# Chapter 2: Principles of Management

## Exercises — Exercises

**Q1** What makes principles of management flexible?

Principles of management are not rigid prescriptions. They are flexible because they can be modified by the manager when the situation so demands — the degree of their application changes according to the nature of the organisation, scale of operations, and prevailing circumstances.

**Q2** State the main objective of time study.

The main objective of time study is to determine the standard time taken to perform a well-defined job, so as to determine the number of workers to be employed, frame suitable incentive schemes, and determine labour costs.

**Q3** Name the principle that is an extension of the 'harmony, not discord'.

The principle of 'Cooperation, Not Individualism' is an extension of 'Harmony, Not Discord'. It emphasises complete cooperation between labour and management instead of individualism, with both sides realising they need each other.

**Q4** State any two causes of fatigue that may create hindrance in the employee's performance.

Two causes of fatigue are: (i) long working hours that exhaust the worker physically and mentally, and (ii) bad working conditions or uncordial relations with the boss, which prevent the employee from performing optimally.

**Q5** SanakLal and Gagan started their career in Wales Limited (a printing press) after going through a rigorous recruitment process. Since they had no prior work experience, the firm decided to give them one year to prove themselves. Name the principle of management followed by Wales Limited.

Wales Limited is following Fayol's principle of 'Stability of Personnel' (Stability of Tenure). According to this principle, employees should be kept at their post for a minimum fixed tenure and given reasonable time to show results, which avoids insecurity and high recruitment costs.

Q6 Which technique is used by Taylor for distinguishing efficient and inefficient workers?

Taylor used the 'Differential Piece Wage System' to distinguish between efficient and inefficient workers. Workers who meet or exceed the standard output receive a higher rate per unit, while those who fall below the standard receive a lower rate per unit.

Q7 How is the Principle of 'Unity of Command' useful to management? Explain briefly.

The principle of Unity of Command states that each employee should receive orders from and be responsible to only one superior. It is useful because it prevents dual subordination, avoids confusion about tasks to be done, and protects authority and discipline. Fayol held that if this principle is violated, 'authority is undermined, discipline is in jeopardy, order disturbed and stability threatened.' For example, if a salesperson receives contradictory instructions — 10% discount from the marketing manager but only 5% from the finance department — confusion results. Adhering to Unity of Command ensures that each employee has a single reporting relationship, keeping the chain of command clear and effective.

Q8 Define scientific management. State any three of its principles.

Scientific management means, in Taylor's words, 'knowing exactly what you want men to do and seeing that they do it in the best and cheapest way.' It implies conducting business activities using standardised tools, methods, and trained personnel to increase output, improve quality, and reduce costs and wastes. Three of its principles are: (i) Science, Not Rule of Thumb — replacing individual judgment with scientifically determined methods; (ii) Harmony, Not Discord — complete mental revolution on the part of both management and workers so that both realise their true interests are one and the same; (iii) Cooperation, Not Individualism — replacing competition with cooperation so that management and workers work side by side, each taking workers' suggestions seriously and workers refraining from unreasonable demands.

Q9 If an organisation does not provide the right place for physical and human resources in an organisation, which principle is violated? What are the consequences of it?

The principle of 'Order' given by Fayol is violated. This principle states: 'A place for everything (everyone) and everything (everyone) in its (her/his) place.' Consequences of violating it include: there will be hindrance in business and factory activities since materials or persons are not where they should be; productivity and efficiency will decline because time is wasted searching for resources; work-flow will be disrupted, causing delays; and coordination breaks down, leading to increased costs and poor output quality.

Q10 Explain any four points regarding significance of principles of management.

Four significant contributions of management principles are: (i) Providing managers with useful insights into reality — principles add to a manager's knowledge and understanding of real-world situations, enabling them to learn from past mistakes and solve recurring problems quickly, thereby increasing managerial efficiency. (ii) Optimum utilisation of resources and effective administration — by foreseeing cause-and-effect relationships, managers avoid trial-and-error waste; principles also limit personal bias in decisions, such as allocating budgets on the basis of contribution to organisational objectives rather than personal preference. (iii) Scientific decisions — principles encourage decisions based on objective facts and logic rather than blind faith, making decisions free from prejudice and justifiable in terms of intended purposes. (iv) Meeting changing environment requirements — since principles are flexible, they help managers adapt to a dynamic business environment; for example, the principle of division of work has been extended to outsourcing of non-core activities, as seen in BPO and KPO growth.

Q11 Explain the principle of 'Scalar Chain' and gang plank.

Scalar Chain refers to the formal lines of authority that run from the highest to the lowest ranks in an organisation. According to Fayol, organisations should have a chain of authority and communication running from top to bottom, which both managers and subordinates should follow. For example, if 'E' in one line of authority needs to communicate with 'O' in another line under the same head 'A', the normal route would be E-D-C-B-A-L-M-N-O, following the scalar chain. However, Fayol also recognised that strictly following this chain in emergencies can cause unacceptable delays. He therefore provided for a 'Gang Plank' — a direct horizontal link between 'E' and 'O' — allowing them to communicate directly in an emergency without going through the full chain. This ensures that communication is neither delayed nor does it violate the principle unnecessarily.

Q12 A production manager at top level in a reputed corporate, Mr. Rathore holds the responsibility for ordering raw material for the firm. While deciding on the supplier for the financial year 2017-18, he gave the order to his cousin at a higher price per unit instead of the firm's usual supplier who was willing to lower the rates for the order. Which principle of management was violated by Mr. Rathore? What are the positive impacts of following the above identified principle?

Mr. Rathore violated Fayol's principle of 'Subordination of Individual Interest to General Interest'. He placed his personal/family interest (giving the order to his cousin) above the organisation's interest (lower cost from the usual supplier). Positive impacts of following this principle are: (i) the organisation's objectives are not compromised by individual agendas; (ii) resources are allocated optimally, keeping costs competitive; (iii) a manager's exemplary behaviour raises her/his stature in the eyes of workers and motivates similar conduct throughout the organisation; (iv) the larger interests of all stakeholders — owners, shareholders, creditors, customers, and society — are protected rather than sacrificed for one individual's benefit.

Q13 Explain the Principles of Scientific management given by Taylor.

Taylor gave the following four principles of Scientific Management:

(i) Science, Not Rule of Thumb: Taylor believed there is only one best method to maximise efficiency, discoverable through scientific study and analysis. Scientific method involves investigating traditional methods through work-study, identifying the best practices, and developing a standard that replaces the 'Rule of Thumb' throughout the organisation. Even a simple activity like loading pigs of iron into boxcars can be scientifically planned for tremendous savings.

(ii) Harmony, Not Discord: Taylor recognised that conflict between managers and workers helps no one. He called for a complete mental revolution — a transformation in the thinking of both sides — so that management shares gains with workers and workers embrace change for the good of the company. 'Scientific management has for its foundation the firm conviction that the true interests of the two are one and the same; that prosperity for the employer cannot exist for a long time unless it is accompanied by prosperity for the employees and vice versa.'

(iii) Cooperation, Not Individualism: An extension of Harmony, Not Discord. Competition should be replaced by cooperation. Management should not dismiss constructive employee suggestions, should reward cost-saving ideas, and should take workers into confidence before important decisions. Workers should refrain from strikes and unreasonable demands. According to Taylor, management and workers should work almost side by side, helping and encouraging each other.

(iv) Development of Each and Every Person to His or Her Greatest Efficiency and Prosperity: Industrial efficiency depends largely on personnel competencies. Each worker should be scientifically selected and assigned work that suits her/his physical, mental, and intellectual capabilities. Required training should be provided. Efficient employees produce more and earn more, ensuring greatest efficiency and prosperity for both workers and the company.

Q14 Explain the following Principles of management given by Fayol with examples:

a. Unity of direction

b. Equity

c. Espirit de corps

d. Order

e. Centralisation and decentralisation

f. Initiative

(a) Unity of Direction: All units of an organisation should move towards the same objectives through coordinated and focused efforts. Each group of activities having the same objective must have one head and one plan. This ensures unity of action and coordination. For example, a company manufacturing motorcycles as well as cars should have two separate divisions, each with its own incharge, plans, and resources, so that the working of neither division overlaps with the other.

(b) Equity: Good sense and experience are needed to ensure fairness to all employees. This principle emphasises kindliness and justice in the behaviour of managers towards workers, ensuring loyalty and devotion. There should be no discrimination on account of gender, religion, language, caste, belief, or nationality. In practice, multinational corporations employ people of various nationalities, providing equal opportunities for everyone to rise.

(c) Esprit De Corps: Management should promote a team spirit of unity and harmony among employees. A manager should replace 'I' with 'We' in all conversations with workers to foster team spirit. This gives rise to mutual trust and belongingness among team members and minimises the need for penalties. It is especially important in large organisations where team coordination is critical to achieving objectives.

(d) Order: People and materials must be in suitable places at appropriate times for maximum efficiency. The principle states 'A place for everything (everyone) and everything (everyone) in its (her/his) place.' If there is a fixed place for everything and it is present there, there will be no hindrance in business/factory activities, leading to increased productivity and efficiency.

(e) Centralisation and Decentralisation: Concentration of decision-making authority is centralisation; its dispersal among more than one person is decentralisation. Fayol stressed the need to balance subordinate involvement through decentralisation with managers' retention of final authority through centralisation. The degree depends on circumstances — large organisations generally have more decentralisation than small ones. For example, panchayats in India have been given more powers to decide and spend funds for village welfare, representing decentralisation at the national level.

(f) Initiative: Workers should be encouraged to develop and carry out their plans for

improvements. Initiative means taking the first step with self-motivation — thinking out and executing a plan. A good company should have an employee suggestion system whereby initiatives that result in substantial cost/time reduction are rewarded. This does not mean acting against established practices merely for the sake of being different.

Q15 Explain the technique of 'Functional Foremanship' and the concept of 'Mental Revolution' as enunciated by Taylor.

Functional Foremanship: Taylor observed that a foreman is the pivot of production planning, implementation, and control. He identified a list of qualities required in a good foreman — intelligence, education, tact, grit, judgment, special knowledge, manual dexterity, energy, honesty, and good health — and found no single person could possess all of them. He therefore proposed eight specialists to replace one all-round foreman. Under the factory manager there is a Planning Incharge and a Production Incharge. Under the Planning Incharge work four personnel: (a) Instruction Card Clerk — drafts instructions for workers; (b) Route Clerk — specifies the route of production; (c) Time and Cost Clerk — prepares time and cost sheets; (d) Disciplinarian — ensures discipline. Under the Production Incharge work four more: (a) Speed Boss — responsible for timely and accurate completion of jobs; (b) Gang Boss — keeps machines and tools ready for operation; (c) Repair Boss — ensures proper working condition of machines and tools; (d) Inspector — checks the quality of work. Each worker receives orders from all eight specialists in their respective areas of production. Functional foremanship is an extension of division of work and specialisation to the shop floor.

Mental Revolution: This is the core of Taylor's philosophy. It refers to a change in the attitude of both workers and management towards one another — from competition to cooperation. Both should realise they require each other. Rather than quarrelling over the share of surplus, both should aim to increase the size of surplus. Management should share part of the surplus with workers; workers should contribute their best so the company makes profits. This change in mindset eliminates any need for agitation or strikes. In the long run, only workers' well-being will ensure the prosperity of the business.

Q16 Discuss the following techniques of Scientific Work Study:

a. Time Study

b. Motion Study

c. Fatigue Study

d. Method Study

e. Simplification and standardisation of work

(a) Time Study: It determines the standard time taken to perform a well-defined job. Time measuring devices are used for each element of a task and several readings are taken to fix the standard time for the whole task. The objective is to determine the number of workers to be employed, frame suitable incentive schemes, and determine labour costs. For example, if the standard time per cardboard box is 20 minutes, a worker makes 3 boxes per hour, and in a 7-hour working shift (after deducting 1 hour rest), the standard task is 21 boxes per day.

(b) Motion Study: It refers to the study of movements such as lifting, putting objects, sitting, and changing positions undertaken while doing a typical job. Unnecessary movements are identified and eliminated so the job takes less time. Taylor and his associate Frank Gilbreth reduced the motions in brick-laying from 18 to just 5, increasing productivity about four times. Motions may be classified as productive, incidental (e.g., going to stores), or unproductive. Taylor used stopwatches and symbols to identify different motions.

(c) Fatigue Study: A person feels physically and mentally tired if she/he does not rest while working. Rest intervals help one regain stamina and work again with the same capacity, resulting in increased productivity. Fatigue study determines the amount and frequency of rest intervals needed to complete a task. Causes of fatigue include long working hours, unsuitable work, uncordial relations with the boss, and bad working conditions. Such hindrances to good performance should be removed.

(d) Method Study: Its objective is to find out the one best way of doing a job. Right from procurement of raw materials to delivery of the final product to the customer, every activity is part of method study. Process charts and operations research techniques are used. Taylor devised the concept of the assembly line using method study, which Ford Motor Company used very successfully. The aim is to minimise cost of production and maximise quality and customer satisfaction.

(e) Simplification and Standardisation of Work: Standardisation refers to setting standards for every business activity — process, raw material, time, product, machinery, methods, or working conditions. These standards are benchmarks to be adhered to during production. The objectives include reducing a product line to fixed types/sizes, establishing interchangeability of manufactured parts, and setting standards of excellence for men and machines. Simplification aims at eliminating

superfluous varieties, sizes, and dimensions, resulting in savings in cost of labour, machines, and tools, reduced inventories, fuller utilisation of equipment, and increasing turnover. Large companies like Nokia, Toyota, and Microsoft have successfully implemented standardisation and simplification.

Q17 Discuss the differences between the contributions of Taylor and Fayol.

The contributions of Taylor and Fayol can be compared on the following bases:

1. Perspective: Fayol looked at management from the top level of management, concerned with overall administration; Taylor focused on the shop-floor level of a factory, concerned with worker efficiency.

2. Unity of Command: Fayol was a staunch proponent of unity of command — one employee, one boss. Taylor did not consider it important; under his functional foremanship a worker received orders from eight specialists.

3. Applicability: Fayol's principles are applicable universally — to all types and sizes of organisations. Taylor's techniques are applicable to specialised situations, primarily factory production.

4. Basis of Formation: Fayol's principles were based largely on personal experience as a practising manager. Taylor's principles were based on observations and experimentation in factory settings.

5. Focus: Fayol focused on improving overall administration and managerial efficiency. Taylor focused on increasing productivity at the shop floor.

6. Personality: Fayol was essentially a practitioner who codified his administrative experience. Taylor was a scientist who conducted systematic experiments.

7. Expression: Fayol expressed his ideas as a General Theory of Administration (14 principles). Taylor coined the term 'Scientific Management'.

Despite these differences, their contributions are complementary — Fayol dealt with managerial efficiency while Taylor dealt with workers' efficiency, together forming the foundation of classical management theory.

Q18 Discuss the relevance of Taylor and Fayol's contribution in the contemporary business environment.

Taylor's scientific management continues to be highly relevant today. The search for the 'one best method' finds expression in business process reengineering, Kaizen (continuous improvement), and benchmarking. The assembly line he devised is still used widely — Ford used it for the Model T and modern auto companies continue to use it. Operations research, which developed during World War II, traces its roots to Taylor's systematic approach. Lean manufacturing — focusing on reduction of seven wastes (overproduction, waiting, transport, processing, motion, inventory, and scrap) — is a modern evolution of scientific management. Robotics and computers now carry out scientific management of production activities, increasing productivity levels further. Just-in-Time manufacturing and Six Sigma are also products of this tradition.

Fayol's 14 principles remain widely applicable, though their interpretation has evolved with changing business environments. Division of work, originally about specialisation of workers, now encompasses outsourcing of non-core activities (BPO, KPO) and focusing on core competencies. Authority and responsibility now means empowerment of employees in flat organisational structures. Unity of Command has become flexible — subordinates may report to multiple bosses in matrix structures. Scalar Chain has given way to less formalised, flatter communication structures. Initiative now means workers conceiving and implementing new ideas, not just managers. Esprit de Corps is still imperative — maintaining high morale is critical in today's competitive, knowledge-based economies. Fayol's concept of equity now encompasses diversity, inclusion, and equal opportunity across nationalities, genders, and cultures in multinational corporations.

Q19 'Bhasin' limited was engaged in the business of food processing and selling its products under a popular brand. Lately the business was expanding due to good quality and reasonable prices. Also with more people working the market for processed food was increasing. New players were also coming to cash in on the new trend. In order to keep its market share in the short run the company directed its existing workforce to work overtime. But this resulted in many problems. Due to increased pressure of work the efficiency of the workers declined. Sometimes the subordinates had to work for more than one superior resulting in declining efficiency. The divisions that were previously working on one product were also made to work on two or more products. This resulted in a lot of overlapping and wastage. The workers were becoming indisciplined. The spirit of teamwork, which had characterized the company, previously was beginning to wane. Workers were feeling cheated and initiative was declining. The quality of the products was beginning to decline and market share was on the verge of decrease. Actually the company had implemented changes without creating the required infrastructure.

a. Identify the Principles of Management (out of 14 given by Henry Fayol) that were being violated by the company.
b. Explain these principles in brief.
c. What steps should the company management take in relation to the above principles to restore the company to its past glory?

(a) Principles violated by Bhasin Limited:
1. Unity of Command — subordinates worked for more than one superior.
2. Unity of Direction — divisions previously focused on one product were made to work on two or more products, causing overlapping.
3. Discipline — workers were becoming indisciplined.
4. Esprit De Corps — the spirit of teamwork was waning.
5. Initiative — workers were feeling cheated and initiative was declining.
6. Equity — workers felt treated unfairly (working overtime without adequate compensation or respect).

(b) Brief explanation of these principles:
1. Unity of Command: Each employee should receive orders from and be responsible to only one superior; dual subordination creates confusion and undermines authority.
2. Unity of Direction: Each group of activities with the same objective must have one head and one plan, preventing overlapping of activities.
3. Discipline: Employees must obey organisational rules and employment agreements; it requires good superiors, clear agreements, and judicious application of penalties.
4. Esprit De Corps: Management should promote team spirit of unity and harmony; a manager should use 'We' not 'I', fostering mutual trust and minimising the need for penalties.
5. Initiative: Workers should be encouraged to develop and carry out plans; an employee suggestion system with rewards for cost-saving ideas keeps initiative alive.
6. Equity: Managers should treat all employees fairly and kindly — without discrimination — to ensure loyalty and devotion.

(c) Steps to restore the company:
1. Restore Unity of Command by ensuring each employee reports to only one superior and eliminating dual reporting relationships.
2. Restore Unity of Direction by assigning each division a single product line with its own head and plan, eliminating overlapping.
3. Enforce Discipline by establishing clear rules, fair agreements between management and workers, and applying penalties judiciously when needed.
4. Rebuild Esprit De Corps by encouraging teamwork, replacing 'I' with 'We', and fostering trust and belongingness among employees.

5. Rekindle Initiative by introducing a formal employee suggestion system that rewards ideas leading to cost or time savings.
6. Ensure Equity by recognising workers' extra efforts fairly — through adequate compensation for overtime, treating all workers without discrimination, and demonstrating managerial fairness consistently.

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Q20 (Further information related to the above question) The management of company Bhasin Limited now realised its folly. In order to rectify the situation it appointed a management consultant - Mukti Consultants - to recommend a restructure plan to bring the company back on the rails. Mukti Consultants undertook a study of the production process at the plant of the company Bhasin Limited and recommended the following changes — The company should introduce scientific management with regard to production; Production Planning including routing, scheduling, dispatching and feedback should be implemented; In order to separate planning from operational management 'Functional foremanship' should be introduced; 'Work study' should be undertaken to optimise the use of resources; 'Standardisation' of all activities should be implemented to increase efficiency and accountability; To motivate the workers 'Differential Piece Rate System' should be implemented.

a. Do you think that introduction of scientific management as recommended by Mukti Consultants will result in the intended outcome?
b. What precautions should the company undertake to implement the changes?
c. Give your answer with regard to each technique separately as enunciated in points 1 through 6 in the case problem.

(a) Yes, the introduction of scientific management as recommended by Mukti Consultants can result in the intended outcome — provided it is implemented carefully and with full cooperation between management and workers. Taylor's own experience at the Bethlehem Steel Company showed a three-fold increase in productivity through scientific management. However, success depends on creating the required infrastructure, training workers, and securing their willing participation (Mental Revolution).

(b) Precautions for implementation:
1. Gain the trust and cooperation of the workforce before implementing changes; workers must understand that scientific management benefits both sides.
2. Provide adequate training for all workers and foremen in the new methods before implementation.
3. Do not impose changes without explanation; open communication must be maintained.
4. Ensure the required infrastructure (tools, machines, systems) is created before changes are announced.
5. Allow sufficient transition time; do not expect overnight results.
6. Management must also accept its share of responsibility — sharing gains with workers and not using scientific management as an excuse to exploit labour.

(c) Technique-wise answers:
1. Scientific Management/Production Planning (routing, scheduling, dispatching, feedback): This will establish the 'one best method' of production, replace rule of thumb, and ensure systematic flow from raw material to finished product. It will eliminate wasted effort and reduce costs, improving quality and market share.
2. Functional Foremanship: Separating planning from execution allows specialists to focus on their area of expertise. The eight specialists (Instruction Card Clerk, Route Clerk, Time and Cost Clerk, Disciplinarian under Planning Incharge; and Speed Boss, Gang Boss, Repair Boss, Inspector under Production Incharge) will improve supervision quality. Workers must be prepared to receive instructions from multiple specialists in their respective domains.
3. Work Study (Time, Motion, Fatigue, Method Studies): Work study will determine the standard time per task, eliminate unnecessary movements, ensure adequate rest intervals to prevent fatigue, and identify the best method for each operation — together optimising resource use and raising productivity.
4. Standardisation: Setting standards for processes, raw materials, time, products,

and working conditions will reduce variability, improve quality, and ensure accountability. This will also make performance measurement objective and fair.

5. Differential Piece Rate System: By rewarding efficient workers with a higher rate per unit and paying a lower rate to those who fall below standard, this system motivates workers to reach and exceed the standard output, driving both productivity and earnings upward.