Q1Explain New product Launching strategy

A successful new product launch takes research, planning and a skilled and knowledgeable marketing team. The product must fulfill consumer needs and provide an emotional connection through its promise and brand. Businesses often make the mistake of presenting new products to consumers without adequate research or strategic planning. Today’s savvy consumers demand products that satisfy them on many levels including quality, price, status and function. Prepare a new product launch strategy for the best chance of success with your new product.

**Purpose**

The primary purpose of a product launch is business growth. Businesses must master the concept and process of a product launch to enable growth through successfully introducing new products into the market. Product launches build sales and revenue through expansion of customer base. By introducing new products, a business can target previously untapped customer markets. The resulting growth allows businesses to hire additional sales and support staff.

**Stages**

A product launch strategy defines several stages of the launch including development, internal testing, external testing, objective and goal setting, positioning, excitement building and event timing. The design team must develop a product that fits a customer need and works to fulfill this need reliably. The objective and goal-setting stage involves setting sales and revenue goals for the launch event for a set future date. The marketing team positions the product relative to the competition and begins marketing tactics designed to build excitement. The launch event must take place at the ideal time for sales maximization. For example, swimming accessories should have a spring or early summer launch date, and new-technology snowboards should have fall or early winter launche

## Post Event

A comprehensive new product launch strategy provides a plan for maintaining the momentum gained during the pre-launch activities and launch event. This plan may consist of post-launch promotional campaigns and customer incentives, as well as informational vignettes about the history of the product’s development, challenges overcome along the way and lessons learned. People often enjoy reading about the details of new product development and the anecdotes can gain consumer trust and loyalty.

## Considerations

Consider if adding the product to the current line-up will augment brand equity or detract from it. Brand equity is an intangible asset governed by consumer perception of the overall company brand. Introducing products that do not align with business objectives and vision may detract from brand equity, causing customers to back off from the brand entirely. Make certain new products offer value in conjunction with current products or keep with the product theme

.OR

Q1 Describe the various agronomical considerations which are useful in product design

Ergonomics means literally the study or measurement of work. In this context, the term work signifies purposeful human function; it extends beyond the more restricted concept of work as labour for monetary gain to incorporate all activities whereby a rational human operator systematically pursues an objective. Thus it includes sports and other leisure activities, domestic work such as child care and home maintenance, education and training, health and social service, and either controlling engineered systems or adapting to them, for example, as a passenger in a vehicle.

The human operator, the focus of study, may be a skilled professional operating a complex machine in an artificial environment, a customer who has casually purchased a new piece of equipment for personal use, a child sitting in a classroom or a disabled person in a wheelchair. The human being is highly adaptable but not infinitely so. There are ranges of optimum conditions for any activity. One of the tasks of ergonomics is to define what these ranges are and to explore the undesirable effects which occur if the limits are transgressed—for example if a person is expected to work in conditions of excessive heat, noise or vibration, or if the physical or mental workload is too high or too low.

Ergonomics examines not only the passive ambient situation but also the unique advantages of the human operator and the contributions that can be made if a work situation is designed to permit and encourage the person to make the best use of his or her abilities. Human abilities may be characterized not only with reference to the generic human operator but also with respect to those more particular abilities that are called upon in specific situations where high performance is essential. For example, an automobile manufacturer will consider the range of physical size and strength of the population of drivers who are expected to use a particular model to ensure that the seats are comfortable, that the controls are readily identifiable and within reach, that there is clear visibility to the front and the rear, and that the internal instruments are easy to read. Ease of entry and egress will also be taken into account. By contrast, the designer of a racing car will assume that the driver is athletic so that ease of getting in and out, for example, is not important and, in fact, design features as a whole as they relate to the driver may well be tailored to the dimensions and preferences of a particular driver to ensure that he or she can exercise his or her full potential and skill as a driver.

In all situations, activities and tasks the focus is the person or persons involved. It is assumed that the structure, the engineering and any other technology is there to serve the operator, not the other way round.

### History and Status

About a century ago it was recognized that working hours and conditions in some mines and factories were not tolerable in terms of safety and health, and the need was evident to pass laws to set permissible limits in these respects. The determination and statement of those limits can be regarded as the beginning of ergonomics. They were, incidentally, the beginning of all the activities which now find expression through the work of the International Labour Organization (ILO).

Research, development and application proceeded slowly until the Second World War. This triggered greatly accelerated development of machines and instrumentation such as vehicles, aircraft, tanks, guns and vastly improved sensing and navigation devices. As technology advanced, greater flexibility was available to allow adaptation to the operator, an adaptation that became the more necessary because human performance was limiting the performance of the system. If a powered vehicle can travel at a speed of only a few kilometres per hour there is no need to worry about the performance of the driver, but when the vehicle’s maximum speed is increased by a factor of ten or a hundred, then the driver has to react more quickly and there is no time to correct mistakes to avert disaster. Similarly, as technology is improved there is less need to worry about mechanical or electrical failure (for instance) and attention is freed to think about the needs of the driver.

Thus ergonomics, in the sense of adapting engineering technology to the needs of the operator, becomes simultaneously both more necessary and more feasible as engineering advances.

The term ergonomics came into use about 1950 when the priorities of developing industry were taking over from the priorities of the military. The development of research and application for the following thirty years is described in detail in Singleton (1982). The United Nations agencies, particularly the ILO and the World Health Organization (WHO), became active in this field in the 1960s.

In immediate postwar industry the overriding objective, shared by ergonomics, was greater productivity. This was a feasible objective for ergonomics because so much industrial productivity was determined directly by the physical effort of the workers involved—speed of assembly and rate of lifting and movement determined the extent of output. Gradually, mechanical power replaced human muscle power. More power, however, leads to more accidents on the simple principle that an accident is the consequence of power in the wrong place at the wrong time. When things are happening faster, the potential for accidents is further increased. Thus the concern of industry and the aim of ergonomics gradually shifted from productivity to safety. This occurred in the 1960s and early 1970s. About and after this time, much of manufacturing industry shifted from batch production to flow and process production. The role of the operator shifted correspondingly from direct participation to monitoring and inspection. This resulted in a lower frequency of accidents because the operator was more remote from the scene of action but sometimes in a greater severity of accidents because of the speed and power inherent in the process.

When output is determined by the speed at which machines function then productivity becomes a matter of keeping the system running: in other words, reliability is the objective. Thus the operator becomes a monitor, a trouble-shooter and a maintainer rather than a direct manipulator.

This historical sketch of the postwar changes in manufacturing industry might suggest that the ergonomist has regularly dropped one set of problems and taken up another set but this is not the case for several reasons. As explained earlier, the concerns of ergonomics are much wider than those of manufacturing industry. In addition to production ergonomics, there is product or design ergonomics, that is, adapting the machine or product to the user. In the car industry, for example, ergonomics is important not only to component manufacturing and the production lines but also to the eventual driver, passenger and maintainer. It is now routine in the marketing of cars and in their critical appraisal by others to review the quality of the ergonomics, considering ride, seat comfort, handling, noise and vibration levels, ease of use of controls, visibility inside and outside, and so on.

It was suggested above that human performance is usually optimized within a tolerance range of a relevant variable. Much of the early ergonomics attempted to reduce both muscle power output and the extent and variety of movement by way of ensuring that such tolerances were not exceeded. The greatest change in the work situation, the advent of computers, has created the opposite problem. Unless it is well designed ergonomically, a computer workspace can induce too fixed a posture, too little bodily movement and too much repetition of particular combinations of joint movements.

This brief historical review is intended to indicate that, although there has been continuous development of ergonomics, it has taken the form of adding more and more problems rather than changing the problems. However, the corpus of knowledge grows and becomes more reliable and valid, energy expenditure norms are not dependent on how or why the energy is expended, postural issues are the same in aircraft seats and in front of computer screens, much human activity now involves using videoscreens and there are well-established principles based on a mix of laboratory evidence and field studies.

### Ergonomics and Related Disciplines

The development of a science-based application which is intermediate between the well-established technologies of engineering and medicine inevitably overlaps into many related disciplines. In terms of its scientific basis, much of ergonomic knowledge derives from the human sciences: anatomy, physiology and psychology. The physical sciences also make a contribution, for example, to solving problems of lighting, heating, noise and vibration.

Most of the European pioneers in ergonomics were workers among the human sciences and it is for this reason that ergonomics is well-balanced between physiology and psychology. A physiological orientation is required as a background to problems such as energy expenditure, posture and application of forces, including lifting. A psychological orientation is required to study problems such as information presentation and job satisfaction. There are of course many problems which require a mixed human sciences approach such as stress, fatigue and shift work.

Most of the American pioneers in this field were involved in either experimental psychology or engineering and it is for this reason that their typical occupational titles—human engineering and human factors—reflect a difference in emphasis (but not in core interests) from European ergonomics. This also explains why occupational hygiene, from its close relationship to medicine, particularly occupational medicine, is regarded in the United States as quite different from human factors or ergonomics. The difference in other parts of the world is less marked. Ergonomics concentrates on the human operator in action, occupational hygiene concentrates on the hazards to the human operator present in the ambient environment. Thus the central interest of the occupational hygienist is toxic hazards, which are outside the scope of the ergonomist. The occupational hygienist is concerned about effects on health, either long-term or short-term; the ergonomist is, of course, concerned about health but he or she is also concerned about other consequences, such as productivity, work design and workspace design. Safety and health are the generic issues which run through ergonomics, occupational hygiene, occupational health and occupational medicine. It is, therefore, not surprising to find that in a large institution of a research, design or production kind, these subjects are often grouped together. This makes possible an approach based on a team of experts in these separate subjects, each making a specialist contribution to the general problem of health, not only of the workers in the institution but also of those affected by its activities and products. By contrast, in institutions concerned with design or provision of services, the ergonomist might be closer to the engineers and other technologists.

It will be clear from this discussion that because ergonomics is interdisciplinary and still quite new there is an important problem of how it should best be fitted into an existing organization. It overlaps onto so many other fields because it is concerned with people and people are the basic and all-pervading resource of every organization. There are many ways in which it can be fitted in, depending on the history and objectives of the particular organization. The main criteria are that ergonomics objectives are understood and appreciated and that mechanisms for implementation of recommendations are built into the organization.

### Aims of Ergonomics

It will be clear already that the benefits of ergonomics can appear in many different forms, in productivity and quality, in safety and health, in reliability, in job satisfaction and in personal development.

The reason for this breadth of scope is that its basic aim is efficiency in purposeful activity—efficiency in the widest sense of achieving the desired result without wasteful input, without error and without damage to the person involved or to others. It is not efficient to expend unnecessary energy or time because insufficient thought has been given to the design of the work, the workspace, the working environment and the working conditions. It is not efficient to achieve the desired result in spite of the situation design rather than with support from it.

The aim of ergonomics is to ensure that the working situation is in harmony with the activities of the worker. This aim is self-evidently valid but attaining it is far from easy for a variety of reasons. The human operator is flexible and adaptable and there is continuous learning, but there are quite large individual differences. Some differences, such as physical size and strength, are obvious, but others, such as cultural differences and differences in style and in level of skill, are less easy to identify.

In view of these complexities it might seem that the solution is to provide a flexible situation where the human operator can optimize a specifically appropriate way of doing things. Unfortunately such an approach is sometimes impracticable because the more efficient way is often not obvious, with the result that a worker can go on doing something the wrong way or in the wrong conditions for years.

Thus it is necessary to adopt a systematic approach: to start from a sound theory, to set measurable objectives and to check success against these objectives. The various possible objectives are considered below.

#### Safety and health

There can be no disagreement about the desirability of safety and health objectives. The difficulty stems from the fact that neither is directly measurable: their achievement is assessed by their absence rather than their presence. The data in question always pertain to departures from safety and health.

In the case of health, much of the evidence is long-term as it is based on populations rather than individuals. It is, therefore, necessary to maintain careful records over long periods and to adopt an epidemiological approach through which risk factors can be identified and measured. For example, what should be the maximum hours per day or per year required of a worker at a computer workstation? It depends on the design of the workstation, the kind of work and the kind of person (age, vision, abilities and so on). The effects on health can be diverse, from wrist problems to mental apathy, so it is necessary to carry out comprehensive studies covering quite large populations while simultaneously keeping track of differences within the populations.

Safety is more directly measurable in a negative sense in terms of kinds and frequencies of accidents and damage. There are problems in defining different kinds of accidents and identifying the often multiple causal factors and there is often a distant relationship between the kind of accident and the degree of harm, from none to fatality.

Nevertheless, an enormous body of evidence concerning safety and health has been accumulated over the past fifty years and consistencies have been discovered which can be related back to theory, to laws and standards and to principles operative in particular kinds of situations.

#### Productivity and efficiency

Productivity is usually defined in terms of output per unit of time, whereas efficiency incorporates other variables, particularly the ratio of output to input. Efficiency incorporates the cost of what is done in relation to achievement, and in human terms this requires the consideration of the penalties to the human operator.

In industrial situations, productivity is relatively easy to measure: the amount produced can be counted and the time taken to produce it is simple to record. Productivity data are often used in before/after comparisons of working methods, situations or conditions. It involves assumptions about equivalence of effort and other costs because it is based on the principle that the human operator will perform as well as is feasible in the circumstances. If the productivity is higher then the circumstances must be better. There is much to recommend this simple approach provided that it is used with due regard to the many possible complicating factors which can disguise what is really happening. The best safeguard is to try to make sure that nothing has changed between the before and after situations except the aspects being studied.

Efficiency is a more comprehensive but always a more difficult measure. It usually has to be specifically defined for a particular situation and in assessing the results of any studies the definition should be checked for its relevance and validity in terms of the conclusions being drawn. For example, is bicycling more efficient than walking? Bicycling is much more productive in terms of the distance that can be covered on a road in a given time, and it is more efficient in terms of energy expenditure per unit of distance or, for indoor exercise, because the apparatus required is cheaper and simpler. On the other hand, the purpose of the exercise might be energy expenditure for health reasons or to climb a mountain over difficult terrain; in these circumstances walking will be more efficient. Thus, an efficiency measure has meaning only in a well-defined context.

#### Reliability and quality

As explained above, reliability rather than productivity becomes the key measure in high technology systems (for instance, transport aircraft, oil refining and power generation). The controllers of such systems monitor performance and make their contribution to productivity and to safety by making tuning adjustments to ensure that the automatic machines stay on line and function within limits. All these systems are in their safest states either when they are quiescent or when they are functioning steadily within the designed performance envelope. They become more dangerous when moving or being moved between equilibrium states, for example, when an aircraft is taking off or a process system is being shut down. High reliability is the key characteristic not only for safety reasons but also because unplanned shut-down or stoppage is extremely expensive. Reliability is straightforward to measure after performance but is extremely difficult to predict except by reference to the past performance of similar systems. When or if something goes wrong human error is invariably a contributing cause, but it is not necessarily an error on the part of the controller: human errors can originate at the design stage and during setting up and maintenance. It is now accepted that such complex high-technology systems require a considerable and continuous ergonomics input from design to the assessment of any failures that occur.

Quality is related to reliability but is very difficult if not impossible to measure. Traditionally, in batch and flow production systems, quality has been checked by inspection after output, but the current established principle is to combine production and quality maintenance. Thus each operator has parallel responsibility as an inspector. This usually proves to be more effective, but it may mean abandoning work incentives based simply on rate of production. In ergonomic terms it makes sense to treat the operator as a responsible person rather than as a kind of robot programmed for repetitive performance.

#### Job satisfaction and personal development

From the principle that the worker or human operator should be recognized as a person and not a robot it follows that consideration should be given to responsibilities, attitudes, beliefs and values. This is not easy because there are many variables, mostly detectable but not quantifiable, and there are large individual and cultural differences. Nevertheless a great deal of effort now goes into the design and management of work with the aim of ensuring that the situation is as satisfactory as is reasonably practicable from the operator’s viewpoint. Some measurement is possible by using survey techniques and some principles are available based on such working features as autonomy and empowerment.

Even accepting that these efforts take time and cost money, there can still be considerable dividends from listening to the suggestions, opinions and attitudes of the people actually doing the work. Their approach may not be the same as that of the external work designer and not the same as the assumptions made by the work designer or manager. These differences of view are important and can provide a refreshing change in strategy on the part of everyone involved.

It is well established that the human being is a continuous learner or can be, given the appropriate conditions. The key condition is to provide feedback about past and present performance which can be used to improve future performance. Moreover, such feedback itself acts as an incentive to performance. Thus everyone gains, the performer and those responsible in a wider sense for the performance. It follows that there is much to be gained from performance improvement, including self-development. The principle that personal development should be an aspect of the application of ergonomics requires greater designer and manager skills but, if it can be applied successfully, can improve all the aspects of human performance discussed above.

Successful application of ergonomics often follows from doing no more than developing the appropriate attitude or point of view. The people involved are inevitably the central factor in any human effort and the systematic consideration of their advantages, limitations, needs and aspirations is inherently important.

### Conclusion

Ergonomics is the systematic study of people at work with the objective of improving the work situation, the working conditions and the tasks performed. The emphasis is on acquiring relevant and reliable evidence on which to base recommendation for changes in specific situations and on developing more general theories, concepts, guidelines and procedures which will contribute to the continually developing expertise available from ergonomics.

Q2. Write short notes on team staffing and organization

Organizational structure and staffing refers to a company, business or other entity's operations and management. Defining the organizational structure for a business is a key aspect of small business planning, including staffing. Often based upon estimates, considerations concerning staffing may include budgets, production requirements and employee and management staff work experience. Using business organizational structure, managers may determine required staffing, how to utilize existing resources and when to add new staff to complete work.

## Purpose of Organizational Structure

## An organization may be structured in different ways, according to its main objectives. Company structure determines how the business will operate and perform. Organizational structure can allow for the allocation of responsibilities for the company's functions in management and production. Operational standards and routines may be developed based upon the foundation that organizational structure provides. Designing an organizational structure also helps to determine which staff will participate in decision making, which can be helpful in shaping the actions of the company or business. Structure Types

The type of organizational structure that a company may use is determined by the type of business and the environment that it is in. Task allocation, supervision and coordination and goal achievement are all aspects to consider when designing an organization structure for a company. While some organizations may use hierarchical structures, smaller businesses may opt to use a more informal system. For example, a small company may only have an owner who also functions as the operations manager. As the business grows, managers may be added to supervise staff in specific areas of the

## Functional Organizations

Small businesses frequently structure the company around specific job functions. This kind of business structure works for companies that feature a limited number of products or services and therefore have fewer production requirements than a large corporation. Staffing for this type of operation might include the owner, a main manager and enough staff to produce and manage the products and services. For example, a business that depends upon customers who purchase products needs to have at least one person who can adequately handle the orders received to be able to operate at a bare minimum. Ideally, a small business should at least have a manager who can attend to business matters, while another person attends to production and customer service.

## Staffing Requirements

To determine staffing needs, companies may use job functions to identify the types of skills necessary for each position. Time estimates and materials required for each job should be defined, along with the level of skill required. For example, if products sold are acquired from another company, a manager or other individual would be responsible to obtain those products. If, however, the products are produced by the company, it would be necessary to employ production people who know how to make the products being sold. The experience level and caliber of the staff required vary according to the company's exact production or service needs

OR

Q2.Describe different risk areas involve in new product development

Certain assumptions in product development have been thought to be very effective in the world of product development. But the authors of this Harvard Business Review article illustrate how those assumptions can often be flawed and pose as risks that can be detrimental to the efficiency of product development. Every product development project is unique in its own way, and requires a different planning process with constant modifications. By not realizing such intricate differences, product development managers are exposing their companies to various risks associated with product development. This Harvard Business Review article highlights six common fallacies associated with product development activities that can, if ignored, lead to significant risks that impact the success of the product development objectives.

### 1. Risk of major delays and economic costs due to belief that high utilization of resources improves performance

According to surveys conducted in executive courses at the California Institute of Technology, “the average product development manager keeps capacity utilization above 98%.” That is, they fully utilize their product development resources. They do so based on the belief that fully employed product development resources leads to faster product innovation and launch.

An unintended consequence of such high utilization of resources, and one that managers overlook, is major delays in product development. The authors argue that a project’s speed, efficiency and output actually decline the more managers’ capacity is being stretched across multiple development projects. This is largely due to the realities of product development work – many aspects are unpredictable. The more stretched the product development team, the less able they are to deal with managing these unpredictable events.

The obvious solution to the aforementioned factors is to have a “capacity buffer in processes that are highly variable.” In this way, queues and issues created can be tackled and eliminated, thereby reducing the risk of major delays. It is also vital to maintain resources for a particular project once it is started. To use the resources from one project during its idle time to start another project can bring rise to the risk of further delays and costs to the organization.

### 2. Increasing costs as a result of processing work in large batches

Generally, it is assumed that processing work in large batches is cost-effective, faster, and produces economies of scale. However, the authors believe otherwise, and claim that “reduction of batch sizes is a critical principle of lean manufacturing.” With work-in-process in product development being almost invisible, it is crucial to maintain perspective and use smaller batches. This allows for quicker feedbacks and cost-effective modifications.

What is an optimal batch size? This depends on two costs:

i. **Holding costs** – Costs associated with maintaining batches
ii. Transaction costs – Costs associated with processing batches

Large batches increase holding costs but decrease transaction costs and vice versa. Hence, in order to avoid the risk of increasing costs, it is imperative to strike a balance between the two costs. The authors mention a computer peripheral manufacturing company that lowered its batch size and improved its efficiency by 220% (reducing software testing from 48 to 2.5 months) and decreased defects by 33%.

### 3. Risk of losing opportunities by “sticking” to a single development plan

Projects are intrinsically different and require a personalized planning and design process. But organizations often like to stay within their comfort zone and place “inordinate faith in their plans” believing that their development plan is the most effective. Doing so can inadvertently cause organizations to develop a tunnel vision towards product development that does not fit changing customer needs. Ultimately, it will inhibit their ability to identify other opportunities for greater innovative techniques.

Constantly modifying the development plan to fit the needs of customers as it relates to market demands will push managers to create unique designs and competitive features that will make their product more attractive than other competitors. “Sticking to the original” process may create the risk of producing similar products with little significant improvements, and, therefore, the risk of losing a better opportunity.

### 4. Risk of starting a product development task too soon

Humans are often impatient and that characteristic naturally drives many organizations to rush to embrace a new product development task. Anytime they experience downtime, they often look for ways to utilize that time productively, sometimes launching new product development projects too soon. Unfortunately that leads to dilution of resources as other product development projects resume slowing down the progress of the project launched during the idle time.

The authors emphasize the importance of controlling the rate at which they start new projects so that they can carefully manage ongoing projects in process.

### 5. Risk associated with products having too many features

Products that are complicated to operate can quickly become unpopular in the market. Such risks can cause a slump in sales. Hence, managers need to remind their teams to develop products that are sophisticated, yet simple to use.

It can be difficult for a team to decide what features are relevant to the current product development project. The authors provide a solution where the team can work on identifying and eliminating features that are irrelevant. It is important to undergo this process through the customers’ perspective. Once the omission process is completed, then the team would be left with the most relevant ones to include and work with.

One company that the authors believe understands this idea is Apple. Apple’s products, while sophisticated with latest software and features, are still user-friendly and simple to use. This creates more demand for their product, and in turn higher returns.

### 6. Risk arising from zero tolerance of failure with projects

Having a zero tolerance of failure can have a damaging effect to a product development project. By communicating the expectations of success on the first attempt of development work, project teams are more likely to choose the “least-risky” solutions. These solutions may not be of much relevance to customers, and raise risks of having an unattractive product in the market.

Early feedback and early testing of solutions with more experiments would potentially mean more failures since more development work is needed. However, this can be deemed positive since teams can identify the good options from the bad ones. Doing this earlier on is encouraged rather than later when more resources have been invested and the cost of backing out is higher.

A study of 391 teams that designed custom integrated circuits revealed that teams who conducted early and frequent tests made more errors. However, they were able to outperform other teams because the low initial cost of those several failures were easier to recover than the high costs incurred by other teams. The timings of those failures made a difference, and they avoided the risk of higher costs and product failure with

Q3, . Describe different stages of project execution

### Phase 1: Project Initiation

This is the start of the project, and the goal of this phase is to define the project at a broad level. This phase usually begins with a business case. This is when you will research whether the project is feasible and if it should be undertaken. If feasibility testing needs to be done, this is the stage of the project in which that will be completed.

Important stakeholders will do their due diligence to help decide if the project is a “go.” If it is given the green light, you will need to create a project charter or a project initiation document (PID) that outlines the purpose and requirements of the project. It should include business needs, stakeholders, and the business case. Note: There are plenty of PID templates that adhere to PMBOK guidelines available online that you can download to help you get started.

### Phase 2: Project Planning

This phase is key to successful project management and focuses on developing a roadmap that everyone will follow. This phase typically begins with setting goals. Two of the more popular methods for setting goals are S.M.A.R.T. and CLEAR:

**S.M.A.R.T.** This method helps ensure that the goals have been thoroughly vetted. It also provides a way to clearly understand the implications of the goal-setting process.

**S**pecific – To set specific goals, answer the following questions: who, what, where, when, which, and why.
**M**easurable – Create criteria that you can use to measure the success of a goal.
**A**ttainable – Identify the most important goals and what it will take to achieve them.
**R**ealistic – You should be willing and able to work toward a particular goal.
**T**imely – Create a timeframe to achieve the goa

**C.L.E.A.R. Goals** – A newer method for setting goals that takes into consideration the environment of today’s fast-paced businesses.

**C**ollaborative – The goal should encourage employees to work together.
**L**imited – They should be limited in scope and time to keep it manageable.
**E**motional – Goals should tap into the passion of employees and be something they can form an emotional connection to. This can optimize the quality of work.
**A**ppreciable – Break larger goals into smaller tasks that can be quickly achieved.
**R**efinable – As new situations arise, be flexible and refine goals as needed.

During this phase, the scope of the project is defined and a project management plan is developed. It involves identifying the cost, quality, available resources, and a realistic timetable. The project plans also includes establishing baselines or performance measures. These are generated using the scope, schedule and cost of a project. A baseline is essential to determine if a project is on track.

At this time, roles and responsibilities are clearly defined, so everyone involved knows what they are accountable for. Here are some of the documents a PM will create during this phase to ensure the project will stay on track:

* **Scope Statement** – A document that clearly defines the business need, benefits of the project, objectives, deliverables, and key milestones. A scope statement may change during the project, but it shouldn’t be done without the approval of the project manager and the sponsor.
* **Work Breakdown Schedule (WBS)** –This is a visual representation that breaks down the scope of the project into manageable sections for the team.
* **Milestones** – Identify high-level goals that need to be met throughout the project and include them in the Gantt chart.
* [**Gantt Chart**](https://www.smartsheet.com/gantt-chart-software) – A visual timeline that you can use to plan out tasks and visualize your project timeline.
* **Communication Plan** – This is of particular importance if your project involves outside stakeholders. Develop the proper messaging around the project and create a schedule of when to communicate with team members based on deliverables and milestones.
* **Risk Management Plan** – Identify all foreseeable risks. Common risks include unrealistic time and cost estimates, customer review cycle, budget cuts, changing requirements, and lack of committed resources.

### Phase 3: Project Execution

This is the phase where deliverables are developed and completed. This often feels like the meat of the project since a lot is happening during this time, like status reports and meetings, development updates, and performance reports. A “kick-off” meeting usually marks the start of the Project Execution phase where the teams involved are informed of their responsibilities.

Tasks completed during the Execution Phase include:

* Develop team
* Assign resources
* Execute project management plans
* Procurement management if needed
* PM directs and manages project execution
* Set up tracking systems
* Task assignments are executed
* Status meetings
* Update project schedule
* Modify project plans as needed

 While the project monitoring phase has a different set of requirements, these two phases often occur simultaneously.

  **Effort and Cost Tracking:** PMs will account for the effort and cost of resources to see if the budget is on track. This type of tracking informs if a project will meet its completion date based on current performance.

* **Project Performance:** This monitors changes in the project. It takes into consideration the amount and types of issues that arise and how quickly they are addressed. These can occur from unforeseen hurdles and scope changes.

During this time, [PMs may need to adjust schedules and resources to ensure the project is on track](https://twitter.com/intent/tweet?text=%22PMs%20may%20need%20to%20adjust%20schedules%20and%20resources%20to%20ensure%20the%20project%20is%20on%20track%22+http://bit.ly/1lg3LQy%20via+%40Smartsheet)

### Phase 5: Project Closure

This phase represents the completed project. Contractors hired to work specifically on the project are terminated at this time. Valuable team members are recognized. Some PMs even organize small work events for people who participated in the project to thank them for their efforts. Once a project is complete, a PM will often hold a meeting – sometimes referred to as a “post mortem” – to evaluate what went well in a project and identify project failures. This is especially helpful to understand lessons learned so that improvements can be made for future projects.

Once the project is complete, PMs still have a few tasks to complete. They will need to create a project punch list of things that didn’t get accomplished during the project and work with team members to complete them. Perform a final project budget and prepare a final project report. Finally, they will need to collect all project documents and deliverables and store them in a single place.
 OR
Q.3 Q4.What are the principal requirements of a good product design?

 Discuss the challenges faced by the management in launching the new product using suitable examples.

can take your own ideas or those of others and use them to develop new products, but the process is full of challenges. Turning an idea into a marketable product is complex and multifaceted. You have to execute all the steps correctly and create a product that appeals to a particular market. Because the process is difficult, once your company has created several viable new products, its services could be in great demand.

## Concept

The first challenge you face when developing new products is choosing a concept that has potential. A good idea is only a first step and often isn't viable because of cost, production difficulties or regulatory limitations. Your new product development company can only take on projects for which it can establish a reliable path through development, and your team has to learn to recognize such products.

## Financing

Developing new products is expensive and risky. A new product development company has to make sure it will receive compensation in line with the risk it is assuming. Common models range from a low-risk one where an inventor pays the company a fee for the development, to one where the company arranges financing with its own resources or with outside investors and receives a share of the profits.

**Team**

You probably have a permanent team made up of people with varied expertise to evaluate and choose projects, but you need specialists once you are developing a particular product. Assembling a team that can handle the design, create the production drawings, set up manufacturing and identify the target markets for a specific product is challenging. While the work is interesting, long-term planning is difficult, because the success of the project is not certain.

**Design**

To ensure a successful product development, your team has to design a product that has functionality foreseen by the inventor and attractive to the target market. You must be able to manufacture the product at a reasonable cost, and it has to meet safety regulations. The challenge is for the designers to keep all these aspects in mind while creating a product that will sell.

**Production**

Your new product design company has to establish limits to its involvement. New product development usually does not include manufacturing products for sale but does include help with setting up the production line and preproduction validation of the design. You have to show that your product can be built for the cost you estimated and that it will work as planned. You may also develop customer documentation and instruction manuals.

**Marketing**

While you may help with identifying target markets, establishing possible marketing concepts and test marketing, carrying out the marketing plan is usually the job of your client company or the company that will handle the developed product. Your involvement normally ends with a successful product launch, although you may continue to act in an advisory capacity, especiallyif your compensation includes a share of the future profits.

**Q4.What are the principal requirements of a good product design?**

Main or essential requirements of a good [product design](http://kalyan-city.blogspot.com/2012/02/what-is-product-design-definition.html) are depicted below.

The essential requirements of a good product design are listed as follows:

## 1. Function

The product must be designed in such a way that it optimally performs the main task or function for which it is purchased by a buyer. In other words, the product must satisfy the needs and wants of the consumer.

For e.g. The main function of an Air Conditioner (AC) is to provide quick cooling of a room. So, AC must be designed in such a way that it can cool a room as fast as technologically possible. If it doesn't meet basic expectations, the consumers won't buy it.

## 2. Repairability

The product must be designed in such a way that it can be easily repaired whenever necessary during a malfunction. The product repairs must be done quickly that too at a low repair cost. Consumers usually don't buy those costly products, which are either very expensive to repair / maintain or those who take a longer time and more money for repairing.

## . Reliability

1. Reliability means dependability on a product. Consumers prefer to purchase and use often those products which perform their main function or task optimally for a longer period without any annoying malfunctions, breakdowns or failures. In short, a product must perform quite well and give trouble-free service for a decent amount of time. It must not need constant repairs and/or frequent maintenances. It is so, since repairs often turn costly and are very time consuming.).
2. It must be easy to repair at a low repair cost.
3. It must be very reliable to use.
4. It must follow principles of aesthetics.
5. It must be a durable one.
6. It can be easily produced in large numbers at minimum production cost.
7. It must be simple to produce and use (handle).
8. It must also be compact.

Now let's discuss each essential requirement of a good product design

## 4. Aesthetics

Aesthetics must be kept in mind while designing a product. It refers to, how the product looks, feels, sounds, tastes or smells. That is, the product must look, feel, sound, taste or smell very good. It must be attractive, compact and convenient to use. Its packaging must also be made graphically appealing and colorful. If this aspect is not considered, product will fail in the market. This factor is very important, especially in case a product is designed for and targeted to the young generation that is emerging with a modern mindset and current trends.

## 5. Durability

Durability refers to the life of a product. A durable product performs flawlessly for a longer period. It is a sign of a good-quality product. Consumers want their products to have a longer life. They do not want to replace their products repeatedly. This factor is very crucial for durable and costly products like televisions, refrigerators, cars, so on. Therefore, durability is another important requirement that must be kept in mind while designing a product.

## 6. Producibility

The product must be designed in such a way that it can be produced in large quantities with ease at a minimum production cost. The production department must be able to produce the product easily, quickly, in ample quantities and at a low production cost. The production process must not be very complex, and it must not require costly machines to produce the product.

## 7. Simplicity

The design of the product must be very simple. The simpler a design, the easier, it is to produce and use (handle). Simple products are also economical and reliable. The product must have the least number of operations without affecting its functionality.

## 8. Compact

The product must be small; it must occupy less space, and must have lower weight. In other words, it must be very compact. The company must try to make its products as small as possible. Today, everything is turning smaller. Big sized cell phones are now out of fashion. In the 1950s, computers were as huge as spacious rooms. However, today we have laptops and palmtop computers. Most products can be made compact. Still, this cannot be done for all products. In case of televisions, it is just the opposite. Today people want bigger televisions. Similarly, there is a limit on small size. We cannot have a phone which is so tiny that it requires a microscope to see its keypad.

Q4. Write short note on

 (1)Project task matrix

(2) Project scheduling

### 1 Introduction

No matter what project size, job descriptions should be clearly defined. Whether it’s a 5-person team or an international collaboration, everyone needs to understand their role: that being the tasks and activities each person must complete. One way to define each team member’s role is to use a RACI matrix. An example of a responsibility assignment matrix, it shows the expense at the lowest level of work for the purpose of managing cost and duration. It is a charting system that illustrates the task’s goal and the required action for each person. This assists with reducing confusion on expectations, in turn, increasing project efficiency. In this context, decisions are made more quickly, accountability is clear and workload is evenly distributed. But wait, is the RACI matrix the be-all and end-all? I will let you know what the project management professionals think. But first…

### RACI Matrix/Chart

If you would like to explicitly communicate on a project, the RACI matrix can help with that. RACI organizes your project so that everyone knows what’s happening. With RACI, map out who is Responsible, is Accountable, must be Consulted with, and shall stay Informed.

Lets break it down further. Here is what your project delegation looks like with RACI.

Responsible – Who is completing the task.

Accountable – Who is making decisions and taking actions on the task(s).

Consulted – Who will be communicated with regarding decisions and tasks.

Informed – Who will be updated on decisions and actions during the project.

* A project leader needs to communicate with its team members, throughout the project phase. In a like manner, in case any task is late than usual or as planned, the reasons for it can be determined.
* Specifically, have all your project deliverables available in a single spreadsheet. No need to look at different spreadsheets for your project information as all the information is now available in this sheet.
* In fact, all the deliverables is further line up in smaller tasks. You can now assign tasks to your project team easily.

Ideally prepare and well structure to use internally or externally via **Project Task Matrix Template.**

* You can now see them, “responsible members”, “accountable person”, “task name”, “task dependent or independent” in this sheet.
* The sheet is not only easy to use; in fact it is professional and impressive format.
* Whether one need the excel sheet for the internal purpose to use it in the meetings or for the external use, that is to associate it with stakeholders, this is ideal.

Have clear and clean picture of your projects and tasks through *Project Task Matrix Productivity Template*.

* Even if you are relate to construction industry or restaurant, you need to have this sheet.
* It is workable in excel 2003 0r update version.
* You can divide the tasks for the whole week, month or the life of the project.

You can now create the list of tasks using the tool. It consists of: “urgent/important tasks”, “not urgent/ important tasks”, “urgent/ not important tasks” and “not urgent/not important tasks”. This helps in planning and dividing the tasks among your project team.

(2) Project Scheduling

Project scheduling is concerned with the techniques that can be employed to manage the activities that need to be undertaken during the development of a project.

Scheduling is carried out in advance of the project commencing and involves:

•    identifying the tasks that need to be carried out;

•    estimating how long they will take;

•    allocating resources (mainly personnel);

•    scheduling when the tasks will occur.

Once the project is underway control needs to be exerted to ensure that the plan continues to represent the best prediction of what will occur in the future:

•    based on what occurs during the development;

•    often necessitates revision of the plan.

Effective project planning will help to ensure that the systems are delivered:

•    within cost;

•    within the time constraint;

•    to a specific standard of quality.

Two project scheduling techniques will be presented, the Milestone Chart (or Gantt Chart) and the Activity Network.

Milestone Charts

Milestones mark significant events in the life of a project, usually critical activities which must be achieved on time to avoid delay in the project.