be generalised to all marketing situations, it is important to understand that marketing management tasks in the services sector differ from those in the manufacturing sector in several important respects.
- ◆ The liberalisation policy of the government since July 1991 has created a most congenial atmosphere for export. Both exports and imports are almost free from being subject to negative lists. Many items, therefore, can be exported without a licence. The export industry is another sector which holds great promise for any enterprising entrepreneur.
- ◆ The government has established a number of organisations for improving production and promoting export of commodities and products/services, which make a considerable contribution to the country's foreign exchange earnings.



KEY WORDS

- | | | |
|--|--|---|
| <ul style="list-style-type: none"> ◆ Brand ◆ Quality ◆ Credit ◆ Market survey ◆ Customer Relationship Management ◆ Customer Satisfaction Index | <ul style="list-style-type: none"> ◆ Market segmentation ◆ Market research ◆ Marketing mix ◆ Product ◆ Promotion ◆ Price ◆ Costing ◆ Place | <ul style="list-style-type: none"> ◆ Pricing ◆ Cost ladder ◆ Services ◆ Goods ◆ Inventory ◆ Distribution channel ◆ Positioning |
|--|--|---|

- ◆ Customer retention
- ◆ Export marketing
- ◆ Foreign Trade Act
- ◆ Foreign Industrial and Technical Agreement
- ◆ Manufacturer-exporter
- ◆ Merchant-exporter
- ◆ Outright Export
- ◆ Consignment export
- ◆ Export incentive scheme
- ◆ Director General of Foreign Trade
- ◆ Pre-shipment
- ◆ Post-shipment
- ◆ Working document
- ◆ Bills of exchange
- ◆ Bills of lading
- ◆ Commercial invoice
- ◆ Letter of credit
- ◆ Customs invoice
- ◆ Insurance policy
- ◆ Packing list
- ◆ Foreign exchange declaration form
- ◆ Bank certificate of export realisation
- ◆ Export promotion zones
- ◆ Export Promotion Council
- ◆ Ministry of Commerce
- ◆ Ministry of External Affairs
- ◆ Commodity Board
- ◆ All India Handloom Board
- ◆ All India Handicraft Board
- ◆ All India Powerloom Board
- ◆ Wool Development Board
- ◆ Indian Institute of Foreign Trade
- ◆ Indian Institute of Packing
- ◆ National Institute of Fashion Technology
- ◆ EXIM policy
- ◆ EXIM Bank
- ◆ RBI
- ◆ ICICI
- ◆ IDBI
- ◆ IFCI
- ◆ Minerals and Metals Trading Corporation Ltd.
- ◆ Mica Trading Corporation
- ◆ Spices Trading Corporation Ltd.
- ◆ Tea Trading Corporation of India Ltd.
- ◆ Project and Equipment Corporation of India Ltd.
- ◆ Central Cottage Industries Corporation of India Ltd.
- ◆ Handicrafts and Handlooms Export Corporation of India Ltd.
- ◆ National Textile Corporation
- ◆ Cotton Corporation of India
- ◆ National Handloom Development Corporation

CASE STUDIES

Case Study 10.1 Determining the Market Demand for a Health Club

Mr. Amit Sharma recently retired from the Central government services. A physical fitness enthusiast and lover of nature and environment, Mr. Sharma has been leading an active life, regularly going to the gymnasium every morning. His wife, Meena, regularly practices yoga in the house. She has been trained by a popular yoga guru when she was much younger. The Sharma's two sons are very well educated. They are married and stay abroad. Their third son is doing his final year in B.Com. in the local college.

Mr. Sharma has been planning to start a business of his own from the retirement benefits he has received from the Central government. He feels his third son may help him in the business after his graduation.

Mr. Sharma had always felt concerned about the low standard of physical fitness of an average Indian. During his early morning walks, Mr. Sharma would discuss with the people and found that starting a health club would offer a good business opportunity, besides fulfilling an important need of

the community. He has visited many health clubs not only in India but also abroad and has a fair idea about the business.

Mr. Sharma with the help of his wife is planning to establish a gymnasium and a yoga centre in the health club to be located at Kolhapur, Maharashtra. He would initially cater to the needs of company executives and businessmen. He would later extend the scope of this venture to include housewives and working women too. He is optimistic that with the hectic lifestyle of the present-day business personals and the growing consciousness about good health, he would be able to attract a good number of customers. He is, however, aware of the financial investment required for the project and would like to be careful before taking any long-term decision in this regard. He would like to estimate the possible demand for this type of service and an indication of the financial returns that he can expect.

Case Question

Suggest a step-by-step procedure to estimate the market demand for this type of activity and also people's attitude towards the idea.

Case Study 10.2 "Shruti Darshini"—Preparing Market Feasibility Report

Shruti was the only daughter of her parents. Her parents, settled in Mysore, Karnataka, for the last 25 years, ran "Shruti Darshini", a vegetarian eating joint, in front of a group of colleges. The Darshini was open from 7 a.m. to 10 a.m. and again from 12 p.m. to 5 p.m. It provided delicious, hygienically prepared vegetarian items to its clients, mostly college staff and students. Shruti also helped her parents after her law classes and took a keen interest in the business.

After graduating in law, Shruti got married to Suresh, an MBA graduate working as business executive in a local firm. Shruti's parents wanted a son-in-law who would help Shruti run "Shruti Darshini". They felt their business could really flourish if their son-in-law joined their business. Suresh also found the proposal interesting and was ready to join the business since it was doing very well. However, Suresh was quick to point out that the contemporary concept of a "Darshini" had changed. He suggested introduction of non-vegetarian items, addition of a beer bar, and keeping the café open from 7 a.m. to 11 p.m. Shruti's parents were not keen on the non-vegetarian items and beer bar. However, Suresh, being a professional, declared that he would carry out a market research. He would segment the market and test market the products before taking any drastic step. There was also a suggestion to invest in proper advertising.

Shruti's father, being an intelligent and enterprising businessman, exhibited clear vision. He accepted Suresh's views, in principle, but insisted that a clear plan be prepared. The plan should give the rationale behind each step, the cost and time required for implementing that step, anticipated income from the activity, and other such details before Suresh's proposals could be considered for implementation or rejected.

Case Question

Cast yourself in the role of Suresh and prepare the plan. Make suitable assumptions wherever necessary.



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Production Management in Small Business

11



A manufacturing unit in Karnataka. The picture shows a person managing the entire work station by adopting modern technology.

"The power that enables the firm to have some influence on price insures that imitators will not pass on the resulting gains to the public before the outlay for development can be recouped. In this way market power protects the incentive to technical development."

—J. K. Galbraith

Learning Objectives

- ⦿ Explain production management in small business enterprise
- ⦿ Discuss the functions of materials management
- ⦿ Understand the various productivity improvement techniques
- ⦿ Learn the concept of break-even analysis
- ⦿ Introduce the TQM approach to business

PRODUCTION MANAGEMENT

Production management refers to the application of planning, organising, directing to the production process. Production can be defined as the “process through which goods and services are created”. Therefore, we include both manufacturing and service organisations within the purview of production management. The essential features of production function are to bring together people, machines, and materials to provide goods and services thereby satisfying the wants of people at large. The production function or operation function is the primary function of an industrial enterprise. It is also known as a conversion process or a transformation process, which transforms some of the inputs into outputs, which are useful for the consumers. A simple production system is shown in Figure 11.1.

SNAPSHOT

- ◆ **Production System:** A system whose function is to convert a set of inputs into a set of desired outputs.
- ◆ **Production Management:** It refers to the application of management principles to the production function in an enterprise.

The basic techniques of analysis and improving the manufacturing and service organisation are the same. However, since service organisations have some special features, the management of such systems is slightly more difficult. Some of these special features are as follows.

- ◆ Output from the service organisation cannot be stocked

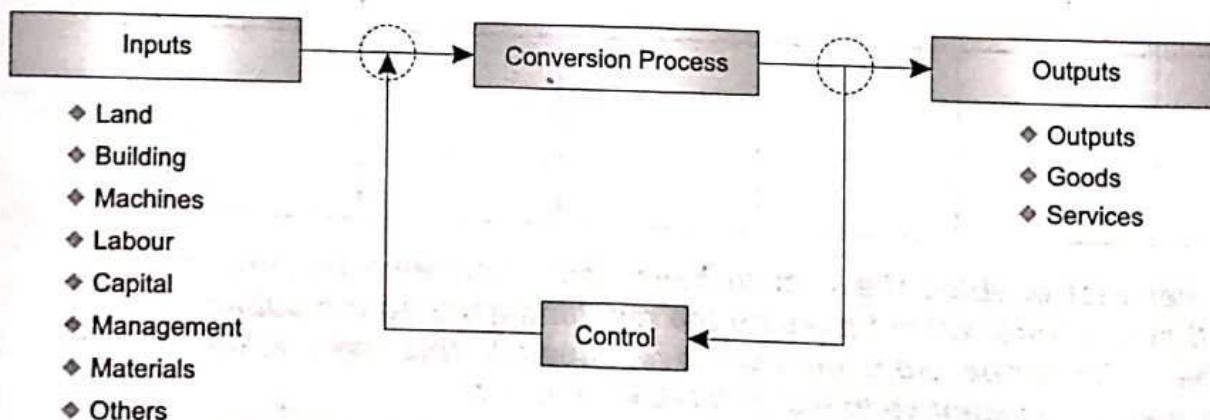


Figure 11.1 ■ A simple production system

- ❖ Demand for the service is variable
- ❖ Operation may be labour intensive
- ❖ Location of service operation is dictated by location of users.

Production management objectives can be grouped into performance objectives and cost objectives.

Performance objectives: These include the following.

- ❖ Quality: It is the extent to which a product or service satisfies customer needs. The output has to conform to quality specifications laid down before it can be accepted.
- ❖ Improve Productivity: output per unit of input.
- ❖ Effectiveness: It relates to whether a right set of output is being produced. Where efficiency may refer to "doing things right", effectiveness may mean "doing the right things".
- ❖ Capacity utilisation: percentage utilisation of resources in man-day, machines, shift, KWH, and so on.

Cost objectives: Attaining a high degree of customer satisfaction on the performance front must be coupled, with a lower cost of producing the goods or rendering a service. Thus, cost minimisation is an important objective of production. Costs can be explicit (visible) or implicit (hidden/invisible). These could be tangible in economic terms or intangible in social cost terms—such as delayed supplies, customer complaints, and so on. While managing production we must consider both visible and invisible, tangible and intangible costs and then long-term cost implications.

Plant Layout

A plant layout refers to the arrangement of machinery, equipment, and other industrial facilities—such as receiving and shipping departments, tool rooms, maintenance rooms, and employee amenities—for the purpose of achieving the quickest and smoothest production at the least cost. A good layout is more important when the product or materials used to make it are heavy or big, as in some engineering shops for example, sheet-metal working and woodworking operations. In woodworking the machines cut very fast. The time spent moving big and heavy pieces from the store to the shop, round the shop, and onto the machines may be five or six times as long as the cutting time. The time spent in moving and handling adds to the cost of the product but not to its value. You cannot always make the best layout—for example, in an old factory building—but there is one thing you can always do and that is make improvements.

Production Planning and Control (PPC)

No work can be done without planning. There are those who plan when the actual work is to be executed. They run about to collect all that is required, thus extending the period of working. There are others who plan well in advance and arrange for all that is required necessary before starting work. The advantages of the latter approach

Box 11.1 Objectives of a Good Layout

- ◆ Provide enough production capacity.
- ◆ Reduce material handling costs.
- ◆ Reduce congestion that impedes the movement of people or material.
- ◆ Reduce hazards to personnel.
- ◆ Utilise labour efficiently.
- ◆ Increase employee morale.
- ◆ Reduce accidents.
- ◆ Utilise available space efficiently and effectively.
- ◆ Provide for volume and product flexibility.
- ◆ Provide ease of supervision.
- ◆ Facilitate coordination and face-to-face communication where appropriate.
- ◆ Provide for employee safety and health.
- ◆ Allow ease of maintenance.
- ◆ Allow high machine/equipment utilisation.
- ◆ Improve productivity.

Box 11.2 Objectives of Production Planning and Control

- ◆ To deliver quality goods in required quantities to the customer in the required delivery schedule—to achieve maximum customer satisfaction at minimum possible cost.
- ◆ To ensure optimum utilisation of all resources.
- ◆ To ensure production of quality resources.
- ◆ To minimise the product throughput time or production/manufacturing cycle time.
- ◆ To maintain flexibility in manufacturing operations.
- ◆ To maintain optimum inventory levels.
- ◆ To coordinate between labour and machines and various supporting departments.
- ◆ To ensure effective cost reduction and cost control.
- ◆ To plan for plant capacities for future requirements.
- ◆ To remove bottlenecks at all stages of production and to solve problems related to production.
- ◆ To prepare production schedules and ensure that promised delivery dates are met.
- ◆ To establish routes and schedules for work.
- ◆ To contribute to the profit of the enterprise.

have led to development of production planning and control. The production planning and control function essentially consists of planning production in a manufacturing organisation before actual production activities start and exercising control activities to ensure that the planned production is realised in terms of quantity, quality, delivery schedule, and cost of production.

Phases in PPC Function

1. Planning phase

- (a) **Preplanning:** This activity involves product planning and development, demand forecasting, resource planning, facilities planning, plant planning, plant location, and plant layout.
- (b) **Active planning:** This involves planning for quantity, determination of product-mix, routing, scheduling, material planning, process planning, capacity planning, and tool planning.

2. Action phase

Execution or implementation phase—includes dispatching and progressing functions.

3. Control phase

This includes status reporting, material control, tool control, inventory control, labour output control, and cost control.

A small organisation has a limited number and variety of output. Therefore, the problem of planning and scheduling is relatively simple. Most workers in the unit are familiar with the output and the conversion process. Word of mouth is good enough for instructions for various operations. The volume of work in the unit is small and can be easily centralised under the personal supervision of a few men. Production planning and control comprises of several functions. The main functions or elements of PPC are given in Figure 11.2.

Work content and capacity determination

- (i) **Estimating:** Using simple methods of work measurement, determine the work content of various operations and capacities of various workstations.
- (ii) **Loading and routing:** With the help of work content and capacities decide the machines on which each operation is to be carried out or, in other words, plan the route for the product. Once we know the standard capacity of each machine/facility (85 per cent utilisation of a machine/facility capacity in a shift is considered a fair average), we can decide on how much load is to be put on each machine. The use of Gant loading chart will help for loading and routing.
- (iii) **Scheduling:** Here we decide the exact time of starting and finishing of each operation.

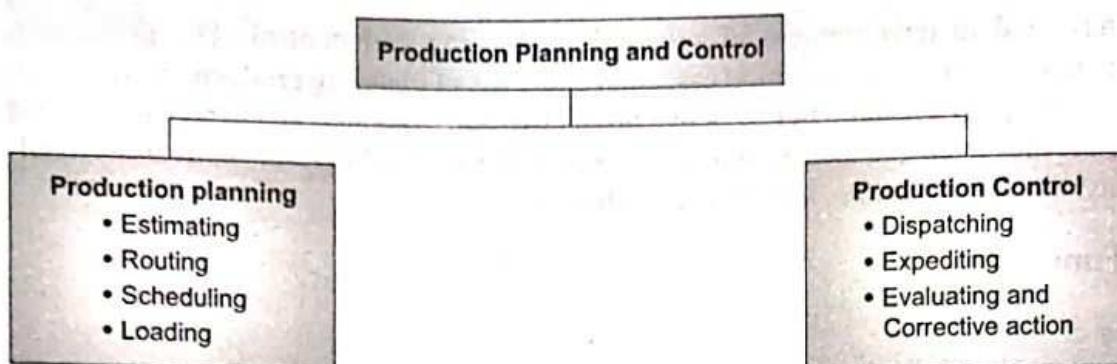
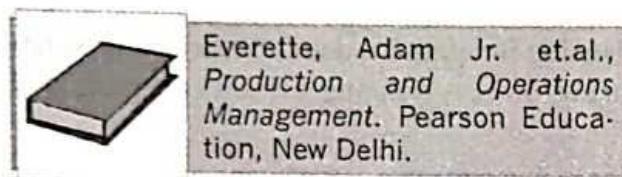


Figure 11.2 ■ Elements of PPC



(iv) Dispatch: This is the green signal to commence work. This can be done either by a work order or job card.

(v) Monitoring and control: To compare actual schedule with the planned schedule so that the appropriate action can be taken if necessary. Most of

the time, some jobs will be running behind schedule while others will be ahead of schedule. A careful analysis of the situation would show that some of the work can be brought back on schedule by making a few changes or by using the spare capacity of those machines/facilities that are ahead of schedule.

The planning and programming phase is relatively simple since the problem of a reliable measure of work content has been solved. But even a crude plan is useless if the people concerned are not given clear instructions. This means having a simple system of paperwork to convey all the necessary information.

DISCUSSION FORUM



- ◆ Discuss in small groups the characteristics of modern production function.
- ◆ Explain the concept of "factories of the future".
- ◆ Explain the role of PPC in the engineering industry.

MATERIALS MANAGEMENT

Every production unit stocks a number of materials depending on the business it is in, for its own use (inputs) and also for selling (output). Stock are held in various stores/warehouses and shop floors. In stocks capital is blocked, which is very scarce for a small business. Hence the need for efficient management of materials. It refers to the movement of production materials from the stage of their acquisition to the stage of their consumption. The objectives of materials management are listed below.

- ◆ Purchasing materials and equipment at optimum price
- ◆ Faster inventory turnover
- ◆ Continuous supply of materials
- ◆ Reduced lead time

SNAPSHOT

Materials management refers to the movement of production materials from the stage of their acquisition to the stage of their consumption. The two main functions of materials management are:

- ◆ purchase management
- ◆ inventory management

- ◆ Reduced transportation cost
- ◆ Zero obsolescence
- ◆ Better supplier relationships
- ◆ Management of inventories

When purchasing materials, one should look at more than just the price. There are many other important aspects that need to be taken into account. These are as follows.

- ◆ Are the quotations comparable as regards quality, for example, material characteristics, precision, surface finish, anti-corrosion properties, and durability during long storage, and so on?
- ◆ Will the supplier deliver on time? Will he agree to change (in specifications) later, if this is necessary in an emergency?
- ◆ How are you going to pay for the supplies and will you be able to get credit?
- ◆ Will it be useful to form a buying group with other similar firms in your neighbourhood?

The *purchasing function* provides materials to the enterprise without which the wheels of machines cannot move. "Purchasing" is a managerial activity which goes beyond the simple act of buying and includes the planning and policy activities covering a wide range of related complementary activities. The purchasing function can be explained by a *purchase cycle*, the steps in which are given below.

- (a) Recognition of need.
- (b) Description of need.
- (c) A suitable source is selected for the supply; sometimes a source has to be developed.
- (d) Price and availability are determined.
- (e) A purchase order is prepared and sent to the supplier.
- (f) Acceptance of the purchase order is obtained from the supplier.
- (g) Follow up is done to ensure timely delivery of the material.
- (h) Receive the material, check the invoice, approve it for making payment to the supplier.
- (i) Supplier receives the payment.

Inventory Management

The term **inventory** includes materials— raw, in process, finished, packaged, spares and others— stocked in order to meet an unexpected demand or distribution in the near future. Inventory includes the following categories of items.

- (a) *Production inventories*: Raw materials, parts and components which are consumed in the production process and become part of the product.
- (b) *Maintenance, repair and operating supplies (MRO) inventories*: These are consumed in the production process, but do not become part of the product (for example, lubricating oil, soap, machine repair parts).

- (c) *In-process inventories:* These are semi-finished products found at various stages of the production operation.
- (d) *Finished goods inventories:* These are completed products ready for shipment.

Inventory Costs

1. Ordering costs

Cost of placing an order with a vendor of materials

- (a) Preparing a purchase order
- (b) Processing payments
- (c) Receiving and inspecting the material

Ordering from the plant

- (a) Machine set-up
- (b) Start-up scrap generated from getting a production run going

2. Carrying costs

Cost connected directly with materials

- a. Obsolescence
- b. Deterioration
- c. Pilferage

3. Financial costs

- a. Taxes
- b. Insurance
- c. Storage
- d. Interest

Inventory Control Techniques

Several techniques of inventory control are in use and it depends on the convenience of the firm to adopt any of the techniques. What should be stressed, however, is the need to cover all items of inventory and all stages, that is, from the stage of receipt from suppliers to the stage of their use. The following points should be kept in mind while managing the inventory.

- (a) **Shortage of inventory:** This gives rise to stock out cost. This includes cost of customer dissatisfaction, down time cost, change over cost, opportunity cost and so on.
- (b) **Excess inventory carrying cost:** If large inventories are carried as an insurance against stock outs, large capital is blocked. This results in a high inventory carrying cost.

The techniques most commonly used for inventory control are the following.

- (a) Always Better Control (ABC)
- (b) High, Medium and Low (HML)

- (c) Vital, Essential, and Desirable (VED)
 - (d) Scarce, Difficult, and Easy to obtain (SDE)
 - (e) Fast moving, Slow moving, and Non-moving (FSN)
 - (f) Economic Order Quantity (EOQ)
 - (g) Max-Minimum System
 - (h) Two Bin System
 - (i) Materials Requirement Planning (MRP)
 - (j) Just-in-time (JIT)
- (a) **ABC analysis:** Inventory in an organisation can be classified into three categories— A, B, and C. On the basis of the annual consumption in monetary value, ‘A’ items will be of high value, “B” items will be of medium value, and “C” items will be of low value. There is no hard and fast limits for these categories, and they will vary from organisation to organisation and even from product to product. However, we can have the following categorisation.

Category	Value	No. of Items
A	70%	10%
B	20%	20%
C	10%	70%

Having once determined the categories, the intensity of control in each case can be different.

This classification is also referred as Pareto Analysis (after the Italian philosopher and economist).

- (b) **High, Medium and Low (HML):** The High, Medium and Low (HML) classification is based on the unit value of the item. The classification follows the same procedure as is adopted in ABC classification. The items of inventory should be listed in the descending order of unit value and it is up to the management to fix limits for three categories. If a part is High value, it is given the ‘H’ classification, if it is of Medium value it is given the ‘M’ classification and if it is of low value it is given the ‘L’ classification.
- (c) **Vital, Essential and Desirable (VED):** In ABC classification, inventories are classified on the basis of their consumption value and in HML classification the unit value is the basis, whereas criticality of inventories is the basis for Vital, Essential and Desirable classification. VED classification is done to determine the criticality of an item and its effect on production and other services. If a part is Vital, it is given the ‘V’ classification, if it is Essential, then it is given the ‘E’ classification and if it is not so essential, the part is given the ‘D’ classification. For ‘V’ items, a large stock of inventory is generally maintained, while for ‘D’ items, minimum stock is enough. VED classification is specially used for classification of spare parts.

- (d) **Scarce, Difficult and Easy to obtain (SDE):** The SDE classification is based upon the availability of items and is very useful in the context of scarcity of supply. The SDE classification, is based on problem faced in procurement, is vital to the lead-time analysis and in deciding on purchasing strategies. In this classification 'S' refers to 'scarce' items, generally imported, and those, which are in short supply. 'D' refers to difficult items, which are available indigenously but are difficult to procure. 'E' refers to items which are easy to acquire and which are available in the local market.
- (e) **Fast moving, Slow moving and Non-moving (FSN):** The FSN classification is based on the pattern of issues from stores and is useful in controlling obsolescence. It is useful in identifying active items, which need to be reviewed regularly and surplus items, which have to be examined further. Non-moving items may be examined further and their disposal can be considered.
- (f) **Economic Order Quantity (EOQ):** EOQ technique answers, the question of, how much to order and establishes the frequency with which, orders are placed. EOQ is the order size at which the total cost; comprising ordering cost plus carrying cost, is the least. EOQ is applicable both to single items and to any group of stock items with similar holding and procurement costs.
- (g) **Maximum-Minimum System:** This system is often used in connection with manual inventory control systems. The minimum quantity is established in the same way as any reorder point. The maximum is the minimum quantity plus the optimum lot size.
- (h) **Two Bin System:** In the two bin system, stock of each item is separated into two bins. One bin contains stock; just enough to last from the date a new order is placed until it is received in inventory. The other bin contains a quantity of stock, enough to satisfy probable demand during the period of replenishment. To start with, the stock is issued from the first bin. When the first bin is empty, an order for replenishment is placed, and the stock in the second is utilized until the ordered material is received.
- (i) **Materials Requirement Planning (MRP):** MRP is most useful to firms with finished goods or end products which are made from a number of components and which are also subject to uneven or lumpy demand. The technique separates the various components and co-ordinates purchasing and delivery with production. This results in materials arriving exactly when needed for production and, at the same time, reduces the length of time when materials are held in stock. MRP plans and controls goods on order and generates data for determining, when and what specific materials will be needed to meet the previously planned production schedule.
- (j) **Just in Time (JIT):** The JIT concept originated from the Motomachi plant of Toyota in Japan. As a concept, JIT means that virtually no

inventories are held at any stage of production and that the exact number of units is brought to each successive stage of production at the right time.

Illustration 11.1 The consumption of 12 items in a company in the previous year was as follows.

Item Code No.	Annual Consumption in Rs	Item Code No.	Annual Consumption in Rs
1	20,000	7	2,500
2	200	8	2,400
3	15,000	9	300
4	4,000	10	25
5	3,000	11	30
6	2,000	12	50

An ABC analysis can be done by ranking the items in descending order of their annual consumption value and determining the cumulative per cent as shown below.

Rank	Item Max %	Item Code No.	Annual Consumption in Rs	% of Total Value	Cumulative % Value	Category
1	8.3	1	20,000	40.00	40.00	A
2	16.6	3	15,000	30.00	30.00	
3	25.0	4	4,000	8.7	78.7	
4	33.3	5	3,000	6.0	84.7	B
5	41.6	7	2,500	5.0	89.7	
6	50.0	8	2,400	4.8	94.5	
7	58.3	6	2,000	4.0	98.5	
8	66.6	9	300	0.6	99.1	C
9	75.0	2	200	0.45	99.55	
10	83.3	12	50	0.30	99.85	
11	91.6	11	30	0.10	99.95	
12	100	10	25	0.05	100.00	
Total			49,505	100.00		

Benefits of Inventory Control

The major benefits that accrue from inventory control are listed below.

- (a) Stock control ensures adequate supply of materials, stores, spares, and so on, minimises stock outs and shortages, avoids costly interruption in operation.
- (b) It keeps down investment in inventories, inventory carrying cost, and obsolescence losses to the minimum.
- (c) It facilitates purchasing economically through the measurement of requirements on the basis of recorded experience.

- (d) It facilitates cost accounting activities by providing a means for allocating materials costs to products, departments, or other operating accounts.
- (e) Perpetual inventory values provide a consistent and reliable basis for preparing financial statements.

Tips for Stock Keeping

- ◆ It depends upon the type of your business and on how fast your stocks move, whether you check them once a month, once a week or even once a day. If you keep few stocks, you must check them more often. Stock checks take time and trouble, but they can save you a lot of money. If you run out of stocks and have to say "No" to your customers, they will go elsewhere else and may not come back to you.
- ◆ If you hold too many stocks for a long time, you have money tied up which you cannot use for other purposes you may want in your business. You pay interest to your bank which you would not do if you kept the right stocks.
- ◆ To check your stocks quickly and easily, they should be stored in such a way that they are easy to count and see.
- ◆ If stocks are well set out, a quick look will tell you how much you have. If you only sell a few goods—rice, flour, beans, and dry fruits, for example—you can see in a minute when your stocks are low and when you must buy more. When you have done this a long time, you will not need to write them down.
- ◆ If you are selling many different articles—in a cycle shop with spare parts and extras in a shoe with different styles and different sizes in each style—it is very difficult. Then you need written stock records. This means writing down each different item of stock, and when you are checking it, writing the numbers of items—pieces, boxes, cases or, in the case of goods like flour, weight and for cloth, length. When you have many different items and sizes, you must set them out tidily, with each item in a separate group.
- ◆ For goods such as shoes or readymade dresses, the same styles must be stored together, according to size for each style, beginning with the smallest going up to the largest. Each style must be duly marked and identified.
- ◆ Small articles such as screws, nuts, washers, nails, hooks, and so on must be put in small boxes, one for each size, marked with the name of the item, for example, nails, 3 mm × 80 mm, and put on shelves in groups of items and in order of size.
- ◆ It will require some hard work the first time, but you will be happy because you can check your stocks quickly and also serve your customers faster.
- ◆ Your stock record can be kept in a simple notebook. Your stock record can tell you, provided it is up to date.

Illustration 11.2 You find in your stock record that you sell 40 batteries one week after you have given your order. You should order when your stock is at 100. This gives you 40 in hand for a week's delay and 60 more in case they do not come on time or more customers than usual buy batteries in the following week.

You find from your stock record that you sell around 50 imported water taps each month, which you buy from exporters. It takes three months for the taps to be delivered from Japan. You must re-order your supplies to leave at least 150 taps in stock, that is, at least three months' supply and perhaps another two months' supply in case of shipping delays.

For wholesalers and manufacturers who have large quantities of many different items or goods, keeping a record of stocks is more difficult. They will need to keep a stock record book of the type shown above. However, where the stock cannot easily be seen or counted, a card called a bin card should be kept with each separate group of items, perhaps on the shelf, tied to a rack (for steel bars, wooden planks, and so on.) or beside the stack of bags.

You need not keep a bin card for small items such as nails, screws, washers, pins, and so on. Find the number at which to re-order and place them in a packet or bag at the back of the drawer or the box where you keep them. When you have to open the bag to serve a customer, you know that you have to reorder.

This is an example of a simple bin card. "Reorder at" indicates the level of stock at which that item of stock must be recorded. The card has a hole at the top, so you can tie it to a drawer handle or hang it on a nail, and so on.



Aswathappa, K. and K. Shridhara Bhat (2000). *Production and Operations Management*. HPH, New Delhi.

Every time an article or a quantity of goods is taken out or put into stock, this must be written on the card. Even if you employ a storekeeper, check your stocks yourself from time to time.

Tips for good stock keeping are given below.

- ◆ Keep stocks tidily in groups of the same goods and sizes so that they can be easily seen and counted.
- ◆ Get rid of old and slow-moving stocks that take up space, which you may need for goods which move better.
- ◆ Sell off slow-moving stocks cheaply or even throw them out if they are not selling.

DISCUSSION FORUM



- ◆ Define materials management. Bring out its scope and importance.
- ◆ Explain the purchase cycle.
- ◆ State the various techniques of inventory control.

PRODUCTIVITY

The more the output from one worker or one machine (or piece of equipment) per day per shift, the higher is the productivity. High productivity is never a question of higher workloads or faster machines alone. It is always elimination of waste of all types of labour (time and skill), machine, time, capital, materials management, and so on. Mathematically, productivity is defined as

$$\text{Productivity} = \frac{\text{Output}}{\text{Input}}$$

SNAPSHOT

- ◆ **Productivity = Output/Input**
- ◆ **Maintenance** is that function of manufacturing management that is concerned with the day-to-day need of keeping the physical plant in good operating condition.

Therefore, higher the output per unit of input, higher is the productivity. So to improve productivity we should ask ourselves: Could the output from the present machines or equipment be increased to meet the larger sales demand by

- ◆ better planning of work?
- ◆ working two shifts or three shifts?

- ◆ better organisation of the work?
- ◆ better maintenance?

A good business manager who knows how to organise work, can often get more work out of a slower machine than one who does not understand how to organise the work of machines and workers.

Illustration 11.3 A workshop had an old lathe which could turn out 10 pieces per hour. The operator took one minute to pick up each job from the previous workstation and one minute to remove the job from the machine and carry it to the next workstation. The owner wanted to increase his output, so he bought a bigger machine which could produce 40 pieces per hour and cost him eight times as much as the old machine. There was not much increase in productivity.

This happened because he forgot that, in addition to the machine time, the operator was spending two minutes carrying the job from the workstation to another, that is, a total of 20 additional minutes for 10 pieces. With the new machine, though there was considerable increase in the turning capacity (40 per hour in place of 10), carrying time was an additional 80 minutes.

Thus, the new machine gave just over twice the output with eight times the investment.

<i>Old Machine</i>		<i>New Machine</i>	
Machine time per piece	= 6 minutes	Machine time per piece	= 1 minute 30 secs.
Carrying time per piece	= 2 minutes	Carrying time per piece	= 2 minutes
Total time per piece	= 8 minutes	Total time per piece	= 8 minutes 30 secs.

Perhaps it would have been cheaper for the owner to cut down on the carrying time by installing a roller or by rearranging the layout rather than investing in the new machine. Perhaps he could have bought another old machine at one-eighth the price the new machine and used the money saved elsewhere in his business.

Improving Materials Productivity

When you are trying to cut the cost of manufacturing, it is very important to know which of the inputs makes up the biggest part of the total cost. You must deal with those inputs first. Try to make it smaller. In many industries, it is the raw material cost which is the largest part of the total cost.

For example:

Metalworking	40–75% of the total product cost
Shoemaking	50–80%
Wooden furniture	40–70%
Cloth industry	30–70%
Cakes	30–70%

As you can see from the list above, the raw materials cost—including the cost of any parts—is as much as or more than all the other costs together. So in these and many other industries, if you want to reduce your costs, the first area to start with is the material.

Good buying: This is even more important in manufacturing than in the retail trade. Price is not everything. Cheap materials may mean buying more materials which cannot be used because they are faulty. Perhaps they need to be thrown away. In such a case, the materials have ended up costing much more.

Cutting down on waste: In woodworking, metalworking, shoemaking, dressmaking and tailoring, as well as in several other trades and skill in cutting can make great savings as opposed to bad cutting.

Cutting down defective work: Usually defective work must be thrown away or sold off cheaply. When work has to be scrapped, you lose not only the cost of the materials but workers' wages, cost of machine time, and the money you would have made if the product had been sold. Good training of workers, good tools and working conditions, good wages and strong supervision can cut down defective work.

Improving Labour Productivity

Merely cutting wages cannot improve labour productivity. There must be a cutting down of time wasted. Cutting out the wasted time by both workers and machines. The cost of labour and of machines are calculated on the basis of the time spent by the workers on the machine in order to do a certain piece of work. The less the time spent on a particular job, the less it costs. It is also important to reduce idle time.

- ❖ By allowing workers to have bad workplaces which are untidy and difficult to work at;
- ❖ By not giving workers the right tools for the job or by giving them tools which are broken or worn out.

Cutting machine time

Machinery costs lots of money. When you have bought a machine, you must use it as effectively as possible. In many workshops, machines remain idle for more time than they are working. This could be because of the following reasons.

- ❖ The workers using the machines spend too much time fetching materials from the store and taking away finished work.
- ❖ The next job is not ready when the previous job is finished. Therefore, the worker and the machine have to wait for work.
- ❖ Frequent break down of machines.

In addition to the above, machines are often not working at their correct speeds, tools are not properly sharpened or the workers are not trained to use the machines well. Before beginning work on a machine, make sure that it is working as well as possible – and that the worker really knows how to use it well.

Illustration 11.4 Let us look at an example of how time can be lost in working on a machine during a working day of eight hours (480 minutes) + 30 minutes meal break (8.50 hours workday).

Look at these figures

Total working day (less meal break)	480 minutes
Man and machine are producing work	<u>310 minutes</u>
Machine stopped	170 minutes
Stopped time	
Reset machine for new job (twice)	31 minutes
Take away finished work and fetch materials	<u>51 minutes</u>
Breakdown	32 minutes
Worker coming late, smoking, talking	<u>56 minutes</u>
	170 minutes

Note: The machine was stopped for more than one-third of the working day. Of this time, 31 minutes were needed to set up the machine for new jobs. The worker lost 56 minutes due to starting late, finishing early, talking and so on, and 83 minutes of the working time were lost from causes which good management could have eliminated.

Let us see what happens when the worker does not have to go and fetch raw materials, does not have to carry away finished work and when better machine maintenance stops breakdowns or when the worker is better supervised.

Total working day (less meal break)	480 minutes
Man and machine are producing work	<u>394 minutes</u>
Machine stopped	86 minutes
Stopped time	
Reset machine for new job (three times)	47 minutes
Worker coming late, smoking, talking	<u>39 minutes</u>
	86 minutes

Note: By using an unskilled labourer to fetch new material to the machine and take away finished work, the machine worker can work on the machine and loses no time. Breakdowns have been stopped by good machine maintenance. The worker is better supervised but can still take a short rest (39 minutes); 84 minutes extra output has been gained. This could pay the unskilled labourer's wage and more, but check with your accountant. Take time to watch the work in your workshop. You may be surprised at the time and money you are losing.

Handling, material on and off machines

It has been discussed earlier that in some trades it takes much longer to bring the material to the machine and put it on the machine than it does to cut or work the

material. It is true of woodworking, where big logs of wood are difficult to handle. It can be true of sheet-metal also because the sheets are large and heavy. It can also be true of dressmaking when the dress or shirt is nearly finished.

If you can make the handling time for each operation smaller, you can increase your output. Many businessmen spend a lot of money on high-speed machines and lose most of the increased output because they do not cut the handling time. If you are in a trade where heavy materials and work must be handled, think about ways in which you can make the handling time less. Get advice on this aspect of your production.

Workplace layout

The way in which tools, materials, and finished work are laid out at the place where the work is done is called workplace layout. The workplace, in many workshops, big and small, all over the world, is in a virtual mess. Finished work is mixed with the pieces waiting to be assembled. The tools are in the wrong places. The worker has to look for everything he wants. He may take twice as long to make one assembly as the workers at the workplace who has a chair to sit on. The latter will be less tired. Good workplace layout is very important where products are small and light and where they are produced from many parts and in large quantities. Work-study will help you make better layouts and save money.

Working conditions

In many small workshops and in some big ones, working conditions are poor. Much time is lost and work is often spoiled. Bad lighting results in slow and bad work. Benches of the wrong height and bad tools make it difficult to work well. Passages full of material and rubbish slow down movement and cause accidents. The absence of guards on machines, the lack of goggles where they are needed, or dangerous fumes make working dangerous. Workers are afraid. Apart from the suffering, accidents cost you money. They stop work. Workers are unhappy. Better working conditions often cost more, but they will result in a much better output.

There should be adequate heating in winter, good ventilation, decreased levels of noise and vibrations. These will increase the interest of workers, and they will be more productive. Make sure that your premises comply with the requirements of the Factories Act.

Equipment

New investment

As time goes on, machinery, equipment, motor vehicles, even buildings, become worn out or out of date. There comes a time when they must be replaced if outputs have to kept up. If you are doing well, your business will grow. You will need more machines, more vehicles, bigger buildings, and so on. Buying new capital equipment is a serious matter and if you are not careful you may waste a lot of money.

There are ways in which you can plan when machines are beginning to cost too much and must be replaced. A small manufacturer or operator must do this more

simply. When a machine becomes difficult to operate, shows poor productivity and begins to break down often, you must ask yourself: "Should I buy a new machine?" If you are keeping good records of production, it is easy to see when the output of the machine is falling.

There may be reasons which will push you to buy now instead of later, such as the following.

- ◆ A new machine may be much more expensive next year.
- ◆ You cannot get spares for the old machine. In some small firms, the machines are so old that spares have not been sold for years.
- ◆ Sales are going up. You need the extra output.
- ◆ The workers who could make the old machine work have left. The new employees may not know the method of operation or the tricks needed to make it function.

Try to find out what is the minimum quantity that you can produce and sell if you invest in a new machine so that it is profitable to make the investment.

Choosing new machines

Not many owners of small businesses have the technical knowledge to choose among the many different machines which may be much more modern than the one they know. They are often persuaded by salesmen to buy machines and other equipment which are too big, or, in other ways, not the best for their needs. Salesmen may be more interested in making the biggest sale rather than in selling what is suitable for you. If you choose badly, you are wasting your money.

When you buy an important new machine, you are buying not only for the present but also for the future. Some of the questions you should ask yourself are listed below.

- ◆ Do I want a machine or a piece of equipment of the same type and with the same output as the one I have?
- ◆ Will I have the same or a bigger demand for my products in the next five years?
- ◆ Is there a newer process, cheaper and perhaps easier to operate (with less skilled workers), which is now used instead of my machine and process? Have I looked at it?
- ◆ If I bought the new machine or process, could my present staff of workers operate it? If not, where can they be trained? In our own town? At the manufacturer's works?
- ◆ Will the new process work with my present raw materials?
- ◆ Is there any company in the area, or nearby which has the new machine or process I am thinking of buying? Where can I go and look at it working and learn more about it?

Once you have got the quotations for the new machine or equipment, you should do the following.

- ◆ Get written guarantees of output and quality of production. Even then, check with someone who has used the machine.
- ◆ Check on the delivery date. Do not trust promises that look too good.
- ◆ Get enough spare parts and make sure that they are ones you will need most. Find out if you can get service and spares in and around your area.
- ◆ Get detailed instructions on installation, operation, and maintenance. Ask for the operating manuals.
- ◆ Try to get a manual in Hindi, English, or in the languages that you know well.
- ◆ Make sure that the terms you have agreed to for installation, for getting the machinery or equipment into operation are the best you could get.
- ◆ Have an accountant or lawyer check exactly what you have agreed to in regard to the matter of payment.

Maintenance

Maintenance is that function of manufacturing management that is concerned with the day-to-day need of keeping the physical plant in good operating condition. It is an essential activity in every manufacturing establishment, because it is necessary to ensure the availability of the machines, buildings, and services needed by other parts of the organisation for the performance of their functions at an optimum return on the investment, whether this investment is in machinery, materials, or employee.

Machine maintenance means looking after machines and equipment, including vehicles, by oiling, greasing, checking calibration, replacing worn-out parts before they break, checking the electrical parts and the wiring. If a machine has to work well, maintenance must be done regularly, oiling and greasing must be carried out about once a week, and the electric motors must be checked every three months. The more a machine costs, the more important becomes its maintenance. If you must stop a machine for a long time, plan to stop it when you think it is most suitable. It is better to stop a machine when you want to rather than have it break down and stop when it is doing important work.

Maintenance covers two broad categories of functions as outlined below.

(a) Primary functions

- ◆ Maintenance of existing plant and equipment
- ◆ Maintenance of existing plant buildings and grounds
- ◆ Equipment inspection and lubrication
- ◆ Utilities generation and distribution
- ◆ Alterations to existing equipment and buildings
- ◆ New installations of equipment and buildings

(b) Secondary functions

- ◆ Keeping stock of spare parts
- ◆ Plant protection including fire protection
- ◆ Waste disposal
- ◆ Salvage



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- ◆ Insurance administration (against fire, theft, and so on)
- ◆ Janitorial services
- ◆ Property accounting
- ◆ Pollution and noise abatement or control

To avoid unnecessary delays due to unexpected breakdowns, it may be worthwhile to draw up a schedule for preventive maintenance where your machine may be stopped in a staggered and preplanned manner. Maybe you should work on each machine for four hours every week or for as long as is necessary. Sometimes maintenance can be planned for a weekly off day or during power cuts or even after production hours on overtime. The key point is that production should not stop when you want it to run.

The various types of maintenance are given below.

- (a) Breakdown maintenance
- (b) Preventive maintenance
- (c) Predictive maintenance
- (d) Routine maintenance
- (e) Planned maintenance
- (f) Total productive maintenance (TPM)

DISCUSSION FORUM



- ◆ Discuss in small groups various productivity improvement techniques.
- ◆ Explain different types of maintenance systems.

Box 11.3

Objectives of Maintenance Management

- ◆ Minimising the loss of productive time because of equipment failure.
- ◆ Minimising repair time and repair cost.
- ◆ Minimising the loss due to production stoppages.
- ◆ Efficient use of maintenance personnel and equipment.
- ◆ Prolonging the life of capital assets by minimising the rate of wear and tear.
- ◆ To keep all assets of the enterprise in good working condition.
- ◆ To maximise efficiency and economy in production through optimum use of facilities.
- ◆ To minimise accidents through regular inspection and repair of safety devices.
- ◆ To minimise the total maintenance cost.
- ◆ To improve quality and productivity.

BREAK-EVEN ANALYSIS

SNAPSHOT

- ◆ The total cost incurred by the unit can be classified as
 - ◆ Fixed cost
 - ◆ Variable cost
 - ◆ **Break-even** is the number of units that must be sold in order to produce a profit of zero (but will recover all associated cost).
- BEP = Fixed cost/(unit price-variable unit cost)**

A rudimentary idea of cost analysis is required to calculate the profit from business. Besides, this calculation has to be reflected in the project report.

Some expenditure is incurred in the production of goods, which in turn, bring revenue after sale in the market. If the sale proceeds are more than the cost of production, the unit earns profit. Otherwise it suffers a loss. In order to maximise profit, it is necessary to maximise the surplus of sales revenue over the cost of production.

Types of Cost

The total cost incurred by a unit can be classified as follows.

- (a) **Production cost:** This includes the cost of raw materials and components, power used for running the machines and lighting and heating and salaries and wages of staff engaged in production.
- (b) **Marketing cost:** It includes the cost of advertising and promotion of business as well as the salaries of marketing staff.
- (c) **Administrative cost:** This includes the cost of provision of building and equipment, telephones and other information systems, and wages and salaries of people responsible for the smooth running of the business.
- (d) **R & D:** Any cost involved in the development of new products.
- (e) **Distribution and storage:** This is the cost involved in storage of raw material and finished goods as well as of transportation. Some costs are jointly incurred, making it difficult to divide costs into various activities. In the interest of controlling costs it is necessary to identify them wherever they occur and relate them to a particular area of activity.

Fixed and variable costs

One practical way of deciding cost is to divide it into its fixed and variable components. They vary with the increase or decrease of business activity and have direct implications on profitability.

Fixed costs: This includes the salaries of administrative staff, rent for buildings, interest on capital investment, depreciation of machinery and equipment, furniture, and so on. It does not change with the volume of production. This cost is to be incurred if the production is zero, or maximum. Depreciation is the cost equivalent to the reduction in cost of machines and equipment on account of wear and tear due to normal use over the years. There are various methods of calculating the rate of depreciation. The simplest way to arrive at an estimate is to divide the difference of cost price and scrap value by the estimated life of the machine.

Illustration 11.5

Cost price of machine = Rs 10,000

Estimated life = 10 years

Estimated scrap value = Rs 1,000

$$\text{Annual depreciation charge} = \frac{\text{Rs } 10,000 - \text{Rs } 1,000}{10} \\ = \text{Rs } 900$$

Expressed as a percentage of cost price it becomes

$$= \frac{900 \times 100}{10,000} = 9\%$$

That means a machine costing Rs 10,000 and having an estimated life of ten years and scrap value of Rs 1,000 at the end of 10 years is wearing away at the rate of nine per cent of its cost price every year. Generally, a flat rate of 10–15 per cent is taken as the standard value of depreciation. The distinction between fixed capital and fixed cost must be clearly understood. Otherwise, there may be confusion while preparing the project report.

Fixed capital is the net asset value of the unit. It comprises the following items.

- (i) Actual cost of land and building including its development cost, cost of boundary walls, and so on.
- (ii) Total cost of plant and machinery.
- (iii) Total cost of furniture and other equipment.

Fixed cost, on the other hand, is the cost per month incurred by the firm irrespective of its being operational or not. This includes

- (i) the interest to be paid on fixed capital;
- (ii) cost of depreciation of machinery, equipment, and furniture;
- (iii) salaries of the administrative and other essential staff not directly connected with production – otherwise called overhead expenditure; and
- (iv) a portion of expenses on utilities. Roughly 50 per cent of the total expenditure on utilities is attributed to this head.

Variable costs

Variable costs vary with the volume of production. If the production is zero, variable cost is nil. The cost of raw materials, running and maintenance costs of machines, electricity and water charges, and so on are part of variable costs.

Break-even Point

Break-even point is the point of business operation when the business neither earns any profit nor incurs any loss. If the sales volume exceeds this point, profit starts picking up. It is important to estimate for what volume of sales the business will be earning a profit.

This can be calculated by the following simple formula:

$$\text{Break-even point} = \frac{\text{Fixed cost}}{\text{Selling price per unit} - \text{Variable cost per unit}}$$

Illustration 11.6 Assuming a fixed cost of Rs 10,000 and a selling price of Rs 5 per piece and a variable cost per unit of Rs 3, the break-even sales volume becomes

$$= \frac{\text{Rs } 10,000}{\text{Rs } 5 - \text{Rs } 3} = 5,000 \text{ units}$$

That means 5,000 units must be sold before the business shows any profit.

Putting the expected profit in the equation,

$$\text{Break-even profit point} = \frac{\text{Fixed cost} + \text{Desired profit}}{\text{Unit price} - \text{Variable unit cost}}$$

Taking a desired profit of Rs 10,000

$$\text{BEPP} = \frac{\text{Rs } 10,000 + \text{Rs } 10,000}{\text{Rs } 5 - \text{Rs } 3} = 10,000 \text{ units}$$

Maybe, it is not possible to produce or sell that big volume. If so, something has to be changed—cost reduction with higher productivity or a higher selling price.

It is estimated that only 7,000 units can be produced and sold. In that case, in order to achieve a profit of Rs 10,000, the new selling price will be

$$7,000 = \frac{\text{Rs } 10,000 + \text{Rs } 10,000}{\text{Rs } x - \text{Rs } 3}$$

Solving the equation for x we get the new selling price as Rs 5.86.

Ways to lower break-even

There are three ways to lower your break-even volume; only two of them involve cost controls (which should always be your goal on an ongoing basis).

1. Lower direct costs, which will raise the gross margin. Be more diligent about purchasing material, controlling inventory, or increasing the productivity of your labour by more cost-effective scheduling or adding more efficient technology.
2. Exercise cost controls on your fixed expenses, and lower the necessary total rupees. Be careful when cutting expenses that you do so with an overall plan in mind. You can cut too deeply as well as too little and cause distress among workers, or you may pull back marketing efforts at the wrong time, which will give out the wrong signals.
3. Raise prices! Most entrepreneurs are reluctant to raise prices because they think that the overall business will fall off. More often than not that does not happen unless you are in a very price-sensitive market, and if you are, you really have already become volume driven.



Visit <http://connection.cwru.edu> to access a break-even calculator.

Break-even analysis depends on the following variables.

1. The fixed production costs for a product
2. The variable production costs for a product
3. The product's unit price
4. The product's expected unit sales [sometimes called projected sales]

On the surface, break-even analysis is a tool to calculate at what volume of sales the variable and fixed costs of manufacturing your product will be recovered. Another way of looking at it is that break-even point is the point at which your product stops costing you money to produce and sell, and starts to generate a profit for your company. You can also use break-even analysis to solve managerial problems such as

- ◆ setting price levels;
- ◆ targeting optimal variable/ fixed cost combinations; and
- ◆ determining the financial attractiveness of different strategic options for your company.

DISCUSSION FORUM



- ◆ What is break-even analysis?
- ◆ Explain the significance of break-even analysis.

TOTAL QUALITY MANAGEMENT

“Quality” Defined

The dictionary has many definitions of quality. A short definition that has achieved acceptance is: ***Quality is customer satisfaction.***

Quality is a relative term and it is generally used with reference to the end use of the product. For example, the gears used in a sugarcane juice extracting machine may not possess as good surface finish, tolerance, and accuracy as compared with the gears used in the headstock of a lathe. Quality should be aimed at the needs of the consumer, present and future (Edwards Deming).

According to ISO 8402: Quality vocabulary, quality is “The totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs.” Broadly, quality is:

1. ***Fitness for use (Juran):*** A component is said to possess good quality if it works well in the equipment for which it is meant. Quality is thus defined as fitness for purpose.
2. ***Grade:*** Quality is the distinguishing feature or grade of the product in appearance, performance, life, reliability, taste, odour, maintainability, and so on. These are generally called quality characteristics.

3. **Degree of preference:** Quality is the degree to which a specified product is preferred over competing products of equivalent grade, based on a comparative test by customers, normally called customer's preference.
4. **Degree of excellence:** Quality is a measure of degree of general excellence of the product.
5. **Conformance to requirements (Philip Crosby):** The conformance to requirements is concerned with how well the manufactured product conforms to the design/specifications.

Managing for Quality

Quality management is the process of identifying and administering the activities needed to achieve the quality objectives of an organisation. The universal process of managing quality is illustrated in Table 11.1.

TABLE 11.1 Universal Process for Managing Quality

<i>Quality Planning</i>	<i>Quality Control</i>	<i>Quality Improvement</i>
<ul style="list-style-type: none"> ◆ Establish quality goals ◆ Identify customers ◆ Discover customer needs ◆ Develop product features ◆ Develop process features ◆ Establish process controls ◆ Transfer to operations 	<ul style="list-style-type: none"> ◆ Choose control subjects ◆ Choose units to measure ◆ Set goals ◆ Create a sensor ◆ Measure actual performance ◆ Interpret the difference ◆ Take action on the difference 	<ul style="list-style-type: none"> ◆ Prove the need ◆ Identify projects ◆ Organise project teams ◆ Diagnose the causes ◆ Provide remedies, prove that the remedies are effective ◆ Deal with the resistance ◆ Change and control hold the gains

Total Quality Management

It is defined as a management approach that tries to achieve and sustain long-term organisational success by encouraging employee feedback and participation, satisfying customer needs and expectations, respecting societal values and beliefs, and obeying governmental statutes and regulations. Product, process, system, people, and leadership form the five pillars of TQM. This is shown in Figure 11.3.

TQM provides the overall concept that fosters continuous improvement in an organisation. The TQM philosophy stresses a systematic, integrated, consistent, organisation-wide perspective involving everyone and everything. It focuses primarily on total satisfaction for both the internal and external customers, within a management environment that seeks continuous improvement of all systems and processes.

Quality Improvement Tools

Quality improvement tools are divided into three parts. The first part deals with the seven statistical tools, the second part deals with the seven new tools, and the third part deals with the other quality improvement tools. These quality improvement tools are listed below.

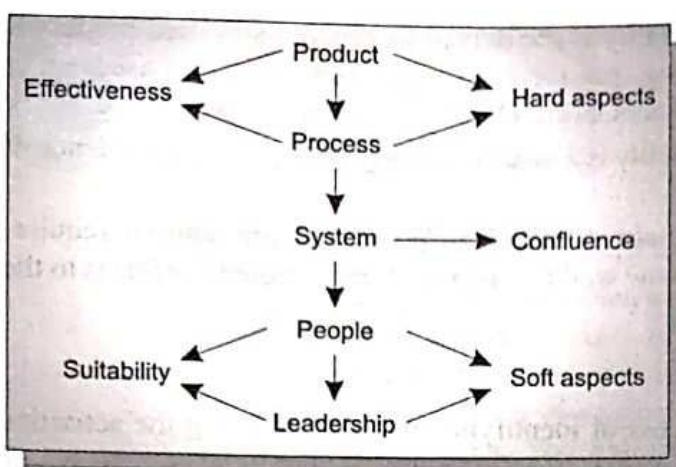


Figure 11.3 ■ Five pillars of TQM

Part 1 The Seven Statistical Tools

1. Checksheet
2. Histogram
3. Pareto diagram
4. Cause and effect diagram
5. Scatter diagram
6. Control chart
7. Graphs

Part 2 The New Seven Tools

1. Relations diagram
2. Tree diagram

3. Matrix diagram
4. Affinity diagram
5. Arrow diagram
6. Process decision programme chart
7. Matrix data analysis

Part 3 Other Quality Improvement Tools

1. Vision and mission statements
2. Acceptance sampling
3. Process capability studies
4. Zero defect programme (Poka-Yoke)
5. Brainstorming
6. Value analysis and value engineering
7. Benchmarking

Quality Systems

The International Organisation for Standardisation (ISO) was founded in 1946 in Geneva, Switzerland, where it is still based. Its mandate is to promote the development of international standards to facilitate the exchange of goods and services worldwide. Recognising the importance of a quality system, ISO has developed a series of standards popular as ISO 9000. These international standards were jointly developed by all ISO member countries and are being adopted throughout the world.

The ISO 9000 is a series of standards on quality management system, which can be adopted by all types of organisations belonging to the government, public, private or joint sectors, producing and supplying all kinds of goods, services, and software. These standards are generic, not specific to any particular product and can be used for managing the quality of outputs of manufacturing and service industries.

These standards were revised for the first time in 1994. Based on the actual experience of several thousand companies, these standards were further revised with an

TABLE 11.2 Quality System Standards

Standard	Title	Scope
ISO 9000–2000	Quality Management Systems—Fundamentals and Vocabulary	Provides fundamentals of quality management system and specifies quality management terms and definitions
ISO 9001–2000	Quality Management Systems—Requirements	Specifies requirements for a quality management system where an organisation needs to demonstrate its capability to meet customer requirements for product and/or services and assessment of that capability by internal and external parties
ISO 9004–2000	Quality Management Systems—Guidance for Performance Improvement	Provides guidance on quality management systems as a means for continual improvement of processes that contribute to the satisfaction of the organisation's customers and other interested parties

improved version in 2000. The latest revision contains three main standards given in Table 11.2.

Quality Management Principles

Quality management principles are a set of comprehensive and fundamental rules or beliefs for leading and operating an organisation, aimed at continually improving performance over the long-term by focusing on customers while addressing the needs of all stakeholders. Quality management principles provide understanding and guidance on the application of quality management in an organisation. As per ISO, the following eight quality management principles can help any organisation in creating a quality work culture and successfully implementing quality management.

- 1. Customer focused organisation:** Organisations depend on their customers and should therefore, understand their current and future needs, meet their requirements, and strive to exceed their expectations. Customer-focused organisations manufacture products and services that are needed by the customer and provide customer satisfaction. This can be achieved by the following actions.
 - ◆ Identify customer needs.
 - ◆ Design a product which responds to customer needs.
 - ◆ Produce and deliver the product as per the design.
 - ◆ Enhance after sales service and handle complaints quickly.
 - ◆ Measure customer satisfaction.
 - ◆ Improve quality to delight the customer.
- 2. Leadership:** The senior leaders of an organisation need to set directions and create a customer orientation, clear and visible quality values, and high expectations. Values, directions, and expectations need to address all stakeholders.

The leaders need to ensure the creation of strategies, systems, and methods for achieving excellence. Strategies and values should help guide all activities and decisions of the organisation. The senior leaders must commit to the development of the entire workforce and should encourage participation, learning, innovation, and creativity by all employees. Through their personal roles in planning, communications, review of organisational performance, and employee recognition, the senior leaders serve as role models, reinforcing the values and expectations, and building leadership and initiative throughout the organisation.

3. **Involvement of people:** People involvement is one approach to improving quality and productivity. Involving people at all levels enables their abilities to be used for the organisation's benefit. This can be done by providing a good corporate work culture, providing an interesting work system and work environment, and building the capability of the people to perform assigned tasks in the organisation.
4. **Process approach:** A desired result is achieved more efficiently when related resources and activities are managed as a process.
5. **Systems approach to management:** Identifying, understanding and managing a system of interrelated processes for a given objective contributes to the effectiveness and efficiency of the organisation.
6. **Continuous improvement:** A permanent objective of the organisation is that it should continuously improve performance by addressing the needs of all interested parties.
7. **Factual approach to decision making:** Effective decisions are based on the logical or intuitive analysis of data and information.
8. **Mutually beneficial supplier relationship:** The ability of the organisation and its suppliers to create value is enhanced by mutually beneficial relationships.

The main purposes of quality management system can be summarised as below.

- ◆ Customer satisfaction/customer delight by assuring the required minimum level of consistent quality
- ◆ Satisfying "internal customers"
- ◆ Assuring management of doing this at minimum possible total cost of quality
- ◆ Maximising output to input ratios of processes
- ◆ Implementing "prevention is better than cure" strategy
- ◆ Improving quality of communication all around
- ◆ Developing competent subcontractors as partners
- ◆ Making continual improvement an ongoing feature in company's culture

Requirements of Quality Management System

(1) General

The system must demonstrate the capability to meet customer's requirements for products/services and also should provide for the assessment of that

capability by internal and external parties. These are not a substitute but are complementary requirements to the specified technical requirements for products and services.

It is not the purpose of this standard to imply uniformity of quality management systems in all organisations, but to find out the design and implementation of an organisation's quality management processes and practices employed and the level of competence of the people involved in implementation. It does not intend to be an obligation on organisations to change the structure of their existing quality management system and/or its documentation to exactly match with the structure of ISO 9001 standard. The documentation of the organisation should be defined in a manner that is most appropriate to its unique activities.

(2) Process Model

A "process" is any activity or operation, which receives inputs and converts them to outputs. Organisations need to define and manage numerous interlinked processes. The systematic identification and management of the various processes employed in an organisation, and the interaction among such processes may be referred to as the "process approach" to management. The standard encourages the use of process approach for managing the organisation and its processes and as a means of identifying and managing opportunities for improvement.

Figure 11.4 gives a conceptual presentation of a generic quality management system. It is broadly based on the simple but famous Deeming cycle of "plan-do-check-act". Deeming propounded the use of this way of working all aspects of business. Any activity should be **planned** before doing it.

In many organisations, planning is not carried out with as much seriousness as it should be. In this situation there is no guideline against which to judge performance and hence no way of improving performance until the customer either shouts or just goes away. Once the plan has been agreed upon, the entire team should stick to **doing** things as per the plan until it is revised for some valid reason. Sometimes the plan may have to be revised very often as per the requirements of the customer. This is not an excuse for not having a plan at all. While the activities are being performed and at the end of a process, the results have to be **checked** or measured for their conformance with the requirements. The data is recorded and analysed at appropriate intervals using appropriate statistical techniques. Causes analysis is an important part of analysis. Based on the findings, **improvement actions**—either corrective or preventive—are decided upon and carried out again in a planned manner. Such actions should result in amending the working procedures in the company so that the improvements get into the system. Thus, it ensures a continually learning organisation.

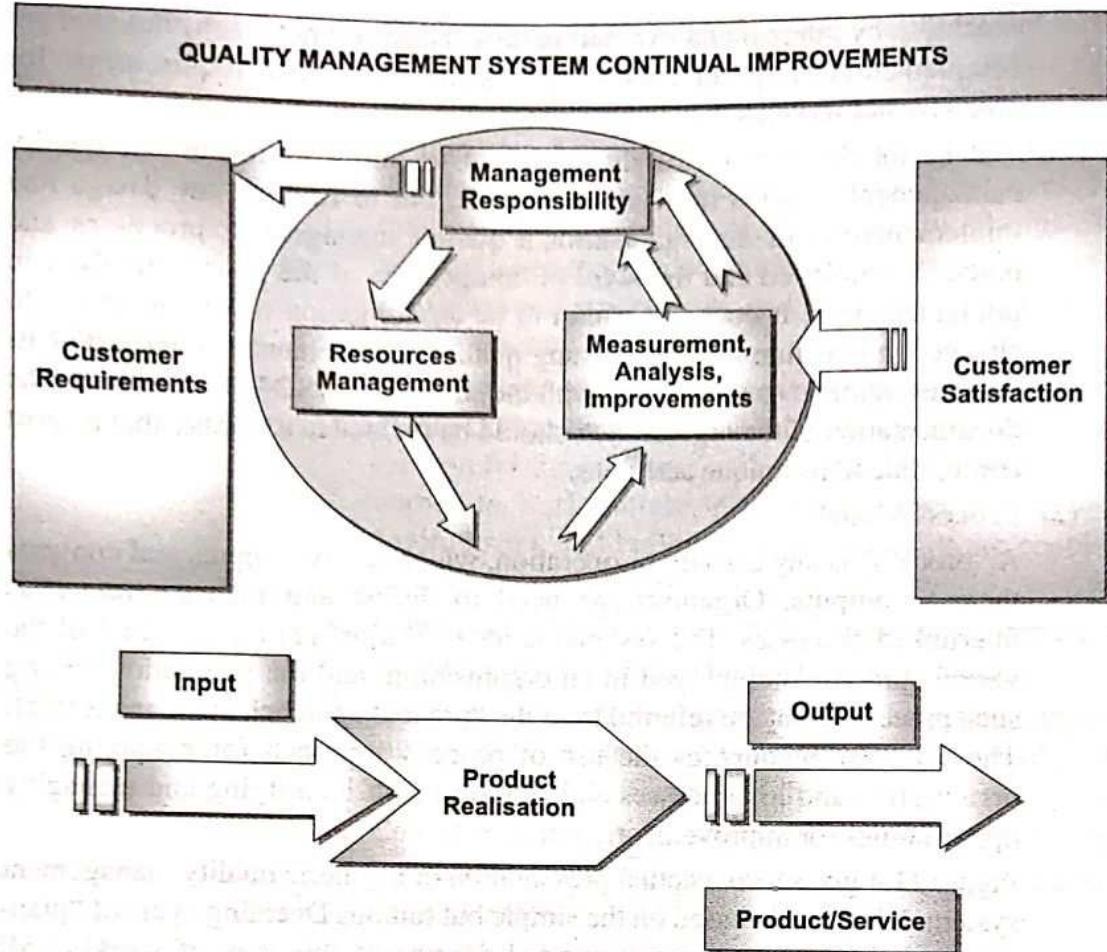


Figure 11.4 ■ Process model

(3) Compatibility with Other Management Systems

This standard shares common principles with ISO 14001, environmental management systems specification with guidance for use. It is suggested that common subjects in the two series of standards may be implemented in a shared manner, without unnecessary duplications or the imposition of conflicting requirements.

This standard does not address or include requirements for aspects of other management systems, such as environment management, occupational health and safety management or financial management. However, this standard does not prevent an organisation from developing integration of like management system subject/areas. This means that companies may simplify the documentation by preparing an integrated management system covering requirements of different compatible management systems. Quality system requirements of this standard need not be established independently of the existing management systems requirements.

ISO 9001:2000

ISO 9001:2000 "Quality Management Systems- Requirements"

The title no longer includes the term "Quality assurance". This is probably because the term somehow had connotations with the manufacturing system only. The new standard tries to be more generally applicable and to be understood more easily.

The requirements not only address quality assurance of the product or service conformity, the emphasis has been shifted to the need for an organisation to demonstrate its capability to achieve customer satisfaction.

Quality Management Systems—Requirements

Contents

1. Scope
2. Normative Reference
3. Terms and Definitions
4. Quality Management Systems
 - 4.1 General Requirements
 - 4.2 Documentation Requirements
5. Management Responsibility
 - 5.1 Management Commitment
 - 5.2 Customer Focus
 - 5.3 Quality Policy
 - 5.4 Planning (Objectives and QMS planning)
 - 5.5 Responsibility, Authority and Communication (R&A , MR, Int. Com.)
 - 5.6 Management Review (Gen., Input, Output)
6. Resource Management
 - 6.1 Provision of Resources
 - 6.2 Human Resources (General, Competence, Awareness, and Training)
 - 6.3 Infrastructure
 - 6.4 Work Environment
7. Product Realisation
 - 7.1 Planning of Product Realisation
 - 7.2 Customer Related Processes
(Requirements—Determination and Review, Communication)
 - 7.3 Design and Development
 - 7.4 Purchasing
 - 7.5 Production and Service Provision
(Control of Production and Service Provision, Validation of Processes, Identification and Traceability, Customer Property, Preservation of Product)
 - 7.6 Control of Monitoring and Measuring Devices.

8. Measurement, Analysis, and Improvement

8.1 General

8.2 Monitoring and Measurement

(Customer Satisfaction, Internal Audit, Processes, Product)

8.3 Control of Non-conforming Product

8.4 Analysis of Data

8.5 Improvement

(Continual Improvement, Corrective Action, Preventive Action)

Steps to Certification Under ISO 9001:2000

Steps in preparation and implementation of ISO 9001 for certification are summarised in Table 11.3. These are not a rigid set of steps but only a general guideline for those who wish to implement the system in their organisations. Some explanatory notes are given after the table on some of the steps involved. Persons shown as generally responsible are indicative. Wherever the CEO is shown as responsible, it means the top management must be involved—irrespective of designation.



Refer for quality improvement tools Charantimath, Poornima (2003). *Total Quality Management*. New Delhi: Pearson Education.

Training of the MR for his role in this entire process is of vital importance for timely completion of the process till certification. If the MR

undergoes training to become the lead assessor, it is an additional asset in the process; however, it is not mandatory. He should be trained to be an internal quality auditor and should be fully aware of the standard requirements. Though the pre-assessment audit is said to be optional, and though it means a little additional cost to the organisation, it is a highly recommended practice for the following reasons.

- It is like a dress rehearsal for the entire company and especially for those who are going to face the final audit.
- The auditees get a first-hand idea about the interpretation of the certifying agency about the standard requirements.
- The report based on the third party pre-audit becomes an agenda of priority items to be completed before the certification audit.
- Chances of success in the final audit improve distinctly.

DISCUSSION FORUM



- ◆ Define TQM. List the various quality improvement tools.
- ◆ Name the requirements of ISO 9000:2000.
- ◆ What is the aim of EMS standard? How is the aim achieved?

TABLE 11.3 Steps in Preparation and Implementation of ISO 9001

S. No.	Activities	Generally Responsible
1	Management commitment	CEO/Board of Directors
2	Formation of core group (In large, multi-division, multi-location companies)	CEO
3	Quality policy	CEO
4	Appointment of management representative (MR)	CEO
5	Train MR	Training agency
6	Awareness programme for all employees	MR/Dept. Head/Consultant
7	Set quality objectives for the company and for all the functional areas	MR, CEO and all departmental heads
8	Prepare a list of documentation and procedure for writing procedures	MR
9	Form implementation team (generally of all department heads) and delegate writing documentation	CEO/MR
10	Mapping the existing processes/writing existing procedure/work methods/instructions/checklists	Dept. Heads/Key personnel
11	Comparison with applicable ISO 9001 standard and identify gaps	Dept. Head/MR/Consultant
12	Writing additional procedures / work instructions to fill gaps	Dept. heads
13	Apex quality manual	MR/Guidance from consultant
14	Compile linkages among procedures	MR
15	Regular review of progress	MR with core group
16	Check adequacy for certification with respect to the standard	MR, Dept. Heads (if required—consultant)
17	Identify certification agency	MR (Consultant—if required)
18	Request for certification, submit quality manual for review/fees	MR
19	Training programme for internal quality audits (IQA)	MR, Consultant (By qualified lead assessor)
20	1st internal audit including adequacy audit	MR and IQ auditors, consultant, if required
21	1st management review meeting (MRM)	CEO + MR + Dept. heads + Internal quality auditors
22	Take planned corrective and preventive actions	All departmental heads + MR
23	2nd IQA	MR and IQ auditors
24	2nd MRM	CEO + MR + Dept. heads + Internal quality auditors
25	Follow up or compliance audit to check completion of corrective actions effectively	MR, Consultant, Internal quality auditors
26	Preliminary assessment (Generally optional, but a recommended practice)	Accredited certification agency
27	Final assessment for certification	Accredited certification agency

ENVIRONMENTAL MANAGEMENT SYSTEM

The International Organisation for Standards completed the quality management system (ISO 9000) in 1987. Its worldwide success along with increased emphasis on environmental issues were instrumental in ISO's decision to develop environmental management standards. In 1991, ISO formed the Strategic Advisory Group on the Environment (SAGE), which led to the formation of Technical Committee (TC) 207 in 1992. The mission of TC 207 is to develop standards for an Environmental Management System (EMS). TC 207 has established six sub-committees: Environmental Management Systems, Environmental Auditing, Environmental Labelling, Environmental Performance Evaluation, Life Cycle Assessment, and Terms and Definitions.

ISO 14000

The ISO 14000 document is titled *Environmental Management System—General Guidelines on Principles, Systems and Supporting Techniques*. It outlines system elements, with advice on how to initiate, implement, improve, and sustain the system. By following its guidelines and the core elements of the environmental management system specification, ISO 14001, your organisation will have a framework to balance and integrate environmental and economic interests. Doing so will improve your competitive advantage. The ISO 14000 series is given in Table 11.4.

ISO 14000 stipulates a set of ten management principles for organisations considering an environmental management system. These management principles are as follows.

1. Recognise that environmental management is one of the highest priorities of any organisation.
2. Establish and maintain communications with both internal and external interested parties.
3. Determine legislative requirements and those environmental aspects associated with your activities, products, and services.
4. Develop commitment by everyone in the organisation to environmental protection and clearly assign responsibilities and accountability.
5. Promote environmental planning throughout the life cycle of the product and the process.
6. Establish a management discipline for achieving targeted performance.
7. Provide the right resources and sufficient training to achieve performance targets.
8. Evaluate performance against policy, environmental objectives and targets, and make improvements wherever possible.
9. Establish a process to review, monitor, and audit the environmental management system to identify opportunities for improvement in performance.
10. Encourage vendors to also establish environmental management systems.

TABLE 11.4 ISO 14000 Series

ISO 14000	Environmental Management Systems. General guidelines on principles, systems, and supporting techniques.
ISO 14001	Environmental Management Systems. Specification with guidance for use.
ISO 14004	Environmental Management Systems. General guidelines on principles, systems, and supporting techniques.
ISO 14010	Guidelines for environmental auditing. General principles of environmental auditing.
ISO 14011/1	Guidelines for environmental auditing. Audit procedures—Part 1: Auditing of environmental management systems.
ISO 14012	Guidelines for environmental auditing. Qualification criteria for environmental auditors.
ISO 14013	Guidelines for environmental auditing. Management of environmental management system audit programmes.
ISO 14014	Guidelines for initial environmental reviews.
ISO 14015	Guidelines for environmental site assessments.
ISO 14020	Environmental labelling. Principles of all environmental labelling.
ISO 14021	Environmental labelling. Self-declaration, environmental claims—terms and definitions.
ISO 14022	Environmental labelling. Symbols.
ISO 14023	Environmental labelling. Testing and verification methodologies.
ISO 14024	Environmental labelling. Practitioner programmes, guiding principles, practices and certification procedures of multiple criteria.
ISO 14030	Environmental performance evaluation.
ISO 14031	Evaluation of the environmental performance of the management system and its relationship to the environment.
ISO 14040	Environmental management—life cycle assessment—principle and guidelines.
ISO 14041	Environmental management—life cycle assessment—Goal definition/scope and inventory analysis.
ISO 14042	Environmental management—life cycle assessment. Impact assessment.
ISO 14043	Environmental management—life cycle assessment. Improvement assessment (or evaluation and interpretation).
ISO 14050	Terms and definitions.
ISO 14060	Guide for the inclusion of environmental aspects in product standards.

Benefits of Environmental Management System

What does ISO 14000 say regarding the benefits to an organisation by implementing an effective environmental management system? Corporations and organisations can do the following.

1. Protect human health and the environment from the potential impacts of its activities, product, and services
2. Assist in maintaining and improving the quality of the environment
3. Meet customers' environmental expectations

4. Maintain good public and community relations
5. Satisfy investor criteria and improve access to capital
6. Provide insurance at a reasonable cost
7. Gain an enhanced image and market share
8. Satisfy vendor certification criteria
9. Improve cost control
10. Limit liabilities
11. Provide resource conservation
12. Provide effective technology development and transfer
13. Provide confidence to interested parties (and shareholders) that
 - ◆ policies, objectives and targets are met;
 - ◆ emphasis is on prevention first;
 - ◆ reasonable care and regulatory compliance regularly occur; and
 - ◆ System design includes continual improvement.

ISO 14001

This standard provides organisations with the elements for an environmental management system, which can be integrated into other management systems to help achieve environmental and economic goals. It describes the requirements for registration and/or self-declaration of the organisation's EMS. Demonstration of successful implementation of the system can be used to assure other parties that an appropriate EMS is in place. It was written to be applicable to all types and sizes of organisations and to accommodate diverse geographical, cultural, and social conditions. As previously mentioned, the requirements are based on the process and not on the product. It does, however, require commitment to the organisation's EMS policy, applicable regulations, and continual improvement.

There are four sections to the standard—scope, normative reference, definition and EMS requirements—and an informative annex. The standard is divided into six parts and has a total of 18 requirements.

The guidance of ISO 14000 on the development and implementation of environmental management systems and principles, including their coordination with other management systems, is applicable to any organisation interested in having or improving an environmental management system. The guidelines are for voluntary use as an internal management tool. They build on the core elements of ISO 14001 and also include additional elements important to a comprehensive environmental management system.

Environmental Management Systems—Requirements

Contents

1. Scope
2. Normative References
3. Definitions

4. EMS Requirements
 - 4.1 General Requirements
 - 4.2 Environmental Policy
 - 4.3 Planning
 - 4.3.1 Environmental Aspects
 - 4.3.2 Legal and Other Requirements
 - 4.3.3 Objectives and Targets
 - 4.3.4 Environmental Management Programme(s)
 - 4.4 Implementation and Operation
 - 4.4.1 Structure and Responsibility
 - 4.4.2 Training, Awareness, and Competency
 - 4.4.3 Communication
 - 4.4.4 EMS Documentation
 - 4.4.5 Document Control
 - 4.4.6 Operational Control
 - 4.4.7 Emergency Preparedness and Response
 - 4.5 Checking and Corrective Action
 - 4.5.1 Monitoring and Measuring
 - 4.5.2 Non-conformance and Corrective and Preventive Action
 - 4.5.3 Records
 - 4.5.4 EMS Audit
 - 4.6 Management Review

SUMMARY

- ◆ **Production system** is a system whose function is to convert a set of inputs into a set of desired outputs. **Production management** refers to the application of management principles to the production function in an enterprise.
- ◆ **Materials management** refers to the movement of production materials from the stage of their acquisition to the stage of their consumption. The two main functions of material management are purchase management and inventory management.
- ◆ **High productivity** is never a question of higher workloads or faster machines alone. It is always an elimination of wastage of all types of labour (time and skill), machine, time, capital, materials, management, and so on.
- ◆ **Break-even** is the number of units that must be sold in order to produce zero profit (but will recover all associated cost).
- ◆ TQM is defined as a management approach that tries to achieve and sustain long-term organisational success by encouraging employee feedback and participation, satisfying customer needs and expectations, respecting societal values and beliefs, and obeying governmental statutes and regulations. Product, process, system, people, and leadership form the five pillars of TQM.



KEY WORDS

- ◆ Production system
- ◆ Production management
- ◆ Production planning and control
- ◆ Plant layout
- ◆ Maintenance
- ◆ Materials management
- ◆ Purchase cycle
- ◆ Purchase management, Inventory management
- ◆ Input
- ◆ Output
- ◆ Conversion process
- ◆ Always Better Control (ABC)
- ◆ High, Medium and Low (HML)
- ◆ Vital Essential and Desirable (VED)
- ◆ Scarce
- ◆ Difficult and Easy to Obtain (SDE)
- ◆ Fast moving
- ◆ Slow moving and Non moving (FSN)
- ◆ Economic order quantity (EOQ)
- ◆ Max-minimum system
- ◆ Two-bin system
- ◆ Materials requirement planning (MRP)
- ◆ Just-in-time (JIT)
- ◆ Productivity
- ◆ Work study
- ◆ Method study
- ◆ Work measurement
- ◆ Break-down maintenance
- ◆ Preventive maintenance
- ◆ Predictive maintenance
- ◆ Routine maintenance
- ◆ Planned maintenance
- ◆ Total productive maintenance (TPM)
- ◆ Break-even analysis
- ◆ Fixed cost
- ◆ Variable cost
- ◆ Unit price
- ◆ Unit variable cost
- ◆ Total quality management (TQM)
- ◆ Quality
- ◆ Quality planning
- ◆ Quality control, Quality improvement
- ◆ Effectiveness
- ◆ Hard aspects
- ◆ Product
- ◆ Process
- ◆ System
- ◆ Confluence
- ◆ People
- ◆ Leadership
- ◆ Suitability
- ◆ Soft aspects
- ◆ Seven statistical tools
- ◆ New seven tools
- ◆ Vision and mission statements
- ◆ Acceptance sampling
- ◆ Process capability studies
- ◆ Zero-defect programme (Poka-Yoke)
- ◆ Brainstorming
- ◆ Value analysis and value engineering
- ◆ Benchmarking
- ◆ Process model
- ◆ Quality management system (QMS)
- ◆ Environmental management system (EMS)
- ◆ ISO 9000
- ◆ ISO 14000



EXERCISES

Problem 11.1

The production manager of a unit wants to know from you what quantity of automatic machines he can use against semi-automatic machines. Calculate the break-even point.

Data	Automatic	Semi-automatic
Time for the job	2 mts	5 mts
Set up time	2 hrs	1.5 hrs
Cost per hour	Rs 20	Rs 12

Problem 11.2

The following details are given for a group of items.

Group	No. of Items Group	Average Weekly Consumption	Price Per Item (Rs)
I	310	16	04
II	50	5	10
III	50	390	15
IV	240	6	2
V	50	10	8
VI	50	200	10
VII	125	55	5
VIII	125	25	14

Classify the above items into A, B, and C categories on the assumption that

- “A” items account for 80 per cent of the total consumption value,
- “B” items account for 15 per cent of the total consumption value, and
- “C” items account for 5 per cent of the total consumption value.



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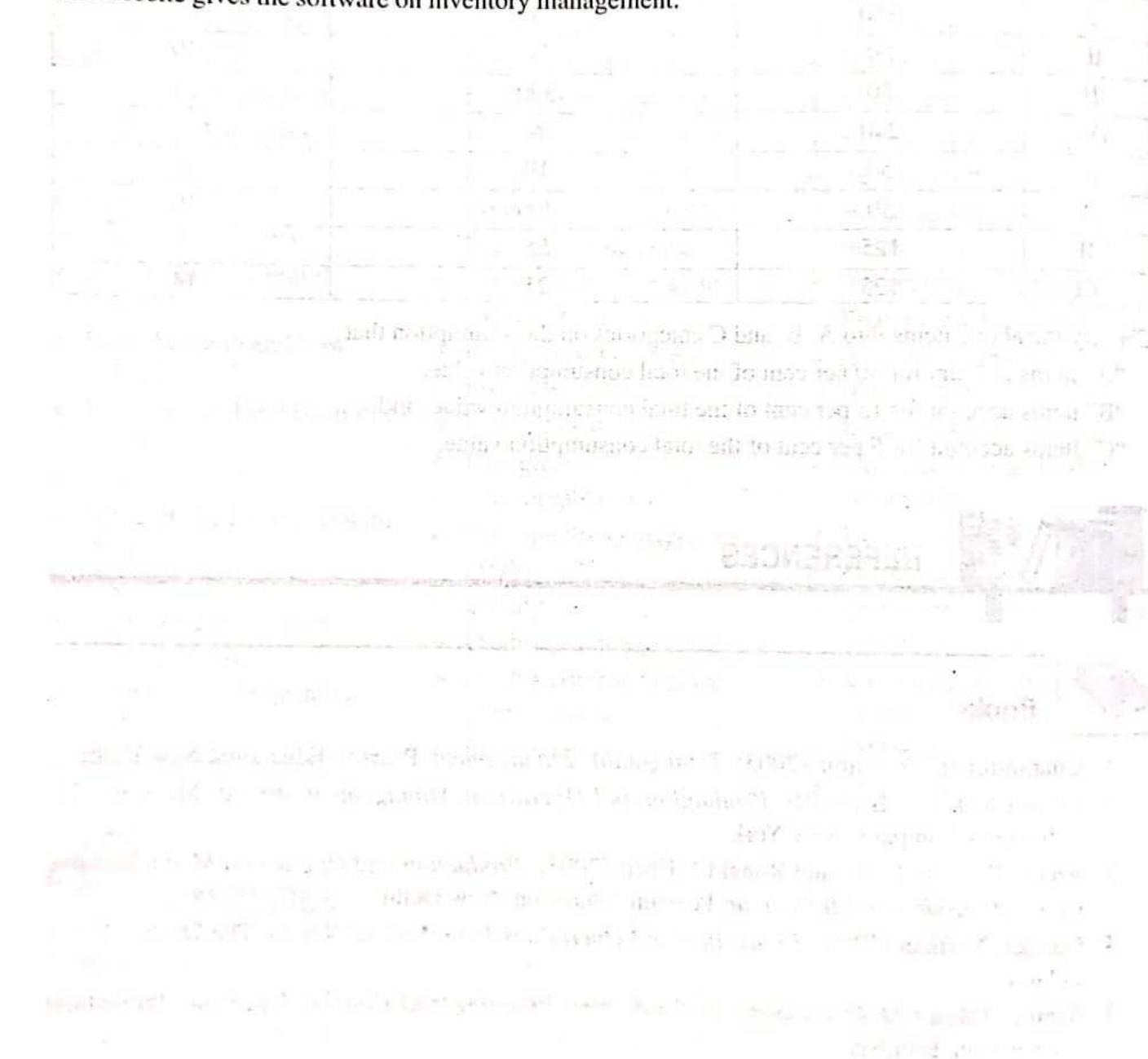
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Human Resource Management in Small Business

12



A team of employees from a small business enterprise, from Hyderabad, Andhra Pradesh, involved in a training session focussing on human resource development.

"All the activities of any enterprise are initiated and determined by the persons who make up that institution. Plants, offices, computers, automated equipment, and all else that a modern firm uses are unproductive except for human effort and direction. Of all the tasks of management, managing the human component is the central and most important task, because all else depends on how well it is done."

—Renesis Likert

Learning Objectives

- ⦿ Learn the concepts of HRM
- ⦿ Identify the importance of HRM in small business
- ⦿ Learn the various functions of HRD
- ⦿ Discuss the industrial and labour laws relevant to small business

IMPORTANCE OF HUMAN RESOURCE MANAGEMENT

Human Resource Management (HRM) can be defined as a strategic and coherent approach to the management of an organisation's most valued assets—the people working there who individually and collectively contribute to the achievement of its objectives. In a small business the role of HRM is important as human capital is vital for the organisation.

HRM is a multi-faceted process involving various areas like selection, placement, induction, training, performance appraisal, career planning, and potential development. It also includes areas like motivation and development of the entire workforce within an organisation. It develops the skills and knowledge of people and also aims to bring about a change in the attitudes of people, with a view to extract the best in them.

Human Resource Development (HRD) is that component of HRM which deals with the development of human resources. Competent employees may not remain competent forever. Some are minimally qualified upon entering the organisation and require additional training or education. Others enter the organisation, capable of performing at the optimum level, but their skills become obsolete after some time. Organisations change over time and management must ensure that there is an appropriate match between individual ability and organisational needs for the future. Employee training gives individuals the specific skills that they require for effective execution of their responsibilities. Management development, career planning, career counselling and guidance are also the key responsibilities of HRD.

Functions of Human Resource Development

- ◆ Recruitment—advertising for new employees and liaising with employment agencies
- ◆ Selection—determining the best candidates from those who apply, arranging interviews, tests, and references
- ◆ Promotion—running similar selection procedures to determine progression within the organisation
- ◆ Pay—a minor or major role in pay negotiation, determination, and administration
- ◆ Performance assessment—coordinating staff appraisal and counselling systems to evaluate individual employee performance

- ◆ Grading structures—as a basis for pay or development, comparing the relative difficulty and importance of functions
- ◆ Training and development—coordinating or delivering programmes to fit people for the roles required by the organisation now and in the future
- ◆ Welfare—providing or liaising with specialists in a staff care or counselling role for people with personal or domestic problems affecting their work
- ◆ Communication—providing an internal information service, perhaps in the form of staff newspapers or magazines, handouts, booklets, videos
- ◆ Employee relations—handling disputes, grievances, and industrial action, often dealing with unions or staff representatives
- ◆ Dismissal—on an individual basis as a result of failure to meet requirements or as part of a redundancy, downsizing, or closure exercise, perhaps involving large numbers of people
- ◆ Personnel administration—record-keeping and monitoring of legislative requirements related to equal opportunities and possibly pensions and tax

HUMAN RESOURCE DEVELOPMENT

Harbison and Myers have defined human resource development as “the process of increasing the knowledge, the skills and the capacities of all the people in a society. In economic terms, it could be described as the human capital and its effective investment in the development of an economy”.

For a small enterprise, the following aspects of human resource development are important:

- (a) Manpower planning
 - (b) Recruitment, selection and placement
 - (c) Performance appraisal and development
 - (d) Employee compensation
 - (e) Motivation
 - (f) Communication
- (a) **Manpower planning:** In the small-scale sector, manpower planning is usually a one-man show or a group decision with regard to their responsibilities or those of their employees. There is no assessment of manpower requirements, no job analysis, no job description, and no job specifications but they are aware of their business policies and of the goals to be achieved. Pursuant to these policies and goals, they decide the manpower required for specific positions and assign specific roles to each employee. With the help of human resource management consultants, SSIs can be professionally guided on this crucial aspect to ensure that the organisation is made up of the right people. Box 12.1 describes the elements of the job description.

Box 12.1 Job Description Chart

Job: Title: Billing clerk

Supervisor: Store manager

Summary: Responsible for receiving payments against delivery of goods from godown, prepares and processes paperwork, maintains requisite documents

Duties and Responsibilities:

- ◆ Receiving and placing stocks in store
- ◆ Checks invoices against the goods received
- ◆ Inspection of goods received
- ◆ Codification and documentation

Job Specification:

Education: Graduate

Experience: Not compulsory

Skills: Knowledge of computers

- (b) **Recruitment, selection, and placement:** There are no set rules for recruitment, selection, and placement of employees. In some small businesses/industries, employees are selected from known circles to ensure their honesty and loyalty. In order to employ skilled and educated persons who are efficient and professional, small firms should follow modern management rules for the selection and training of the employees for accurate and better results. The selection of an employee can be through public or private employment exchanges, training institutes or polytechnic colleges, newspaper advertisements, trade union and trade or professional associations. Applications should be called for on a prescribed form. The selection should precede the interview by the entrepreneur and/or other experts to select a person with the right qualifications and experience. The interview reveals additional factors such as the applicant's enthusiasm, ability to communicate, poise, and personal appearance. Selection should be made after verifying the antecedents of the person. After selection, the recruit should be made familiar with the enterprise, its policies, and goals. Before placement, training should be imparted by qualified trainers on the job to reorient skills, attitude, and expected behaviour to perform the job effectively. In certain businesses, job rotation, specialised training, or management development training is also considered necessary.
- (c) **Performance appraisal and development:** The output of an employee in the business is of paramount importance. Productivity is linked to the employee's performance. Modern management suggests various ways for personnel managers to appraise job performance. The basic objective of such an exercise is to measure an employee's strengths and weaknesses and aim for greater efficiency and improvement. Towards this end, opportunities are

SNAPSHOT

Human Resource Management (HRM) can be defined as a strategic and coherent approach to the management of an organisation's most valued assets—the people working there who individually and collectively contribute to the achievement of its objectives. HRD is that component of HRM which deals with the development of human resources. For a small enterprise, the following aspects of human resource development are important.

- ◆ Manpower planning
- ◆ Recruitment, selection, and placement
- ◆ Performance appraisal and development
- ◆ Employee compensation
- ◆ Motivation
- ◆ Communication

provided for the employee to improve upon and develop the required level of skills. A system of appraisal should be developed where efficient employees are rewarded by promotions/increments in emoluments and given more important job responsibilities. Training should also be imparted to develop skills to the required level of performance whenever necessary.

- (d) **Employee compensation:** Employee satisfaction is extremely important for the continuity of any business activity. The SSI unit should evolve a satisfactory employee compensation system by: (a) grading jobs; (b) formulating wage scales for each job specification; (c) proposing effective means of stimulating and rewarding employees; and (d) providing for stability of employment. It should provide the going wage or a better wage to attract and retain good employees. Employees should be rewarded on merit for loyalty and motivation. Fringe benefits like health plans, pension plans, life insurance, bonus, and profit sharing should be compared favourably with competitors.
- (e) **Motivation)** For the success of any enterprise, motivation at work is the most important requirement. Motivation is conceived with self-inspiration, propelling an employee or a person into action and keeping him at work. It is a psychological concept requiring the management to look into the forces operating within an individual including his/her safety needs, social needs, and ego needs as well as factors that motivate him/her to act or not to act in a particular way. A positive balance should be maintained to ensure a continuous and dynamic process for the success of the enterprise in terms of a) higher efficiency; b) better human relations; c) lower absenteeism and turnover; and d) better image of the enterprise.

Herzberg's two-factor theory of motivation consists of maintenance and motivational factors. Maintenance factors are external to the job but relate to the job environment and include the policy of the enterprise, supervision, and interpersonal relations, working conditions, salary, job security, status, and personal life. Motivational factors relate to the job itself and include feelings of achievement, recognition, and challenges at work, advancement, increased

Box 12.2**Ten Tips for Questionnaires on Employee Motivation**

1. *What is the "primary aim" of your company?*
Your employees may be more motivated if they understand the primary aim of your business. Ask questions to establish how clear they are about your company's principles, priorities, and mission.
2. *What obstacles stop employees from performing to best effect?*
Questionnaires on employee motivation should include questions about what employees are tolerating in their work and home lives. The company can eliminate practices that zap motivation.
3. *What really motivates your staff?*
It is often assumed that the same things motivate all people. Actually, a whole range of factors motivates us. Include questions to elicit what really motivates employees, including learning about their values. Are they motivated by financial rewards, status, praise and acknowledgment, competition, job security, public recognition, fear, perfectionism, results...?
4. *Do employees feel empowered?*
Do your employees feel they have job descriptions that give them some autonomy and allow them to find their own solutions or are they given a list of tasks to perform and simply told what to do?
5. *Are there any recent changes in the company that might have affected motivation?*
If your company has made redundancies, imposed a recruitment freeze, or lost a number of key people these will have an effect on motivation. Collect information from employees about their fears, thoughts, and concerns relating to these events. Even if they are unfounded, treat them with respect and honesty.
6. *What are the patterns of motivation in your company?*
Who is the most motivated and why? What lessons can you learn from patches of high and low motivation in your company?
7. *Are employee goals and company goals aligned?*
First, the company needs to establish how it wants individuals to spend their time based on what is most valuable. Second, this needs to be compared with how individuals actually spend their time. You may find employees are highly motivated but about the "wrong" priorities.
8. *How do employees feel about the company?*
Do they feel safe, loyal, valued, and taken care of? Or do they feel taken advantage of, dispensable, and invisible? Ask them what would improve their loyalty and commitment.
9. *How involved are employees in company development?*
Do they feel listened to and heard? Are they consulted? And, if they are consulted, are their opinions taken seriously? Are there regular opportunities for them to give feedback?
10. *Is the company's internal image consistent with its external one?*
Your company may present itself to the world as the "caring airline", "the forward thinking technology company", or the "family hotel chain". Your employees would have been influenced, and their expectations set, to this image when they joined your company. If you do not mirror this image within your company in the way you treat employees you may notice motivation problems. Find out what the disparity is between the employees' image of the company from the outside and from the inside.

responsibility, and opportunity for growth. They are unidirectional, that is, their effect can be seen in one direction. Maintenance factors create dissatisfaction whereas motivational factors create satisfaction. Attention should be paid to employees with regard to both factors for higher morale and productivity.

- (f) **Communication**) Effective communication is one of the main requirements for developing positive attitudes among employees. Communication is essential for effective supervision, effective staffing, coordination and control as well as for industrial harmony and peace. Three-way communication channels—upward, downward, horizontal—among departments should be defined as important personnel functions. Forms of communications—oral or written—should be specified with adequate clarity, flexibility, and maximum participation at each level in order to enhance efficiency and productivity in the unit.

DISCUSSION FORUM



- ◆ Explain the significance of Human Resource Management in a small business.
- ◆ What are the various functions of Human Resource Development?

INDUSTRIAL RELATIONS, LABOUR LAWS, AND ENVIRONMENTAL AND POLLUTION CONTROL LAWS

No business or industry can survive without worker cooperation and industrial peace. Therefore, efforts should be made to ensure that relations between workers and owners/managers of the firm remain peaceful. However, disputes are frequent due to expectations on the part of both employers and employees. The government has legislated certain basic norms to be followed to avoid dispute and maintain peace, to obtain maximum output from their combined activity in the interest of the nation's economy. The legislation can be categorised as follows.

- 1. Laws regulating the conditions of work in factories and establishments**
 - ◆ General laws, applicable to all factories and establishments, such as Factories Act, 1948
 - ◆ Specific laws, applicable to specific industries, like Mines Act'1952, Indian Merchant Shipping Act, 1923, and Plantation Labour Act 1998.
- 2. Laws relating to wages**
 - ◆ Minimum Wages Act, 1948
 - ◆ Payment of Wages Act, 1936
- 3. Law relating to social security measures**
 - ◆ Workmen's Compensation Act, 1923
 - ◆ Employees' State Insurance Act (ESI), 1948
 - ◆ Employees' Provident Fund Act (EPF) and the Family Pension Fund Act, 1952

4. Laws relating to workers' associations and disputes

- ◆ Trade Union Act, 1926
- ◆ The Industrial Disputes Act, 1947

5. Laws relating to women and child workers

6. Laws relating to environment and pollution control

- ◆ Water (Prevention and Control of Pollution) Act, 1974
- ◆ Air (Prevention and Control of Pollution) Act, 1981
- ◆ Environment (Protection) Act, 1986

SNAPSHOT

Industrial Relations, Labour Laws, and Environmental and Pollution Control Laws

- ◆ **Laws regulating the conditions of work in factories and establishments**
 - General laws, applicable to all factories and establishments: Factories Act, 1948
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- ◆ **Laws relating to wages**
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 - Payment of wages Act, 1936
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 - Workmen's Compensation Act, 1923
 - Employees' State Insurance (ESI) Act, 1948
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- ◆ **Laws relating to workers' associations and disputes**
 - Trade Union Act, 1926
 - Industrial Disputes Act, 1947
- ◆ **Laws relating to women and child workers**
- ◆ **Laws relating to environment and pollution control**
 - Water (Prevention and Control of Pollution) Act, 1974
 - Air (Prevention and Control of Pollution) Act, 1981
 - Environment (Protection) Act, 1986

1. Laws Regulating the Conditions of Work in Factories and Establishments

SSIs are required within their State of operations, to seek registration under the State's legislation (adopted or legislated in different years in different States) like Shops and Commercial Establishments Act or Trade Employees' Act or any other Act requiring registration, by making a written application in the prescribed form with the name of the firm, category of establishment that is, shop, hotel, restaurant, theatre, public amusements or entertainment, number of employees, and prescribed fee. The registration certificate is required to be displayed in the establishment and has to be renewed at intervals.

The Shops and Commercial Establishments Act regulates the working hours of shops, commercial establishments, weekly holidays, terms and conditions of payments of wages, leave and wages during the leave period, safety and security of

workers including cleanliness, lighting and ventilation, precautions against fires and accidents, grievances of workers and redressal procedures, maintenance of record of employees, issuance of letter of appointments, maintenance of registers, and so on. The establishment is open for inspection by authorised persons under the Act like the inspector of shops and establishments.

SSIs are required to be registered with the Chief Inspector of Factories under the State's Factories Act. Prior permission is required in writing for the factory site and location. The Act regulates and deals with the working conditions in the factories with regard to workers' health, safety, welfare, working hours of adults, employment of young persons, leave, wage, and penalties for defaults.

The Factories Act, 1948

If you employ ten or more workers and are engaged in a manufacturing process with the aid of power, or are manufacturing without the aid of power and employing 20 or more workers directly or through contractors, you are covered by this Act.

The objective of this Act is to provide for the health, safety, and welfare of workers.

The Act requires you to maintain cleanliness in your premises and make arrangements for the treatment of wastes and effluents due to the manufacturing process. The place where work is carried out should have ventilation and circulation of fresh air, comfortable temperature and artificial humidification as per standard. There should be sufficient space per worker in every room (minimum 500 cubic feet), sufficient lighting, and prevention of glare and avoidance of shadow. You should also make arrangements for the supply of wholesome drinking water, latrines, urinals, and spittoons.

The machinery in your factory that could be injurious should be fenced, precautions should be employed on dangerous machines unless the operator has been given sufficient training or is being supervised by a person who has thorough knowledge and experience of the machine. If you have hoists, they should be of good construction and properly maintained. If shifting machines, ropes, and lifting tackles are used, they should also be a good quality and be properly maintained. If your factory uses revolving machinery, the speed limit should be complied with. If your manufacturing unit requires pressure above atmospheric pressure in any machine, you should ensure safe working environment for that work place be kept free from obstruction and clear from substances likely to cause a person to slip. You must take precautions to protect the eyes of your workers from fragments and also protect them from dangerous fumes. You must ensure that there is a means to escape in case of fire and that there is a system of warning for all the employees in such an eventuality. You must also ensure that the building in which your employees are working is safe.

You must provide suitable facilities for your employees' washing and sitting arrangements, if they are working in a standing position. At least one first-aid box should be kept in the factory premises.

The normal working hours in your factory for an employee should not exceed 48 in a week and a rest day should be given weekly. An employee should not be made to

work more than nine hours in a day. But in case he is required to work beyond these hours, he is to be paid overtime wages at double rate. He should be given an interval of rest for at least half an hour after five hours. Your employees should also be given annual leave with wages if they work for 240 days or more in a year, to be calculated at the rate of one day for every 20 days worked. If you are covered by this Act, your factory plans must have the approval of the Chief Inspector of Factories. Registration and licensing is also required on payment of the prescribed fees.

Special Provisions for Industries involving Hazardous Processes

The Factories Act has been recently amended by Factories (Amendment) Act, 1987, most of the provisions of which have come into force from December 1, 1987. Provisions regarding exposure limits for chemical substances have come into force from June 1, 1988.

The amended Act makes special provisions for industries involving hazardous processes, where unless special care is taken, raw materials used, intermediate or finished products, or by-products, effluents, and waste may cause impairment of health of persons working in the factory and pollution of the general environment. The Act also covers maintenance, storage, transportation, and disposal of wastes. Limits of exposure of chemical substance have also been laid down.

So, in case your factory comes under the schedule of hazardous process industries, please check and take these additional steps.

The additional obligations of employers of factories involving hazardous processes are listed below.

- (1) To take approval of the site appraisal committee before constructing the factory.
- (2) To inform about the safety policy of the factory to the Chief Inspector of Factories.
- (3) To work out an emergency plan and disaster control measures.
- (4) To arrange for periodic medical examination of workers.
- (5) To have workers' participation regarding safety and health.
- (6) To disclose all information regarding danger and health hazards and measures to overcome the same to the workers and the nearby population.

2. Laws Relating to Wages

For any trading or manufacturing establishment, the provisions of the Minimum Wages Act, 1948; the Payment of Wages Act, 1936 apply.

Minimum Wages Act, 1948

This Act has been adopted by State governments to prevent exploitation of workers, for the fixation and payment of minimum wages, and to oversee the welfare of the workers in the territorial jurisdiction of the State.

The Act prescribes for the fixation of wages a) a minimum time rate; b) a minimum piece rate; c) guaranteed time rate; and d) an overtime rate.

The minimum rate of wage may consist of a) a basic rate and cost of living allowance or b) a basic rate with or without the cost of living allowance and the cash value of the concession in respect of essential commodities supplied at a concessional rate.

The Act prescribes that wages shall be paid in cash, although it empowers the appropriate government to authorise the payment of minimum wages either wholly or partly in kind in particular cases. It provides that the competent authority shall compute the cost of living allowance and cash value of concession in respect of supply of essential commodities at concessional rates at certain intervals. All establishments covered by the Act are required to maintain registers and office records in the prescribed manner.

The Act empowers the appropriate government to fix the numbers of hours of work per day, to provide for a weekly holiday, and the payment of overtime wages of which the minimum rates have been fixed under the Act.

The Act provides the procedures for dealing with companies arising out of the violation of provisions of the act and for imposing penalties for offences committed under this act. The act also provides for the appointment of inspectors and other authorities to hear and decide claims arising out of payment of wage less than the minimum rates and other matters regarding rest or overtime. The state governments have been empowered under this Act to make rules with regard to matters specified therein for carrying out the purpose of the Act.

Payment of Wages Act, 1936

The objective of this Act is to regulate the payment of wages to a certain class of persons employed in industry and is of two kinds:

- ◆ the date of payment of wages and
- ◆ deductions from wages, whether fine or otherwise.

The Payment of Wages Act, 1936, extends to the whole of India. It came into force on March 28, 1937. It applies to the payment of wages to

- (a) persons employed in any factory; and
- (b) persons (other than in a factory) employed in any railway or by persons fulfilling a contract with the railway administration.

The State government is empowered to make the Act applicable to any class or group of industrial establishments. The Act does not apply to wages payable in respect of the wage period if the average wage for such a wage period is Rs 400 or more a month.

Payment of wages: Every employer shall be responsible for the payment of wages to persons employed by him under this Act.

Fixation of payment of wages: Every person responsible for the payment of wages under Section 3 shall fix wage periods in respect of which such wages shall be payable. No such wage period shall exceed one month.

Time of payment of wages: If the number of persons employed in a factory, an industrial establishment, or a railway, including daily rated workers, is less than 1,000, wages must be paid before the expiry of the seventh day after the last day of the wage period. In other cases, the payment must be made before the expiry of the tenth day after the last wage period.

In the event of termination of employment of any employee, the wages earned by him shall be paid before the expiry of the second working day from the day on which his employment is terminated. If the employment is terminated due to closure of an establishment or for any other reason than a weekly or other recognised holiday, wages shall be paid before the expiry of the second day from the day on which his employment is terminated. All payments of wages should be made on a working day, and be paid in current points or currency notes or in both.

Deduction from wages: No deductions of any kind should be made from wages payable except those authorised by the Payment of Wages Act. Every payment made by the employee to the employer or his agent is treated to be a deduction from the wages. Any loss of wages resulting from the imposition of the following penalties shall not be deemed to be a deduction from wages.

- ◆ The withholding of increment or promotion (including the stoppage of increment at an efficiency bar).
- ◆ The reduction to a lower position or time scale or to a lower stage in a time scale.
- ◆ Suspension.

These penalties are not deemed to be deductions provided the rules framed by the employer for the imposition of such penalties are in conformity with the requirements, if any, which may be specified in this behalf by the State government by notification in the *Official Gazette*.

Deductions from the wages of an employed person shall be made only in accordance with the provisions of this Act and may be of the following kinds only.

- (a) Fines.
- (b) Deductions for absence from duty.
- (c) Deductions for damage to or loss of goods expressly entrusted to the employed person for custody, or for loss of money for which he is required to account, where such damage or loss is directly attributable to his neglect or default.
- (d) Deductions for house accommodation supplied by the employer or by government or any housing board set up under any law for the time being in force (whether the government or the board is the employer or not) or any other authority engaged in the business of subsidising house accommodation which may be specified in this behalf by the State government by notification in the *Official Gazette*.
- (e) Deductions for such amenities and services supplied by the employer as the State government or any officer specified by it in this behalf may, by general or special order, authorise; (Explanation: The word "services" in this sub-clause does not include the supply of tools and raw materials required for the purpose of employment.)
- (f) Deduction for recovery of advances of whatever nature and the interest due in respect thereof, or for adjustment of overpayment of wages.

- (g) Deduction for recovery of loans granted for house building or other purposes approved by the State government, and the interest due in respect thereof.
- (h) Deductions of income tax payable by the employed person.
- (i) Deductions required to be made by order of a court or other authority competent to make such an order.
- (j) Deductions for subscriptions to, and for repayment of advances from any provident fund to which the Provident Fund Act, 1925, applies or any recognised provident fund as defined in Section 558A of the Indian Income Tax Act, 1922, or any provident fund approved in this behalf by the State government, during the continuance of such approval.
- (k) Deductions for payments to cooperative societies approved by the State government or any officer specified by it in this behalf or to a scheme of insurance maintained by the Indian Post Office.
- (l) Deductions made with the written authorisation of a person employed for payment of any premium of his life insurance policy to the Life Insurance Corporation of India established under the Life Insurance Act, 1956, or for the purchase of securities of the Government of India or any State government or for being deposited in any Post Office Savings Bank in furtherance of any savings scheme of any such government.
- (m) Deductions for payment of insurance premia on Fidelity Guarantee Bonds.
- (n) Deductions for recovery of losses sustained by a railway administration on account of acceptance by the employed person of counterfeit or base coins or mutilated or forged currency notes.
- (o) Deductions for recovery of losses sustained by a railway administration on account of the failure of the employed person to invoice, to bill, to collect or to account for the appropriate charges due to that administration whether in respect of fares, freight, demurrage, wharfage and carnage or in respect of sale of food in catering establishment or in respect of sale of commodities in grain shops or otherwise.
- (p) Deductions for recovery of losses sustained by a railway administration on account of any rebates or refunds incorrectly granted by the employed person where such loss is directly attributable to his neglect or default.

The total amount of deductions, which may be made in any wage period from the wages of any employed person, shall not exceed the wage

- ❖ in case where such deductions are wholly or partly made for payments to cooperative societies 75 per cent of such wages and
- ❖ in any other case, 50 per cent of such wages.

But where the total deductions exceed 75 per cent or, as the case may be, 50 per cent of the wages, the excess may be recovered in such manner as may be prescribed.

The Act provides for the maintenance of a regular record by the employer and offers the same for inspection to inspectors for default in compliance of the provisions of the Act. The penalty for offences and procedure for punishment has been provided in the Act.

While adopting the Act, several State governments have made amendments in the act. Different rules have been made under the Act towards payment of wages, rules for procedures, railways, other main rules, and those for transport service, imposition of penalties, Scheduled employment, deduction for the National Defence Fund and saving scheme, and so on.

3. Law Relating to Social Security Measures

Workmen's Compensation Act, 1923

The Act provides for payment to the workmen by a certain category of employer compensation for injury by accident sustained at work. The chances for injuries have enhanced due to growing complexity in industry with the increasing use of machinery. The Act mitigates the effect of accidents by providing for suitable medical treatment and cheaper and quicker disposal of disputes relating to compensations special tribunals rather than under civil law.

Salient Features

Employers are obliged to pay compensation to employees who claim benefits under this Act. A workman or his dependents may claim compensation if the injury has been caused by accident arising out of and in the course of employment, but a workman loses his right to compensation if the accident is attributed to the workman who was at the time of the accident intoxicated by liquor or drugs or if it was caused by his wilful disobedience of rules or disregard of safety devices.

The definition of a workman in section 2(1) (n) does not cover persons employed in an administrative or a clerical capacity, drawing more than Rs 500 per month (except railway servants). Those employed through subcontractors by a person fulfilling a contract with the railways are also entitled to benefits under this Act. The amount of compensation payable to a workman or his dependents depends on the nature of the injury and the resulting disablement and will be determined by a reference to average monthly wages in schedule IV.

In case of fatal accidents, the following procedure is provided in the Act.

- In all cases fatal accidents are to be brought to the notice of the commissioner
- In case of admission of liability by the employer, the amount of compensation is to be deposited with his liability. The commissioner must decide whether or not there is a ground for the claim.

The commissioner may inform the dependents of the injury and it is open to them to prefer a claim or not. A subcontractor may indemnify his contractor if he has to pay compensation either to a principal or to a workman. Out of the compensation, the commissioner is authorised to deduct a sum of Rs 50 and pay the same to the person who has incurred the funeral expenses of a deceased workman.

Amount of Compensation and Payment

In determining the amount of compensation, the nature of injury must be kept in mind. In order to ascertain the amount of compensation, the average monthly wages of the workmen should be worked out and the total sum payable ascertained thereafter.

The amount of compensation is not to be assigned, attached, charged or passed on to any person other than the workman by operation of law and no claim can be set off against the same. The compensation bears the first charge on the assets of the employer's organisation if sought to be transferred. The State government may ask the employer to file the required returns to calculate the compensation payable. The Act provides for penalties in cases of default and procedure for appeals and so on. State governments have been empowered to frame rules to carry out the provision of this Act and with regard to the matters specified in the Act.

Employees' State Insurance Act, 1948

This Act provides certain benefits to employees in the event of sickness, maternity, and employment injury. It applies to all factories including government factories (other than seasonal factories). In the event, the Central government, in consultation with the ESI Corporation, which administers the scheme, or the local government, extends several provisions of the Act to other establishment or class of establishments, it has to give six months notice. It covers persons employed directly and indirectly, including clerical staff, but does not apply to a member of Indian navy, military or air force or to any person whose wages exceed Rs 1,000 per month.

The Act provides for the creation of the employees' state insurance fund for payment of benefits to the insured person, for meeting administration expenses in addition other authorised purposes. The funds created mainly by the contribution from the employers and the employees and is held and administered by the ESI Corporation. The Corporation may accept grants, donations, and gifts from the Central government or any State government, local authorities, or any individual or body whether incorporated or not.

The Employees' State Insurance funds can be used only for

1. payments of benefits and provisions of medical treatment and attendance of insured persons and their families where the medical benefit is extended to their families;
2. payment of fees and allowances to members of the corporation, the standing committee and the medical benefit council, the regional board, the local committees and the regional and local medical benefits councils;
3. payment of salaries, leave and joining time allowances, travelling and compensatory allowances, gratuity and compassionate allowances pensions, contribution to provident and other benefit funds of officers and servants of the corporation;
4. establishment of hospitals, dispensaries, and other institutes for the benefit of insured persons and their families;
5. payment of contribution to any State government, local authority, or any private body or individual, towards the cost of medical treatment and attendance provided to insured persons and their families;
6. defraying the cost including expenses of auditing the accounts of the corporation and the valuation of its assets and its liabilities;

7. defraying the cost of employees' insurance courts set up by these Acts;
8. payment of any sum under the contract entered into for the purpose of this Act by the corporation or standing committees or by any officers duly authorised by the corporation or standing committee in the behalf;
9. payment of sums under any decree, order, or reward of any court or tribunal against a corporation;
10. defraying the cost and other charges of instituting or defending any civil or criminal proceedings arising out of any action taken under this Act;
11. defraying expenses, within the limits prescribed on measures for the improvement of the health and welfare of insured persons and for the rehabilitation and reemployment of the insured persons who have been disabled or injured; and
12. such other purposes as may be authorised by the corporation with the previous approval of the government.

There are six types of benefits that the Act provides to insured persons, their dependants or certain other persons. These benefits are listed below.

1. Sickness benefits
2. Maternity benefits
3. Disablement benefits
4. Dependents' benefits
5. Medical benefits
6. Funeral benefits

Benefits are assignable or attachable. However, the right to receive any payment for any benefit under this Act is not transferable or assignable (Section 60). Further, no cash benefits payable under this Act is liable to attachment or sale in execution to any decree or order of any court. When a person is entitled to any of the benefits provided by this Act, he is not entitled to receive any other similar benefits (Section 61). The Act also provides punishment for false statement or failure to pay contribution and is supported by the Employees State Insurance (Central Rule) 1950 and the Employees' State Insurance (General) Regulations 1950. The Employees State Insurance Court adjudicates all matters, questions, and disputes that may arise with respect to the insurance of workmen.

Employees' Provident Fund and the Family Pension Act, 1952

The EPF applies to manufacturing units specified in Schedule 1 in which 20 or more persons are employed or to other establishment employing 20 or more persons or to a class of such establishment, which may be specified by the Central government. The Employees' Provident Fund Scheme provides for the establishment of provident funds for employees to be administered by the Central government through a central board of trustees. This is a body corporate with perpetual succession and a common seal. The EPF consists of the contributions made by the employer and the employee of the factory.

The Act also provides for the Employees' Family Pension Scheme that ensures families pension and life insurance benefits to the employees of the establishment. Under this scheme, a family pension fund is established through contributions made by the employer and the employee. The Central Board administers the fund. The creation of this fund should not however be made at the cost of the employees' wages. The Act also provides for the appointment of inspectors, penalties and punishments to take care of defaults and offences.

4. Laws Relating to Workers' Associations and Disputes

Two important enactments which deal with industrial relations and are applicable to all establishments including SBEs/SSIs are the

- ◆ Trade Union Act, 1926 and
- ◆ Industrial Disputes Act, 1947.

Trade Union Act 1926

Workers become a stronger bargaining power by uniting themselves through associations known as trade unions, which help to regulate relations between employees and employers. Disputes between them are known as trade disputes. A trade union should be registered under this Act to derive a legal status. The Act also provides the right and liabilities of a registered trade union. It provides immunity from certain provisions of criminal and civil law. For example, no member of a registered trade union is liable for a criminal conspiracy under the Indian Criminal Code and similarly not subject to civil suit in respect of anything done in furtherance of a trade dispute. State governments may make their own regulations for the purpose of carrying out the provisions of the Act and may provide for the following matters.

- ◆ The manner in which trade unions and the rules of trade unions shall be registered and the fees payable on registration
- ◆ The transfer of registration in the case of any registered trade union which has changed its head office from one State to another
- ◆ The manner in which and the qualification of the persons by whom the accounts of registered trade unions or any class of such unions shall be audited
- ◆ The conditions subject to which inspection of documents kept by the registrar shall be allowed and the fees which shall be chargeable in respect of such inspections
- ◆ Any matter which is to be or may be prescribed

Regulations so made shall be published in the *Official Gazette* and all such publications shall have the effect as if enacted in this act. The Act also provides for penalties and procedures. The following defaults are made punishable under section 31 of the act: (a) failure to give notice which is required to be given to a registered trade union and (b) failure to send any statement or other document as required under this Act. Every office bearer or other person bound by the rules of the Act to give any information or send any statement or document shall in case of default be punishable with a fine.

Only the court of the presidency magistrate or a magistrate of the first class shall try an offence under this Act. Any other court inferior to these are expressly deprived of jurisdiction to any offence under this Act. The complaint may be made either by the registrar of the trade union or by someone else with the previous sanction of the registrar. Where the offence claimed is one under section 32 of the Act (supplying false copies of the rules or of alterations of the rules), the complaint may be made by the person to whom the false copy was given. It is further provided that complaint shall be made within six months of the date on which the offence is alleged to have been committed.

Industrial Disputes Act, 1947

The objective of this Act is to make provisions for the investigation of settlement of industrial disputes and for certain other purposes. Its main aim is to ensure industrial peace through voluntary negotiations and compulsory adjudication. The Act also prescribes the procedure for settling disputes between employers and workmen.

It has been amended by different state governments for promoting bargaining, prescribing industrial peace and good relations between workers and employers, preventing illegal strikes and lockouts, and providing relief to workman in the event of a lay off and/or retrenchment by employers.

The Act provides the machinery for the settlement of industrial disputes which includes (a) a works committee, (b) conciliation officers, (c) Board of Conciliation, (d) court of enquiry, (e) labour court, (f) industrial tribunals, and (g) national tribunals. The Act prescribes the procedure for making reference to the Board, courts, or tribunals, or national tribunals and a cluster of powers of the above conciliation and adjudication machinery in the matter of making settlements and awards. The Act also provides for penalties and procedures and empowers the State government to make rules for giving provision of the Act.

5. Law Relating to Women and Child Workers

Legislation such as the Factories Act, 1948, Mines Act, 1952, Plantation Labour Act, 1951, Children (Pledging of Labour) Act, 1933, and the Beedi and Cigar Workers (Conditions of Employment) Act, 1966 contain relative provisions with a view to eliminate the exploitation of women and child labour and to regulate the conditions of their work. Small business and SSI units must take care to follow the provisions of the respective acts and observe the spirit of the law enshrined therein, wherever required.

6. Laws Relating to Environment and Pollution Control

- ◆ Water (Prevention and Control of Pollution) Act, 1974
- ◆ Air (Prevention and Control of Pollution) Act, 1981
- ◆ Environment (Protection) Act, 1986

Water (Prevention and Control of Pollution) Act, 1974

The objectives of this Act are as follows.

- ◆ For maintaining or restoring the purity of water resources of the country
- ◆ Prevention and Control of water pollution
- ◆ Establishment of boards for the points mentioned above
- ◆ Assigning power to such boards

To regulate water pollution, the Central government has appointed a Central Pollution Control Board (CPCB). State governments have also appointed similar boards.

Powers and Functions of Central Board

The main function of the Central Board is to promote cleanliness of streams and wells in different areas of the State by

- ◆ advising the Central government;
- ◆ coordinating activities of the State Boards;
- ◆ providing technical assistance to the State Boards;
- ◆ conducting programmes, seminars, and publishing data; and
- ◆ laying down standards for cleanliness of streams and wells.

Functions of State Board

The main function of State Board is prevention and control of water by

- ◆ investigation and research relating to cases of water pollution and prevention;
- ◆ inspection of sewage/trade effluents;
- ◆ evolving reliable economical methods of treatment;
- ◆ establishing laboratories for checking the level of water pollution and reasons thereof;
- ◆ declaring water pollution prevention and control area and modifying the same;
- ◆ charging and curbing any person abstracting water in more quantity from any stream or well;
- ◆ controlling or directing discharge of sewage or track effluent into such streams or wells;
- ◆ power to take samples of effluents;
- ◆ power of entry and inspection;
- ◆ performing functions of the board as defined in the act;
- ◆ prohibition of use of stream or well for disposal of pollution matter.

If a person fails to comply with any conditions of the Board, the Board issues a notice to the guilty person regarding the pollution and orders him/her to rectify the problem within a prescribed time limit (30 days in most cases). If the problem is not rectified within the prescribed time limit, the Board levies an appropriate penalty along with interest.

Furnishing Information to State Board and Other Agencies

- ◆ If water is polluted due to accident or any other reason, the Board should be informed
- ◆ The Board has the power to approach the court in case of violation of any standards after giving notice to a particular person
- ◆ The Board can give directions of closure of an offending industry

Penalties and Procedures

Penalties are levied only if the Board receives information on the contravention of the following points.

- ◆ Information about abstraction of water or discharge of effluents
- ◆ Information regarding construction, installation or one of any establishment of or any disposal system
- ◆ Failure to restrain from discharging poisonous and polluting matters

Offences by Companies

The person in charge of the industrial unit and the company are jointly responsible and if charged of the offence are liable for penalties, if proved. However charges against individuals are taken back if they can prove that a particular offence was committed without their knowledge of the crime being committed by the company.

Air (Prevention and Control of Pollution) Act, 1981

Any solid, liquid or gas substance including noise present in atmosphere tend to be injurious to human beings or other living creatures or plants/property/environment.

Functions of Central Board

The functions of the central Board as per the Air Act, 1981 are similar to the functions of the Central Board constituted under the Water Act, 1974. The broad areas are to

- ◆ advise the Central government;
- ◆ organise seminars, training programmes, collect, complete and publish data relating to air pollution; and
- ◆ lay down standard for quality of air.

State Pollution Control Boards also perform functions similar to the functions of the State Board as per Water Act, 1974.

Measures for Prevention and Control of Air Pollution

- ◆ Declaration of Air Pollution Control Area (APCA)
- ◆ Deciding which fuel may cause pollution
- ◆ No appliance other than approved ones can be in the premises situated in an air polluted control area
- ◆ Prohibiting burning of materials which may cause pollution

Under the Motor Vehicle Act, 1939, the State Board lays down standards for emission of air pollutants from automobiles. Recently, State governments have started enforcing these standards more vigorously. For example, it is now compulsory for vehicles to have pollution under Control certificate (PUC). Cars that are now manufactured in India are required to satisfy European Union (EU) norms. The already existing cars have to get catalytic converters attached to their exhausts.

Restriction on Use of Certain Industrial Plants

- ◆ Permission is required for an industrial plant in air pollution control
- ◆ With prescribed form along with prescribed fee

If any area is declared as APCA, the industrial unit is required to take permission for setting up a factory within three months after declaration.

- ◆ Control equipment cannot be charged without permission
- ◆ Chimney should be erected if required and it should be of the height specified under the APCA
- ◆ Any of the conditions set by the Board may vary due to technology improvements
- ◆ If an industrial plant is transferred to another person, then the new person has to comply with the rules of the act
- ◆ No industry can discharge air pollution in excess of standards laid down
- ◆ The Board can make application to a court for restraining persons from causing air pollution
 - ◆ Application to a court not inferior to that of a metropolitan magistrate or judicial magistrate of first class
 - ◆ All expenses incurred by the Board in implementing the directions of the court are recoverable from the person concerned

You may furnish information to the State Board and other agencies regarding emissions of the unit so that the Board helps you to take some remedial measures in your industrial unit.

Powers of the Board

- ◆ Power of entry and inspection for performing functions of State Board
- ◆ Examining and inspecting any control equipment, industrial plant, record, register, document or any material object for conducting a search
- ◆ Power to obtain information on air pollution
- ◆ Type of air pollutants emitted into atmosphere and its level
- ◆ Power to take samples
- ◆ Report of analysis is to be submitted in triplicate

Penalties and Procedure

- ◆ Minimum one and a half year imprisonment extending upto six years with fine
- ◆ Foiling which, additional fine up to Rs 5,000/- for every day
- ◆ If failure continues up to one year, minimum imprisonment of two years extending upto seven years.

Environment (Protection) Act, 1986

The environment includes water, air, land, and the inter-relationship which exists among water, air, and land and human beings, other living creatures, plants, and microorganisms.

Scope and Scheme

This Act fixes responsibilities on persons carrying on industrial operations or handling hazardous substances to comply with certain safeguards for the prevention, control, and abatement of environmental pollution to furnish information to the authorities.

The Central government has been granted general power under the Act for taking necessary measures to protect the quality of environment and for laying down safeguards for prevention of accidents and handling hazardous substances.

Under this Act, the Central government has powers to make rules regarding the following matters.

- ◆ Standards of quality of air, water, or soil
- ◆ Maximum permissible limit of concentration of various environmental pollutants
- ◆ Procedures and safeguards for handling hazardous substances
- ◆ Power to appoint officers for supervision, direction, and control
- ◆ Power to issue direction for withdrawal of prohibition
- ◆ Power to enter, inspect, take samples and so on.

The Central government has established environmental laboratories and has accorded recognition to some private laboratories to carry out certain functions under the Act.

Environmental Clearances and Location of Industries

- ◆ The Central government may prohibit or restrict the location of industry on considering factors such as quality of environment, maximum allowable limits of concentration, likely commission or discharge from proposed industry.
- ◆ Also restriction on mining operations, cutting of trees, grazing by cattle in certain areas, construction of any clusters of dwelling units, farms, houses, roads, and so on.
- ◆ No industrial project can be set up or expanded unless it has been accorded environmental clearance by the Central or State government.

Environmental Audit

It is mandatory for every person carrying on an industry under section 25 of the Water Act/section 5 of the Air Act/both/Hazardous Waste Management Rules to submit an environmental audit report every year on or before May 15.

DISCUSSION FORUM



- ◆ Discuss the labour laws relevant to SSIs.
- ◆ Explain environmental pollution control acts.

SUMMARY

- ◆ HRM of small business or small industries involves manpower planning, recruitment, selection, and training of the persons recruited. In new enterprises this is not an easy task due to inexperience of the entrepreneur but in franchised business or in acquisition of a running concern, it is easier as there exists experienced staff.

- ◆ In all forms of organisations, the entrepreneur has to undertake a common task of appraisal of the performance of the staff. While the traditional thumb rule works to a certain extent, modern appraisal techniques are invaluable.
- ◆ An important aspect of HRM is maintenance of industrial peace and avoidance of employee dissatisfaction. Though it appears to be a daunting prospect, this is possible irrespective of the size of the business, by ensuring an effective two-way communication in the enterprise.
- ◆ Another aspect of HRM is adherence to the labour laws that are applicable to the enterprise. This helps build confidence in the employer as well as helps to ensure the well being, safety, and security of all employees.

KEY WORDS

- ◆ Human Resource Management
- ◆ Human Resource Development
- ◆ Manpower planning
- ◆ Recruitment
- ◆ Selection
- ◆ Placement
- ◆ Performance appraisal
- ◆ Employee compensation
- ◆ Motivation
- ◆ Communication
- ◆ Job description chart
- ◆ Industrial relations
- ◆ Labour laws
- ◆ Factories Act
- ◆ Minimum Wages Act, 1948
- ◆ Payment of Wages Act, 1936
- ◆ Workmen's Compensation Act, 1923
- ◆ Employees' State Insurance Act, 1948
- ◆ Employees Provident Fund Act, 1952
- ◆ Family Pension Fund Act, 1952
- ◆ Trade Union Act, 1926
- ◆ Industrial Disputes Act, 1947.

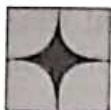


EXERCISES

ACTIVITY 12.1

Write two to three sentences on each of the following Acts.

1. Factories Act
2. Minimum Wages Act
3. Employees' Provident Fund Act
4. Workmen's Compensation Act



CASE STUDY

Case 12.1: A Delinquent Supervisor

Mr Shrinath worked as production supervisor in a small company called Prominent Enterprises, which employed around 25 workers. The company manufactured various types of castings. Prominent Enterprises was a partnership firm owned by two partners, Mr Jagadesh (a mechanical engineer by profession) and Mr Prakash (a chartered accountant by profession). Mr Shrinath reported to Mr Jagadesh who looked after the production. Mr Shrinath was a distant relative of Mr Prakash.

Mr Jagadesh found Mr Shrinath absent from his duties on the shop floor on two occasions. Mr Jagadesh later learned through the workers that Mr Shrinath had been seen wandering about, reading books in the library and talking to employees in the canteen.

One morning Mr Jagadesh found that Mr Shrinath was one hour late to work and called him to his office and talked to him about his general attitude towards his job. He reminded him of his responsibilities to the enterprise as an employee in a supervisory capacity. Mr Shrinath apologised and promised that he would not be late for work again.

Mr Jagadesh, still concerned with Mr Shrinath's attitude, discussed it with Mr. Prakash. The next day Mr Prakash called Shrinath to his office and talked to him on a very personal level about his indifference towards his job. He reminded Mr Shrinath that his being relative made it uncomfortable for all concerned. From that day Mr Shrinath's performance improved and his attitude towards work also changed.

Two months later, during his morning visit to the shopfloor, Mr Jagadesh found Mr Shrinath missing, when he should have been attending to his supervisory duties. Mr Jagadesh was told by the workers that Mr Shrinath had gone to the canteen. Mr Jagadesh immediately fired Mr Shrinath.

The next morning Mr Prakash met Mr Jagadesh and asked him why he fired an employee without going through the proper procedure. He suggested that Mr Jagadesh reconsider Mr Shrinath's dismissal.

Case Questions

1. Is the action taken by Mr Jagadesh right? Why?
2. What should Mr Jagadesh do? Why?



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