

AUTOMATION IN INDIA

SHOULD we go in for automation, is a question that is currently engaging the attention of industrialists, labour-unions, government and the economists? Automation has been introduced with strides in industrially advanced countries like the U.S.A., West Germany, and the U.K., partly at least in an attempt to economise the relatively scarce human resource. These countries had adequate capital resources to invest in new machinery, satisfactory growth rate, organised markets to distribute mass production and excellent means of transportation to move products from the point of creation to that of consumption. The conditions are, however, altogether different in India. Abundance of labour, shortage of capital and a relatively stagnant growth rate characterise the Indian economic scene. This contrast in our economic situation has in fact deepened the controversy and has kept the protagonists at bay. The controversy is, whether the scarce capital should be diverted to introduce the automatic machinery, particularly when the precious foreign exchange has to be spent on it? Should we further accentuate the unemployment problem in an economy which is already overburdened with a large backlog, by resorting to automation?

It is universally accepted that as a long term policy, automation is a forward step in technological progress and is essential to the general welfare, the economic strength and the defence of a nation. Automation, it is claimed, serves as a lever to economic growth, acts as a catalytic agent in fostering incomes, savings and investments through higher productivity both in industry and agriculture. The following excerpts from the speech of Mr. L. Brym Leader of the Czechoslovakian team of experts at the Central Machine Tool Institute at Bangalore deserves reproduction: [1] "Automation has stepped in as a sure means of raising industrial productivity and it brings in certain desirable human benefits. It relieves and frees human operatives from

the mental and physical strains of keeping pace with monotonous rhythm of machines and operations. The overall effect of automation will prove economically advantageous to Society." In the words of Ray H. Sullivan[2] "Automation will supplement heavy, rigorous and unpleasant jobs, with easier, better paid, more pleasant and interesting jobs. . . it is a magic key to creation of a better life for all of us."

Automation as an important landmark in technological change has meant much to the U.S.A. Today[3] the average worker in the United States works shorter hours, turns out more goods, receives higher wages and has more energy than a worker anywhere else in the world. It has contributed[4] to enlarge employment by about 25 per cent as compared to 1947 in U.S.A. Meanwhile the agricultural productivity has gone up by 16% ; industrial productivity by 60% and the real wages by 70%. It may be mentioned here that automation is not an exclusive development in the capitalist countries, but that it is equally well applied in socialist countries ; not only in U.S.S.R., and Czechoslovakia where labour is in short supply, but also in China whose population has already crossed the 700 million mark.

It is high time that the imperative need for, and desirability of, automation is realised by our countrymen. Despite devaluation our exports had lacked the vigour and buoyancy so essential for an economy assiduously striving for the 'self-reliance' goal. It is only recently that they have started picking up. Further, we do not have enough foreign exchange to import essential goods and machinery from abroad. We are faced with the problem of chronic shortages and prices have been rising so sharply that all our anticipations and reckonings have gone away. Thus, if we have to survive, we cannot afford to be left much behind in the race of technological progress.

The question of automation is closely linked with productivity and great emphasis is being laid at present on improving productivity in India. The draft Fourth Five Year Plan has reiterated the need for higher productivity in these words, "During the fourth plan a concerted drive should be made for achieving higher levels of productivity in all branches of industry." Indeed increased productivity and an intensive utilisation of resources are urgently needed to improve our rate of economic growth. They are likewise needed for reducing the cost of production, in order to improve our competitive position in

world markets, to boost up the exports to earn the much needed foreign exchange and to combat recession in the economy.

Further, for augmenting defence production, we have to be guided by the country's requirements. This is one of the lessons which we have learnt the hard way from the Indo-Pakistan conflict, when it was realised that cost should not be the only consideration in making our own planes, tanks, trucks and automatic weapons. It is here that we must have the latest automatic machinery, not only to produce the sophisticated defence equipment on a large scale but also to do it at reasonable costs.

A specific plank in the automation movement is the use of computers at the firm level. Computers act as 'intelligence intensifiers'. They attempt tasks which are beyond the capacity and capability of the human agency in the various areas of management e.g. marketing, production, inventory control, accounting, research and development etc., and thereby help in increasing the competitive strength of the company. Managerial decision making techniques are changing so rapidly that their use will not be possible without computers. The decision processes of tomorrow will require considering a larger number of variables which the older tools would not be able to process in an integrated manner, in time, even with an army of clerks. For example, [5] is accurate and timely information available to the marketing executive so that he can determine the sales activity of every product at every point of the distribution pipeline? Does the production executive know whether his machines and equipments are optimally utilised, whether the various lines are properly balanced and coordinated and whether he is getting the maximum of the output possible? Is the General Manager certain of control over the relationship between production, finished goods inventory and sales? Do financial reports tell him what they are intended to, fast enough to permit effective action? It is in application to systems which will provide solutions to problems such as these, that computers make their most important contribution.

Further, in some big sized companies in India, use of computers is a must for their sheer survival. Mr. Naval H. Tata, President of the 'Employers Federation' observed, during the discussion in the special meeting of 'Standing Labour Committee', held at New Delhi on July 18, 1968, that there were a number of companies in India which

had reached a stage of development in their business where it was physically impossible for them to function without mechanical aid and that their affairs would come to a standstill through failure on their part to service their policyholders, shareholders or their clients. Mr. Tata cited the instance of 'Tata Iron and Steel Company' which would find it impossible to pay their dividends in time to the shareholders, if the services of computers were not utilised. Similarly, the L.I.C. would not be able to send out reminders to policyholders and collect premia because of the vast increase in the number of policy holders with whom they deal.[6]

The main contention of Trade Unions that automation will give rise to mass displacement of labour, appears more political than real, if automation is introduced in a well planned manner. The Life Insurance Corporation has installed one computer in Bombay and is planning to instal a similar one in Calcutta. It is claimed that 225 new jobs would be created as against 383 jobs which would be rendered surplus. The net reduction in the number of jobs would be 158, spread over a period of three years, that is about 50 per year for both Bombay and Calcutta, taken together. The L.I.C. has also stated that the displaced staff would be absorbed in Bombay and Calcutta itself. The Reserve Bank of India and the State Bank of India, have each installed a computer. In both these cases there will be no retrenchment. The example of Indian Railways can also be cited as a proof against this fallacy. Computers have been installed in 5 of the Indian Railways and in the 3 production units of the railways—Chittaranjan Locomotives works, the Diesel Locomotives Works, Varanasi ; and the Integral Coach Factory, Perambur. There has been no retrenchment of staff as a result of the installation of these computers. About 1300 clerical staff rendered surplus have been absorbed. According to the Ministry of Railways the employment potential of the Railways in future, is not likely to be affected significantly by computerisation.[7]

The very fact that of late the question of automation is coming up for discussion in different tripartite conferences shows that automation has come to stay. Even the trade union leaders have started realising the necessity of introducing selective automation. Shri Abdul Ali, M.P. and leader of INTUC delegation to the 28th session of 'Standing Labour Committee' held at New Delhi on July 18, 1968 observed at the meeting, "His organisation was not opposed to intro-

duction of automation in export oriented industry who had to deal with computers in the international market and where it had become very imminent due to the process and the magnitude of the job which might be beyond human ability.”[8]

PRESENT POSITION & GOVERNMENT'S POLICY

In this context, it may be useful to review the progress of automation in India. If automation is understood to be the installation of self operating mechanical equipment for planned production i.e. automation of manufacturing processes, it is still almost unknown to our economy. So far, automatic or semi-automatic machinery has been installed in some pharmaceutical establishments (filling and sealing of vials) ; cotton textile mills (automatic looms) ; petroleum refineries ; oil fields ; chemical plants and steel processing plants. What we talk about and find in practice a little more in India, under the name of automation, is the use of 'electronic computers' i.e. "office automation". Many large firms use computers for sales and payrolls accounting, inventory control, invoicing etc., . According to the latest information available, electronic computers have been installed in 31 establishments ; 15 in the public sector, 3 in departmental undertakings and 13 in private sector. [9].

It is strange that the attitude of the Government towards 'automation' is not as encouraging as it ought to have been. Union Labour Minister Shri Jaisukhlal Hathi speaking at the special meeting of the 'Standing Labour Committee', on July 18, 1968 has made it clear that the present policy of the Government in relation to the introduction of automation is that it should serve the social good ; and in pursuance of this policy all proposals for the import of computers are subjected in the Labour Ministry to a rigorous scrutiny and screening with which the employers and the trade union concerned are associated. [10] The Ministry of Labour proposes to set up a committee to examine the implications and to lay down guidelines for the introduction of automation and to watch its progress and its impact on the employment situation, so that further progress in this direction may proceed along sound lines.

SUGGESTIONS

There is, therefore, a need to lay down the future programme of action both at macro and micro levels to make the changeover less painful :

(1) Government, chambers of commerce, Trade Unions and employers' associations, should do useful work by conducting seminars, group discussions and by resorting to other methods of intelligent persuasion, to make the workers in particular and public in general, automation minded. Workers should be assured that none would be laid off and they will gain the share in increased productivity by way of higher wages.

(2) 'Reorientation and retraining' programmes have to be drawn up well in advance, as automation needs new and different type of training. Here again, all the connected agencies should concentrate and evolve certain action programmes to avoid hardships. State must provide all possible help and encouragement in this direction. Mr. David Morse, Director General I.L.O. had remarked correctly [11] that countries which seek to achieve rapid industrial progress are also seeking to achieve the adjustment of workers to new situations in keeping with the best principles of social welfare. This "involves retraining, broadening of education, income maintenance during periods of conversion and an imaginative approach to the question of adaptation to change.

(3) There should be a change in educational curricula of our schools, colleges and universities, to develop the necessary skills for automation. There will be need for industrial engineers, systems specialists and operations research personnel etc., for analysing the jobs and developing mathematical models. The existing engineering colleges and polytechnics can diversify their course in this direction.

(4) Government should adopt a positive attitude towards the introduction of automation. Modernisation programmes should not be hindered for want of foreign exchange. Industrial Disputes Act should be amended to deal with the situation arising out of automation and also to ensure that automation is not altogether blocked by intransigent unions.

(5) At micro level, there is need for early, thorough and continuous joint consultation between employers and employees to allay

the anxieties that arise from rumours of staff re-organisation. It is necessary that the workers should be taken into confidence, about the programme of action relating to automation. All aspects of change should be discussed with the employees and their unions. But for doing so, both will have to change their existing outlook as regards 'mutual consultation' e.g. workers union should cease to misinterpret it as a 'Veto' and management should not interpret it to mean endorsement of the management's decisions.

SUMMARY & CONCLUSIONS

Automation is desirable and necessary as a means to raise productivity, in order to improve our rate of economic growth and to elevate the living standards of a growing population. But our approach should be selective and not extensive. Efforts should be made to introduce it cautiously viz "Automation without avoidable tears" should be our slogan. It should be phased out in such a way that it does not lead to any appreciable retrenchment. However, if some displacement of labour, in short run, is caused by automation, that should be taken as the price of the progress.

Automation should be introduced, to start with :

- (i) in the sphere of scientific research and development.
- (ii) in the sphere of defence requirements.
- (iii) in case of export-oriented industries such as textile and jute etc.
- (iv) in case of industries where operational cost is very high as compared to international norms e.g. coal and Iron-ore mines.
- (v) in case of industries where we have to import the machinery from abroad as in the case of oil refineries, pharmaceuticals, fertilizers and chemical plants.
- (vi) in case of very big sized companies and public utility concerns like Life Insurance Corporation, Railways and Banks etc.

REFERENCES

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- [4] Warriar S. K., *op. cit.* p. 389.
- [5] Warriar S.K., *op. cit.*, p. 385.
- [6] "Indian Finance" July 27, 1968, p. 146 col. 3.
- [7] "Indian Finance" July 20, 1968, p. 118 cols. 2 & 3.
- [8] "Indian Worker" July 22, 1968, p. 1.
- [9] "Indian Finance" July 20, 1968, p. 118 cols. 2 & 3.
- [10] "Indian Worker" July 22, 1968, p. 2.
- [11] Editorial "National Herald" August 28, 1968.