CHAPTER VIII

CONCLUSION
The study analysed the performance of HPF and HTL on the criterion of the total factor productivity. The study analysed the functional areas in HPF and HTL, to trace their development and importance amidst various limiting factors. The following are the findings reveals by the present study.

Hindustan Photo Films Limited (HPF), Cotacamund was established in November 1960 for the implementation of the project for manufacturing photo-sensitized goods to meet the country's requirements in education, health and entertainment. Under similar circumstances, Government of India, incorporated Hindustan Teleprinters Limited (HTL), Madras with the collaboration of messers Olivetti of Italy, to manufacture and sell teleprinters and ancillary equipments for modernising telegraphic network in the country. The type of the project entrusted to HPF and HTL, envisaged a difference in their nature. HPF is considered to be a chemical industry, whereas HTL an engineering industry. Both PUs, therefore employed different technology in pursuing their objectives.

For achieving the objective parameters, both PUs organized themselves to have logical groupings of activities delineation of authority and responsibilities for transformation of inputs into required output. The study reveals that initially both PUs adopted organization structure for locating five functional aspects - personnel, finance, production, projects and sales. These aspects were located in 1950's and considered to
be a basic requirement for a standard organization structure, because it was an innovated structure in the major industries at that time. The organizational structure was formulated by GOI and transferred to the respective public sector undertakings to undertake production function. The almost identical organizational structure for both PUs makes it clear that both PUs faced problems in certain intricate areas of production due to charge in their applied technology, curbing the labour unrest, to foresee the danger of competition of the other products and forestall product diversification programme.

The organizational planning got impetus in 1970-71 after the location of deficient areas at various stages of the production process in HPF, whereas HTL made efforts in 1967 to achieve profits to form surplus for repaying the deferred credits which inflated in 1965 due to the devaluation of Indian currency. The pattern of organizational development suggests that HPF adopted progressive trends resulting in decentralisation, diffusion of authority and delegation of functions and increased supervision, whereas HTL adopted a retrogressive pattern as it applied the principle of centralisation. The organization structure in HPF is more complex and offers an example of hybrid type of organization as it combines both line and staff, and functional types of organization; HTL has acquired the characteristics of a functional type of organizational set up. It is analysed that the innovations in the organizational structure
in both PUs also had an effect of the notifications issued by the Government of India from time to time.

The organizational structure of HPF and HTL has three levels of management. The board of directors forms the core of top management, and acts as a link between the government and the employees. HPF maintained the policy board, whereas HTL shifted from policy board towards the functional type. The following of the traditional approach made insulated apartments of 'executive' and 'trusteeship' functions, which led to the duplication of work and caused more delays in actual approval of policy as well as in taking decisions on matters relating to the execution of projects. The policy board, however adopted the principle of delegation of authority and is more accountable, but it enhanced friction among the members causing disharmony and inefficiency. The disharmony was mainly due to the conflicting personality traits.

The shift towards the functional type of board is a progressive step in HTL on the consideration of the fact that function of the board of directors is only to manage the affairs of the industry without having much freedom in taking the major policy decisions as the supreme authority lay in the hands of the concerned Ministry or the Government of India, to whom HPF and HTL are accountable. It is found that the government regulations posed restrictions to its functioning. It is being visualised that the board of directors of both PUs
showed low insight and managerial competence to control the misappropriations found in the manufacturing processes, to suppress employees unrest, to recommend for product diversification to cope with the technology change.

Both PUs started their functions in monopolistic environment. The market forces led HPF into competitive environment, whereas HTL transformed itself as a secondary unit to the government department while maintaining monopolistic environment. The operational environment, caused organizational development in both PUs. The misappropriations found in the production process led to the poor quality of the product an increase in the expenses of raw materials, stores and spares and resulted in the establishment of production and material planning, and the quality control departments. To increase the labour productivity personnel functions were grouped thereafter to harness efficiency, which resulted in strengthening of the division concerned. HTL is basically a production-oriented, thus centralised the related functional aspects into one functional area to limit the growth of organization structure. The organizational development after 1970 in both PUs shows that the emphasis was laid on the evolvement of cost and profit centres. The organizational development in both PUs indicates that the strategies adopted were at par with the development of the board of directors.

These variations in their approaches towards the organi—
national development, influenced the manpower absorption in HPF and HTL from 1962 to 1982. The growth rate of manpower absorption was affected by the internal - promotions, demotion, transfer, retirement, and resignation; and external mainly the government regulations for absorbing personnel to solve the unemployment problem. The final analysis shows that the strength of the employees increased from 59 to 2,878 in HPF, 105 to 1,944 in HTL from 1962 to 1982. The growth rate was steadier in HTL than in HPF. Similar trends in the manpower absorption in both PUs have been envisaged in analysing the growth rate in each of the four phases of the entire period 1962 to 1982. The manpower absorption rate was highest in the first phase, and declined in the following two phases with the adoption of industrial engineering department, which regulated the flow of the manpower into the HPF and HTL to even out the overstaffing achieved in the first phase. This indicates that both PUs did not evolve a technique for highlighting the deficient areas to envisage the need of personnel to man the jobs. The supervisor-worker ratio rose from 1:5 to 1:12 in HPF and 1:6 to 1:14 in HTL, whereas the ratio in the above categories was maintained at 1:3 at minimum and 1:5 at maximum. The chi-square test has shown that no definite emphasis was laid on the factors in HPF, while technical qualifications and relevant experience were the criteria adopted by the HTL to select the employees.
The chi-square test reveals that there is ambiguity in implementation of personnel policies which caused variations in the standards of job-satisfaction thus leading to varied degrees of morale. The promotion system, social and welfare amenities, monetary benefits had a direct influence over the morale of the employees. The average morale index of the non-executives is higher 2.372 in HPF than in other categories in both HPF and HTL. The junior executives in both PU's have 2.333 as average morale index. The overall average morale index 2.350 in HPF is higher than 2.130 in HTL. The correlation co-efficient shows that the average morale affected the increase of the employment expenses ($R = -0.80$), absenteeism rates ($R = -0.34$), labour productivity ($R = -0.98$) rate of flight ($R = -1.00$) and the rejection levels ($R = +0.95$).

The promotion system offers opportunities to the employees for their career development. The ambiguity in selecting the criteria for promoting the employees in HPF has led to vary the frequency of the promotions, whereas HTL maintained the length of service as the basic criterion which has regulated an unevenness in the frequency of promotions. HPF shifted from seniority to merit system and lastly adopted the seniority-cum-merit principle, which affected the frequency of promotions.

The study reveals that the workers participation in the decision-making process are evident from the equal representation in the works committee and other minor committees in both
the PUs. HPF patronises more number of committees than HTL. Though these committees involve equal representation of the employees and that of management, 62.1 per cent of the total employees in both the PUs stressed that their involvement is less effective and the decisions taken are the efforts of the respective management. The works committees in both PUs are generally weak and ineffective in handling the issues emanating from the grievances of the employees. This has led to the establishment of the trade unions in the HPF and HTL. The insufficiency of powers and inefficient functioning of the works committee has aided workers to join the employees unions for voicing collectively for the acceptance of their demands and enforcing new regulations for labour welfare. The drawbacks in the functioning of the works committee has led to the introduction of joint councils at the shop floor/department and organization levels for ensuring perfect workers participation. The implementation of new workers participation policy in 1975 in both PUs also could not attract the enthusiastic workers initially as it also developed similar drawbacks which were envisaged in the functioning of the works committee, and was not able to take decisions on the vital issues emanating from the employees grievances. The management on the other hand was convinced about the inherent utility of the participative management, but they were not really committed to the objectives of the workers participation. This points out that the workers
participation is weak in both the FUs.

The study further visualises that the parameters for increasing the labour unrest in both FUs were: (1) less development of areas of specialisation to deal with the personnel functions, (2) multiplicity of employee unions showed complexity in dealing with the management, (3) political overtones to which labour relations are associated (4) lack of powers in handling industrial relations, (5) parallel functioning of private industries led to increase the rate of flight, and (6) managerial inefficiency in controlling the factors leading to low morale of the employees.

The study shows that the causes of the employees grievances in both FUs are - promotion, social and welfare amenities, monetary benefits, superannuation and victimization. The first three are mostly emphasized by the employees unions in both the FUs. The study reveals that the mandays were lost due to strike activities in enforcing the acceptance of the demands list; on the call of other employees union to show their strength indicating harmony among the workers through out the state(s) or the country; on the inter-group conflict leading to the indiscipline among workers. The inter-group tensions and inter-personalities conflict have aided in multiplying the unions and thus diluting the unity among workers.

The study shows that both FUs accepted the borrowed technology, to which exposure of Indian technicians was negligible. The working environment was more sophisticated and called for higher skills and managerial effectiveness in
both PUs. The production division was set up to perform production function which was not based on the cost and value analysis and it led to many technical complications, and under-utilised the production capacity. HPF utilised its production capacity at an average of 41.5 percent from 1968 to 1975, but it was able to achieve higher production target by increasing the production capacity to a higher level than the rated capacity of producing 6.150 million square metres in subsequent years. HTL increased the rated capacity according to the increasing demands from 1,000 teleprinters in 1963 to 8,346 in 1982. HTL utilised production capacity at an average of 72 percent. The study reveals that the major factor for under-utilisation of production capacities was the inadequacy of raw materials. To avoid these discrepancies and delays, both public sector undertakings introduced import substitution, which further deteriorated production scheduling programmes because of low standards. HPF suffered by procuring impure raw materials of low standards and low ageing period which led to machinery break downs and exposed less developed operational skills of employees and managerial and operational inefficiencies and forced them to adopt varied production planning and scheduling programmes. HTL also suffered from similar drawbacks and was further affected by power-cut of 60 per cent or more imposed by the government of Tamilnadu because of drought conditions. This disrupted the production programmes formulated and forced them to adopt varied production
planning and scheduling. These factors led to higher rejection patterns and lowered the actual production to the targets set in HPP and HTL. The rejection pattern was higher in HPP than HTL. The rejection level increased the expenses on raw materials due to higher consumption as evident from the correlation co-efficient ($R = +0.35$). It also shows that the low managerial efficiency and less developed labour skills also had a partial effect on labour productivity ($R = +0.35$).

These shortcomings led HPP and HTL to review their organization structures for evolving deficient areas and augmenting changes in the existing machinery for co-ordination. The following innovations were carried out by both PUs: (1) Strengthened production planning department to inhibit the effect of relevant factors (2) Establishment of quality control department (3) Strengthened production divisions by incorporating manufacturing, maintenance and processing chemicals in HPP whereas in HTL instead of the processing chemicals department a metallurgy department was set up along with the purchase department. (4) Removal of technical problems by improvisations, and indigenisation to help to overcome delays and regularisation of efficient production (5) Reprocessing the waste for maximum recovery of silver, further improved its efficiency and reduced the expenses on raw materials. (6) Provided more co-ordination by adopting three devises — (i) providing a common head for various departments, (ii) setting up representative committees for departments, and
(iii) holding co-ordination meeting. The study reveals that HPF patronises more number of committees than HTL. This further increases duplication of work, causes delays in taking the decisions, increases red tapism by following the procedures.

The study reveals that HPF acquired loan from all the three sources namely, Government of India, Scheduled banks and Collaborator's deferred credits, whereas HTL did not avail loan from the Scheduled banks. It accepted deferred credits due to the devaluation of the rupee which created a vacuum in regulating the finance to complete the projects formulated and approved earlier. The growth rate of the finance reveals that the performance of HTL is efficient when compared to that of HPF. It also analysed that the growth rate finance can indicate partial efficiency of the organization, as it does not examine the factors responsible for low generation of finance internally and insufficiency of both FUs to tap maximum production capacity for achieving higher targets leading to higher profits.

The analysis of returns on the capital employed shows that HTL has been having a steady performance through out in relation to HPF. HTL has higher earning power than HPF as analysed from the ratio of net profit/loss to the networth. HTL achieved profit throughout, whereas HPF achieved heavy loss from 1968 to 1975, and only in 1976 was able to achieve marginal profits of Rs.16.06 lakhs. Thereafter it showed a steady growth, and achieved Rs.386.00 lakhs in 1982. It is evident from the study
that mere analysis of profitability on the rate of investment and earning ratio can partially assess the efficiency, as it does not undertake an examination of the factors affecting the pricing policy and growth of finance as both the PUs are meant to achieve social benefits.

The marketing function is important in order to regulate the flow of the finished products effectively in the market. HPF and HTL started their production under monopolistic environments, but the competitive forces led HPF into semi-monopolistic and later into true competitive market with the start of production of bromide paper within the country. HTL, throughout maintained the monopolistic environment as it was the only public sector undertaking established to meet the requirements of railways, posts and telegraphs, defence in modernising the telegraphic network in the country. It shows that HTL plays subdued role and acts as a secondary unit to the government departments. The monopolistic environment has insulated HTL of foreign competition which offered low insight for undertaking diversifications of the products and accept technology change because it is slow paced to adopt changes.

HPF showed more diversity in carrying out the marketing functions. The reasons were that market segments of each of the product showed greater variation and diversity; typology of market segments and geographical distance involved; the competition from the similar products manufactured by the foreign manufacturers; inadequate sales force to cover the overall market.
The study analysed that the distribution network gradually shifted from distributors system to the centralised system, for controlling the inhibiting factors, enhancing supplies of its products and increasing consumers' satisfaction. The study reveals that the consumers of medical x-ray and roll films were not inclined to accept HPF's products because of many factors, which can be divided into psychological and physical. The psychological factors are: (a) tendency of consumers of both the products to reject the Indu products in relation to the foreign products on the consideration of their poor quality, (b) the consumers were of the opinion that the HPF's products were actually the Orwo products which were partially converted in HPF and the rest circulated under its name, which further decreased their insight; involvement of the risk of loss in their business; availability of medical x-ray and roll films at regular intervals from Orwo, Agfa and Kodak in the market; no incentive plans for consumers to accept Indu products. The physical factors referred to the physical state of the HPF's products and the deficiencies envisaged in the distribution pattern. The factors are - (a) poor quality of film due to low for resistance, less durability, appearance of dots and scars on the films, uneven spread of emulsion; (b) packaging of the products was poor which led to partial or full exposure of films (c) delay in supply of medical-ray and roll films due to low production and the involvement of distributors for supplying the products.

The study reveals that the present distribution system adopted
for disbursing roll film is best suited for professional-cum-dealers which is the intermediary of dealers and professionals and form the core of 'A' and 'B' type of professional photographers. This category forms the actual consumption unit and also affects the growth of consumption rate and strategies of marketing functions. It also creates imbalance in marketing system, by stocking roll films and creates pockets in the photographic business. It devalues the image of the HPF's roll film with respect to the foreign films. It forces variations in the prices of roll films.

The study reveals that the consumers of medical x-ray and roll films accepted HPF's products on the basis of improved quality of the HPF's products; lower prices of its products in comparison with the foreign products. This enabled the consumers to achieve more profit margins than to be envisaged on acceptance of other products of the foreign manufacturers; innovations in the distribution network for regular flow of the products; incentive scheme were formulated for achieving higher sales.

The analysis of growth rate of medical x-ray and roll films indicates that both products have attained different stages in the product life cycle. The growth rate of medical x-ray is in the growth stage, and if there is technology change it will effect its future growth rate and the total demand will decline. The roll film (black and white) shows that it is attaining the saturation point and the demand will decline in the forthcoming
years. The factors envisaging decline in the future demand of 120 ASA black and white roll film are - (a) the inclination of consumers towards colour roll film and 35 mm for economy as it offers larger number of photographs; (b) technology change has offered an increase in the standard of living. The present study indicates that 120 ASA black and white roll film will be first replaced by 35 mm and later taken over by the colour roll films.

The pricing policies are the major controlling factors in achieving higher profits. It is analysed that the broad outlines of the pricing policies are actually set by the Government of India with an aim of achieving marginal profits. The low profits have affected both PUs in generating reserves and surpluses for undertaking new projects. The analysis further depicts that HPF and HTL are destined to obtain social and economic objectives parameters by adopting pricing policies offering maximum consumer satisfaction. This reveals that the profitability criterion is not an actual judge for analysing the efficiency of both PUs. The low profits achieved by both the PUs have further restricted to form surpluses and reserves to undertake product diversification programmes more efficiently. This further indicates that it offered marginal changes in the growth rate of the output.

The study visualises that the major instrument for evaluating comparative efficiency of HPF and HTL is mainly on the basis of total factor productivity analysis. The total factor productivity changes was calculated by using Divisia Index Method. The weighted
percentage rate of change of inputs in HFF shows that the major share was of the raw materials and the employment expenses, whereas in HTL both the factor inputs affected higher weighted percentage rate of change in the composite input.

The total factor productivity indices in HTL (1962 = 100.00 as base) showed a downward trend to 8.45 in 1967, increased to 18.73 in 1968 and there again decreased to 6.37 in 1981. In HFP (1968 = 100.00 as base) the total factor productivity index increased to 171.17 in 1970 but later decreased considerably to 3.46 in 1971 and thereafter increased marginally in subsequent years to 4.03 in 1981. The slow down in the rate of growth of total factor productivity in both HFP and HTL is because of marginal change in the real value of production and abnormal increase in the expenses of factor inputs increased the weighted percentage rate of change of the composite input. On the basis of the above analysis it may be concluded that the performance of HTL is higher than HFP.

CONCLUSION

It may be concluded that both the public sector undertakings were affected by internal as well as external factors. Both HFP and HTL were independently assigned the projects to serve two different markets in monopolistic environment. The market forces led HFP into competitive environment whereas HTL transformed itself as a secondary unit to the government departments.
The organizational development reveals that PUs adopted similar organizational structure to undertake the functions of finance, production, personnel, projects and sales. The mis-appropriations in the production, ineffective control over the market and labour unrest led HPF to evolve organizational development in order to strengthen these areas for achieving higher growth rate of total factor productivity. HTL, on the other hand was affected by the mis-management of the production process and labour unrest which led to initiate the organizational development. It may be concluded that the efforts of both PUs to evolve profit and cost centres achieved them efficiency in the later half of the total period.

The study shows that the attitude of employees towards personnel policies and working environment influences variations in job-satisfaction thus leading to varied degrees of morale. The labour is drawn out as a major economic factor apart from other factors to control and affect all other functional aspects of production process. There is much needed attention for establishing standards for recruitment, training and development, promotion system and other motivational factors to control the rising complexities because of less developed operational skills of employees and managerial inefficiencies.

The study shows that efforts are made to achieve social objectives assigned rather than to achieve the higher growth rate of profits. This may be concluded from the pricing policies of HPF and HTL which were formulated on the directions of the
government, with an aim of keeping marginal profits and higher consumers’ satisfaction. Further HPF and HTL showed growth rates in terms of employment from 59 employees in 1961 to 2,878 in 1982 and 105 in 1962 to 1,994 in 1982 respectively, and also in terms of steady rising shares in national income from 1970.

As the country is making effort to modernise itself, it has induced the consumers to adopt new product lines to suit the changing technology. Both public sector undertakings (HPF and HTL) have not modified their production plans to replace present product lines which could have helped them to make an impact on the market, which they could not establish initially. The low impact on the market is analysed to be the fact that the production process was based on the borrowed technology which needed much higher skills and managerial effectiveness for producing proven quality of the photosensitized goods; the higher rejection levels and the misappropriations leading to machinery break-downs led to utilise low production capacity; restrictions posed by the government for making modifications and improvisations; involvement of the competition of the products that were produced by the foreign manufacturer HTL utilised higher production capacity than HPF on the fact that it undertook modifications and inventory control for higher efficiency; monopoly in the market for disbursing the products which were mainly teleprinters.

The reasons for not taking up the projects may be partially
due to less developed employee skills low range of rate produ-
ction capacity for undertaking higher production, restrictions
of the government for getting approval of the feasibility of the
new project and financial assistance (as they have remote finan-
cial resources because of marginal profits and low generation of
finance internally), and the involvement of competition in the
market.

The change in the market trend is visualised by the decline
in demand of present products is shown in the case of roll films
(black and white) and teleprinters. The change in the market
trend within the country may partially be due to the inclination
of consumers to the products which have been introduced and shown
success and viability in foreign markets. The consumers have
shown a reluctance to accept new innovations undertaken by both
the public sector undertakings, fearing a risk of loss. The low
education standards, on the other hand, do not sustain interest
in them to have perfect use of the products. Both public sector
undertakings should deal with micro-viability of the new products
after locating market areas, market potential, cost of marketing
and the product pattern.

The change in the acceptance of the product lines will
have more effect on HTL rather than on HPF. This is because HTL
will have to undergo changes to encounter the competitive forces
in disbursing its new products, while HPF has undergone changes
to suit to the present market requirements.
The study further shows that personnel, production and marketing functions are closely inter-related. The abnormal change in any of the aspects, directly has an effect on the other functional aspects and partially on the organization structure. The changes in factor inputs may lead to changes in total factor productivity.

The study also shows that partial efficiency is achieved in analysing the performance of any public sector undertaking, when it is only based on the profitability criterion. This is because the growth rate of profits is affected by the pricing policies designed to achieve the marginal profits and maximum consumers' satisfaction.

On the basis of total factor productivity analysis it is revealed that the performance of HTL is better than HPF. The growth rates of employment, profits and their increasing shares in the national income from 1970 are indicative of their growth patterns in the previous years. HPF and HTL also show potential for further employment of 3,000 and 1,800 employees respectively, for higher growth rate of profit, achievement of total market control and innovations in the production process for new products. They also directly show that they are poised to become vital units in the development of Indian economy and in making the country self-reliant in these two fields.