MANAGERIAL ECONOMICS PBMK309

Nature and Scope of Managerial Economics

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Introduction

- From microeconomics, it was established that the fundamental economic problem is common to all, albeit the social machinery for dealing with it differs

- Scarcity calls for effective and efficient decision making regarding the use of available resources

- The range of decisions are numerous for the individual, firms, and governments

- Individual decisions include deciding whether to go to college or work; whether to travel by air or land; whether to invest in short or long term investments; whether to buy a mortgage facility or borrow from the bank to build own house; whether to send your ward to private or public school, and whether to vote or not.

- Government decisions include: should funds be allocated to the construction of a new harbour at Ho? Who should be tax more? Must oil price be increased in the wake of global surge in oil price? Who should benefit from the government’s health insurance policy? Should education be made free?

- Business decisions include should company A undertake a promising but expensive R&D program? Should company A cut down the price of its best selling product in response to new entry? What bid should company A submit to win a government road construction contract? Should a company open another branch? Should a company produce its own raw materials or source them externally? Should a company increase the labour force due to market demand increase for their product?

- All these decisions are economic in nature. In each case, what decision is deemed optimal requires a careful comparison of the associated cost and benefit of alternative course of actions

- This is crucial as failure to do so will produce undesirable outcomes. In order to make informed decision, it is the responsibility of the decision maker to search for what information is required, how to collect those information, and process them for the final decision

Managerial Economics Defined

- Two concepts are embedded in the concept; manager and economics.
- To understand managerial economics, we need to know what these concepts mean.
- Who is a manager? A manager is one on whom authority has been delegated to control and allocate the firms’ resource towards achievement of the firms’ objective.
- These include those given authority to direct efforts, buy input, price commodity, ensure product quality, produce, market produce, controlling firms finance, and making investments
- Thus, as defined here, the manager does not only refer to the top level management but includes all the other levels of management

- What is Economics? It is the science of how individuals, firms, and governments deal with the problem of what to produce, how o produce, and for whom to produce.

- At the core of economics, is the fact that all economic agents are subject to resource constraints in their bid to maximize their goal

- The primary objective of firms is to maximize profit subject to resource constraints

- The task of the manager, is to allocate the scarce resources in a manner that maximizes the firms’ profit

- The question of how to allocate scarce resources efficiently requires efficient decision making

- Economics thus, provide the framework for efficient managerial decision making

- Managerial economics is therefore, defined to be the application of economic theory as the framework for managerial decision making.

- It is the application of economic tools and concepts to managerial decision making towards achieving the firms' objective

- The various functional areas of the firm provide managers with the requisite information to make informed decisions

Factors influencing managerial decision

- Though, managerial economics is driven more by economic logic, there are other forces that drive managerial decisions, which is non-economic in nature

1. **Human or behavioural consideration**: managers take into consideration the implications of their decisions on worker morale or incentives. Though, economic rationale may justify expansion of firms, managers will remain reluctant to expand due to threat of control over management
2. **Technological Factors**: economic decisions take technology as given which seems to underplay the significance of technology in real life situations. Managers assess alternative technologies, considers the technological moves of competitors and emerging new technologies in their planning and allocation of resources within the firm. No investment decision is made without a careful examination of relevant technological alternatives

- **Environmental Factors**: The environment impact on managerial decisions. For instance, there may be economic justification for price increase but yet managers may defray from the price increase due to fear of political and social hostility. In this case, the manager is sacrificing short-term gains for the long –term survival

- The constant and complex interplay of these factors are part of business reality that managers face

- However, in this, we will be more biased towards the economic logic that underlies managerial decision making

Managerial economics and other disciplines

- **Economic theory:** managerial economics draws heavily on normative economics as its focus is more on prescribing choice and action and less on explaining what has happened
- The roots of managerial economics stems from microeconomic theory. Examples demand and supply theories, theories of market, cost and production theories
- Managerial economics has applied bias and an interest in applying economic theory to deal with real life business problems
- This implies that mere teaching of microeconomic theory is not a substitute for the teaching of managerial economics

- **Decision sciences:** In trying to establish relations and forecast, managerial economics draws heavily on the tools of mathematics, statistics, and econometrics

- **Management theory:** managerial economics has been influenced by developments in managerial theory.
- Maximizing firm value has been regarded as the ultimate managerial goal in microeconomics
- However, organizational theorists have talked about ‘satisficing’ as opposed to maximising**.**
- It is important that managers take into the changing managerial goals as this has crucial bearing on decision making

- **Accounting** : a close link exists between managerial economics and the concepts and practices of accounting.
- Accounting data and statement constitutes the language of business
- Cost and revenue information and their classification are influenced considerably the accounting profession
- Students of managerial economics must thus, be familiar with the generation and interpretation of accounting data
- The focus of accounting has shifted from book-keeping to managerial decision making. This has led to the evolution of a specialisation termed managerial accounting

- **Marketing**: a close link also exists between managerial economics and marketing.
- As managers, the profit maximisation motive requires that (1) the manager sets appropriate price; (2) produce the good that meets customers needs, and (3) capture the larger share of the market
- In order to achieve the profit objective, managerial economics draws heavily on marketing theories of capturing the market, setting contextual and strategic price, producing for the consumer

- **Finance**: as a manager, the profit maximising motive requires that, you make good investment decisions and source for funds.
- This involves using the right technology, identifying which investment is worthwhile, and strategies to minimise risk.
- To do these, managerial economics draws heavily on capital budgeting, risk and uncertainty analysis and, capital structure in finance

Is managerial economics relevant?

- It provides an understanding of the business environment and how changing conditions can affect the optimal decision

- It provides the framework for effective and efficient decision making

- It provides the guidelines to the selection of the alternative that best meets the firms' objective

- It provides the basis for predicting the likely consequences of alternative course of actions

- Due to the multifaceted nature of managerial economics, it provides an understanding of how different aspects of business interact to achieve the optimal goal

Steps to effective managerial decision making

- **Define the problem**: the first step to decision making is identifying what the problem is, who the decision maker is, what is the decision context, and how it influences managerial objectives or actions
- Decisions do not occur in a vacuum. Therefore, it is important to ask what brought about the need for the decision and what the decision is all about.

- **Determine the objectives and the constraints**: after identifying the problem, the next thing is to know what you want. Thus, what is the decision makers goal? How should the decision maker value outcomes with respect to the goal
- The main objective of the firm in the private sector is to maximize profit. As a result, the manager will go for the option that maximises profit
- In the public sector, the objective may be more general
- Thought the broader objective may be to maximize profit, the respective functional goals may differ
- However, managers at various levels are confronted with constraints which acts against the optimal goal. These may include technology, competitors price etc. As a manager, you must be able to identify the relevant constraints

- **Explore alternatives**: there are always alternative ways to achieving a goal. As a manager you should be able to identify these alternative course of actions, what variables are under your control, and what constraints limit the choice of options
- Given limitations, the decision maker may not be able to identify and evaluate all possible options. However, the most vital ones should not be ignored

- **Predict the consequences**: here the manager must identify the consequences of alternative course of action.
- Should conditions change, how will this affect outcomes? If outcomes are uncertain, what is the likelihood of each? Can better information be acquired to predict outcomes?
- Thus, here it is important for the manager to translate the options into outcomes
- Models and simple arithmetic can aid predict the likely consequences of alternative course of actions

- Models are simplification of reality. Models can be deterministic or probabilistic
- Deterministic models produce certain outcomes. Example, if soft-drink company wish to predict the number of individuals between 10 to 25 years, the sample will include those who are 5 and 20 years. Given this the manager can predict with certainty, after taking into account the number of deaths, the number of individuals by five years
- Probabilistic model; the outcome of the model is uncertain. For instance, if the manager is interested in predicting total consumption or market share, the outcome will be less certain. This is because various factors influence total consumption and market share of a product

- **Make a choice**: the next step is selecting the preferred course of action.
- The decision maker can do this via enumeration. Thus, testing alternatives and selecting the one that best meets the objective.
- Variety of tools are used to arrive at the optimal decision. This includes marginal analysis, decision trees, game theory, benefit-cost analysis and linear programming.
- These approaches do not only help in identifying the optimal decision but also explain why they are optimal

- **Perform sensitivity analysis**: the final thing is to find out how the optimal decision is affected if conditions vary or key economic variables change

Other things important for effective managerial decision making

- ***Recognise the nature and importance of profit:***
- Accounting profit = TR-TC(explicit cost)
- Economic Profit = TR-TC(explicit and implicit cost)
- Profits signals to the manager where society's scarce resources are valued most

- **Understanding incentives**: changing profits serve as an incentive to resource holders to alter their use of resources.
- With the firm, incentives affect how resources are used and how hard workers work
- What is crucial is that the design of appropriate incentive packages should be in such a way that as managers pursue their interest, indirectly they meet shareholders interest
- In large companies, the incentive could be tying managers reward to organisation performance

- **Understanding markets**: buyers and sellers create markets and therefore the outcome of the market depends on the relative importance of buyers and sellers in the market
- The bargaining power of these parties depends on three sources of rivalry, consumer-producer rivalry, consumer-consumer rivalry, and producer-producer rivalry.
- Achievement of firms objective depends on how these forces affect the firms' product
- ***Consumer-producer rivalry***: this is due to opposing interest of buyers and sellers
- Each party strives to rip the other party of and this acts as a disciplining device on the market process
- ***Consumer-consumer rivalry***: the major source of this rivalry is scarcity. Scarcity necessitates that the limited goods and services produced be rationed
- In the process, only those who have the ability to pay end up with good or service
- This rivalry reduces the bargaining power of consumers in the marketplace

- ***Producer-producer rivalry***: this exists when multiple sellers of a product compete for market share in the market
- The number of buyers available for each product is limited. As a result, producers compete for buyers

- **Recognise the time value of money**: there is time lag between cost incurred and benefits expected
- Due to investment opportunities, a $1 today is worth more than 1 $ tomorrow
- This is because the opportunity cost of $1 today is positive
- This cost is called the time value of money
- To understand the timing of receipts and expenditures, the manager must understand the present value analysis
- The present value is the discounted stream of future streams of incomes

- **Use marginal analysis**: this states that optimal decision making involves comparing the marginal benefit to marginal cost.

Theory of the firm

- The theory of the firm posits that, the primary existence of businesses is to maximised the firm value or profit

- Thus, both short run and long run profits are given equal attention because business exists now and the future

- As a result, the objective of the firm is maximise all streams of profits

$$PV = \frac{FV}{(1+r)^t}$$

- The problem with this objective is that firms consist of managers, workers, stockholders, customers and tax collectors and the interest of these members may be diverse and conflicting

- These must be reconciled to ensure the survival of the firm

- In very large companies, there is separation of ownership and control. Thus, owners of resource are not the same that control resources

- Managers are employed to control the firms' resource towards the realisation of shareholders' objective

- This separation causes management to deviate from the profit maximisation objective and pursue goals that will maximise their utility

- However, the survival of the manager is subject to the fact that (1) the necessary investment is undertaken to ensure satisfactory operation of the firm; (2) maintaining good reputation to secure adequate funding for current transaction; (3) avoiding the risk of take-over; (4) avoiding a fall in the relative price of shares traded on the stock exchange; (5) maintaining an acceptable level of profit necessary for a dividend policy acceptable to stockholders

- Thus, maximising manager's utility is subject to ensuring a minimum profit

- There are theories of managerialism that deviates from the traditional management theory of profit maximisation; Baumol's model of sales revenue maximisation, Marris's model of managerial enterprise, Williamson's model of managerial discretion, Cyert and March behavioural model, and Ronald Coase transaction theory

- All these models are underlined by the basic assumption of maximisation of the manager's utility subject to minimum profit constraint

- They however, differ with respect to (1) factors which enters into the managers utility function, (2) key policy variables which managers will use in attaining their goals (3) prediction of the consequences of changes of various parameters of the model

Baumol's theory of sales revenue maximization

- Baumol suggested sales revenue maximization as an alternative goal to profit maximization

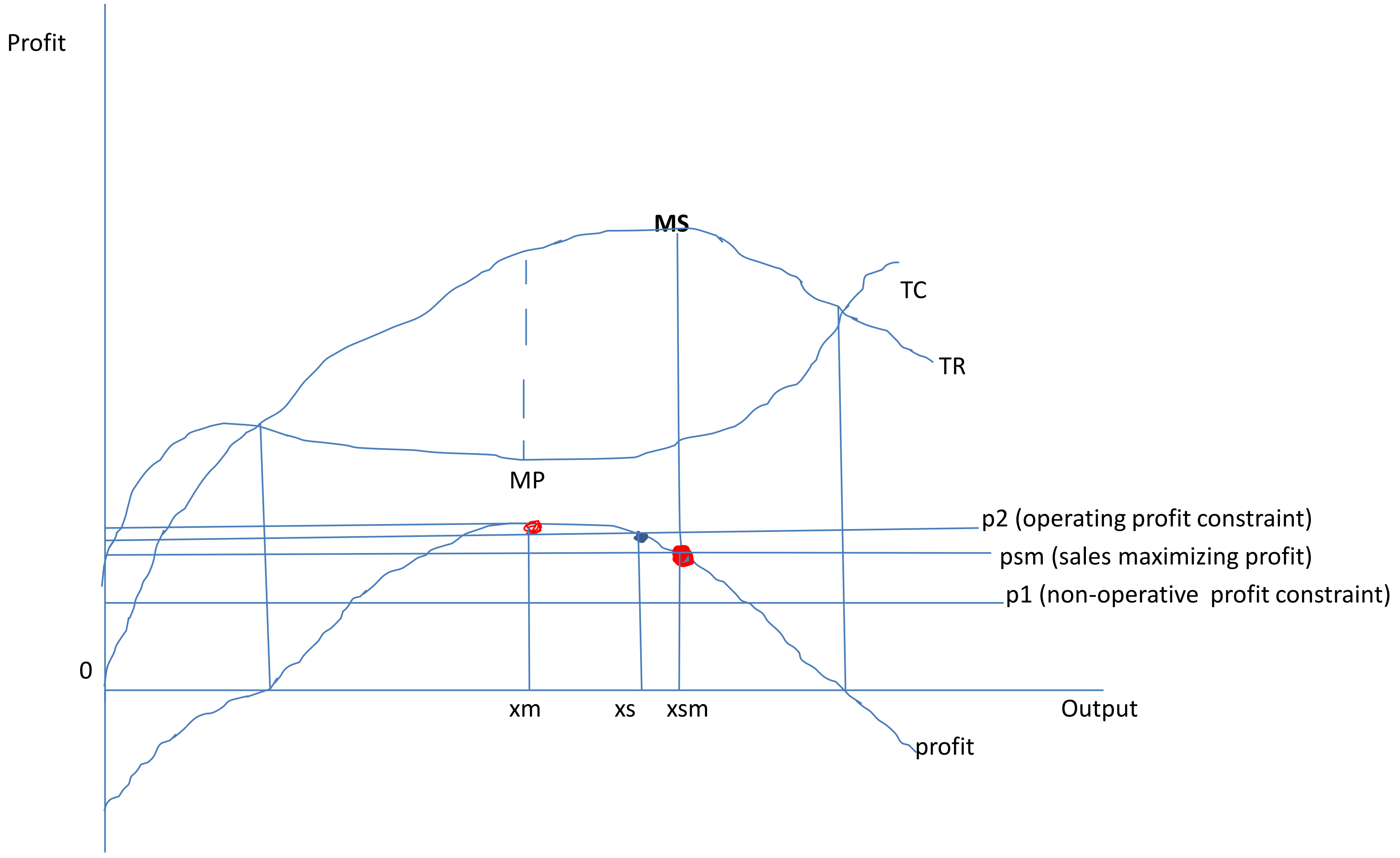
- According to him, managers are found to be preoccupied with sales revenue maximization rather than profit for the ff reasons

1. There is evidence that salaries and other slacks of top managers are more correlated with sales than profit
2. Financial institutions keep close eye on sales of firms and are more willing to finance firms with large and growing sales
3. Large sales give prestige to managers while large profits go into the pockets of shareholders
4. Personnel problems are handled more satisfactorily when sales are growing
5. Large and growing sales strengthen the power to adopt competitive tactics and hence enhance the firms' bargaining power
6. Managers prefer steady performance with satisfactory profits to a spectacular profit maximization projects

The simple static single product Baumol model without advertising

- The main assumptions of the model include;
- Time-horizon of a firm is a single period
- During this period the firm attempts to maximise its total
- sales revenue subject to a minimum profit constraint
- Minimum profit constraint is exogenously determined shareholders and financiers of projects
- Conventional cost and revenue functions are assumed. Thus, a u-shaped cost curve and downward sloping demand curve

- Figure 1



Profit
MS
TC
TR
MP
p2 (operating profit constraint)
psm (sales maximizing profit)
p1 (non-operative profit constraint)
0
xm
xs
xsm
Output
profit

- A profit maximizer will produce at xm. However, the sales maximizer will produce at xsm

- The level of profit constraint determines whether sales revenue is maximised or not

- Assume first that the profit constraint is at p1, the firm will have to produce xsm to maximise sales. At this level the profit is psm which is higher than p1

- Under this circumstance, we say that the profit constraint is non-operative

- However, if the profit constraint is at p2, sales will be xs, which is less than xsm. At this level, sales is not maximised.

- Under this circumstance, the minimum profit constraint is said to operative

- Conditioned on the fact that the profit constraint is operative, the following emerges;

1. Sales maximizer output is higher than profit maximizer output
2. Sales maximizer profit is lower than the profit maximizing output
3. Sales maximizer price is lower than profit maximizer price
4. Sales maximizer will never choose output level where $|e|<1$
5. Increase in fixed cost will affect the equilibrium position of a sales maximizer and hence alter the price and output but this will not happen to a profit maximizer
6. Equally a lump-sum tax will affect the equilibrium position of a sales maximizer but not that of a profit maximizer
7. Imposition of a quantity tax will alter price and output for both

Criticism

- Requires explicit information on cost and revenue, which are rarely disclosed by researchers. As a result, it becomes difficult to estimate cost and demand functions
- It does not show how equilibrium in an industry, in which all firms are sales maximizers, will be attained
- Based on the implicit assumption that firms can control price and its expansion policies. This rule out interdependencies
- Can’t explain why price is kept for considerable time period in the range of inelastic demand
- Ignores actual competition and that of potential competition

Marris's model of managerial enterprise

- According to Marris, firms strive to maximize a balanced rate of growth of firms. Thus, maximization of the rate of growth of demand for the products of the firm and of the growth of its capital supply

$$\max g = g_D = g_C$$

- The firm faces two constraints, constraints set by management team and its skills, and financial constraint set by the desire of the manager to achieve maximum job security
- By jointly maximizing growth rate of capital and demand, managers maximize their own utility and that of shareholders

- Managers utility: *U=F(salaries, power, status, job security)*
- Shareholders utility: *U=F(profits, size of capital, size of output, market share, public esteem)*

- According to Marris, the difference in goals is not so immense as has been established. This is because most of the variables appearing in both functions are strongly correlated with a single variable, the size of the firm

- Various indications of size exist, output, capital, revenue, market share and there is no consensus on the most appropriate

- Marris argues that managers strive for a steady rate of growth of the firm without distinguishing between that of demand and capital supply. This is because in the equilibrium growth rate of capital and demand are equal

- Since growth rate of the firm is compatible with the interest of shareholders, the goal of maximization of the balanced growth rate seems a priori plausible,

$$U_{Shareholders} = f(g_C)$$

- Also, it seems that, Marris model implicitly assumes that the variables in the managers' utility function are strongly correlated with growth in demand

$$U_{Managers} = f(g_{D,} S)$$

- Where S is a measure of job security. There is a constraint to growth in demand set by the decision-making capacity of the managerial team
- Marris suggests that 's' can be measured by the weighted average of liquidity ratio, leverage-debt ratio and profit-retention ratio

- Marris treat ‘s’ as exogeneously determined constrained with a saturation level,

$$U_{Managers} = f(g_D)\bar{S}$$

- Where $\bar{S}$ is a security constraint

Critique

- Based on the assumption that variables are correlated with size and rate of growth. This may happen only at steady state but not in time of recession and tight markets
- Assumes given production costs and a price structure whose determination is not explained
- Does not justify why shareholders prefer capital growth to profit maximization
- The size of financial policy variable is not well determined
- Restrictive assumption that firms have their own research and development department

Comparison between Baumol and Marris

- Both assumes that managers have discretion over firms’ goals
- In Baumol’s model, the manager is interested in own utility. However, in Marris’s model, the manager is interested both in own and owners utility
- In both models, growth of demand is maximized. In Baumol, sales is maximised whilst in Marris is the number of new products introduced by the firm per period of time
- In Baumol’s model, the rate of growth of capital is implicit but is explicit in Marris’s model
- In both cases, profit is exogenously determined.

Williamson's Model of managerial discretion

- Williamson postulate that due to the existence of managerial discretion, managers pursue their own interest instead of that of owners
- However, to ensure job security, he must do this at an acceptable level of profit
- According to this view, managers derive more satisfaction from certain expenditures (expense preference); staff expenditures, emoluments (economic rent accruing to the manager and they zero productivity), and funds available for discretionary investment
- Staff increases is a symbol of power, status, prestige as well as professional success
- Discretionary investment expenditure gives satisfaction to managers because it allows them to materialise their favourite projects
- These expenditures are used as proxies to replace the non-operational concepts (power, status, prestige and professional experience)

Cyert and March Behavioural model

- The goals of the firm vary from firm to firm. Generally these include sales goal, inventory goal, production goal, share of the market goal and profit

- However, these goals change as a result of changing conditions f external environment, changes in aspirations of group within organisation

- The top manager attempts to satisfy all involved. Whilst some goals may be desirable to all, others such as profit maximisation may be desirable to shareholders and owners

- The conflict in goal setting are resolved by management by striving to attain a ‘satisfactory’ overall performance as defined by the set aspiration goals

- Thus, the firm is a satisficing organization rather than a maximizing entrepreneur

- The manager seeks to attain a satisfactory level of production, share of the market, profit, public image, plawback profit and so on

- Cyert and March argue that satisficing behaviour is rational given the limitations, internal and external, within which the operation of the firm is confined

Ronald Coase Transaction cost theory

- The transaction cost theory posits that co-ordinating production through the price mechanism is costly as a result production is co-ordinated by the entrepreneur who is able to reduce these costs
- Outside the firm, price movements direct production, which is co-ordinated through a series of exchange transactions in the market
- In order to carry out a market transaction it is important to discover who it is that you wishes to deal with, conduct negotiations leading up to a bargain, draw up contracts, undertake inspection needed to make sure that terms of the contract are being observed and so on
- Transaction cost which refers to the cost of providing good or service through the market rather than through the firm, includes search and information cost, policing and enforcement cost, and bargaining and decision costs
- Coase observes that market prices govern the relationships between firms but within a firm decisions are made on a basis different from maximizing profit subject to market prices

- According to Coase, the co-ordinating role of the entrepreneur help reduce these transaction costs

- Firs are able to engage in long-term contracts. Thus, a firm is a system of long-term contracts that emerge when short-term contracts are unsatisfactory

- Short-term contracts increases information and contract negotiation costs

- An example is labour arrangements in agriculture and in industry

Social responsibilities of business

- The value maximization posits that firms' primary responsibility is to the shareholder.

- However, there are other stakeholders of the firm, customers, workers, community it pays taxes to etc.

- Pursuing the value maximisation objective also ensure the promotion of social welfare