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GM'S ADDRESS AT SEMINAR ON PRODUCTIVITY IN TELECOMS
ON TUESDAY, 26TH APRIL 1977

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Dear Colleagues

1. The purpose of today's Seminar is to enable you to discuss the rationale behind the strategy to improve productivity in Telecoms and the tactics that have been adopted to achieve the productivity improvements.
2. Do you know, Telecoms is in a period of highest growth rates and greatest technological changes in the history of telecommunication in Singapore.
3. The rate of growth in the application for telephone has increased from 20% p.a. in 1973 to 30% p.a. in 1976. This high rate currently at 6000 applicants per month is expected to be sustained in the coming years due to the continued high rate of building activity in the public sector and the steady rise in affluence of the people.
4. International telephone traffic growth rates has also been hitting double digits, being 25% in 1976. We handled 8.7 million paid minutes of traffic last year and the current high rate of increase is expected to be also sustained.
5. The same can also be said of the telex service, there being about 3000 subscribers today. Last year it was just slightly more than 2000..In fact the growth in the two previous years were about 40%.
6. This high growth in the number of telex subscribers is reflected in similar quantum of increases in international telex traffic.
7. We are at the threshold of vast changes in the telecommunication technology.
8. In the early 1950's our trunk services to West Malaysia were the 3+1 SOS/T and 12+1 SOJ open-wire carrier systems. By mid 1950's we introduced the 48 channel VHF system (Marconi HM ~~services~~ ^{series}). By the late 1950's we had a 600 channel microwave system.
9. The SEACOM submarine cable system commissioned in early 1960's enabled for the first time high quality international services. It was an 80 channel system.
10. Our communication satellite earth station was commissioned in 1971.
11. In 1973 station to station (number to number) telephone service was introduced followed by ISD (International Subscriber Dialling) in 1975.
12. The telex and telegram services are also fully automatic, the former in 1972 and the latter in 1976.
13. The impact of technological changes in the near future however would be the computerisation of these systems.

14. We have introduced them in the aeronautical services, in the international services and for management information and engineering management.
15. The greatest impact would be in the National Telephone Service. We have purchased and installed two LOK SPC exchanges to give us the necessary exposure and experience in the writing of specification, evaluation, installation, testing and operation of such exchanges.
16. We need to know the new administrative procedures for the operation of the Electronic Switching System, the re-training required for our staff so that we would be ready for the bulk introduction of SPC exchanges in a few years' time.
17. Looking ahead we are planning towards a total telecommunication network in Singapore that can carry all types of telecommunication data. The very significant breakthroughs being made in the optical fibre system, digital multiplexing techniques and the large scale integration (LSI) technology of semi-conductor electronic chips are bringing us closer to the realisation of a total telecommunication network in Singapore.
18. I envisage cheap availability of computer facilities to every subscriber (i.e. public computer service), public utilities meters for water, electricity and gas read remotely and collected centrally for billing, the delivery of newspapers and data/information services.
19. These unprecedented growths and technological changes in our main services had required us to invest heavily in the past. It was \$36M in 1972 rising to \$47M in 1973, jumping to \$216M in 1975. In the next 10 years we expect to average \$200M p.a.
20. The number of our staff has been growing at an alarming rate of 17% or 18% p.a. since Merger so much so that our staff strength grew from 5,300 at Merger (1 April 1974) to 8,500 today.
21. We now employ 0.87% of the labour force in Singapore. At the rate we have been growing (18% p.a.) being 4 times faster than the current national growth rate of 4.5%, which is likely to decline to 2% p.a. in the long run, our growth of manpower is much higher than other local organisations. If we do not change course we would be employing 20,860 staff i.e. 1.85% of the national workforce in 1985/86 - much higher than today's 0.87%.
22. Something has to be done about this and with rising salaries and scarcity of skilled workers it becomes more urgent.
23. In the coming year, greater efforts have been planned to improve productivity in Telecoms by controlling the growth of our manpower and optimising the use of the large investments in capital equipment so that our Telecoms services could be provided to our subscribers and the public at the best possible prices and yet with sufficient surpluses to avoid any serious cash flow problems.

24. What is higher Productivity? The ^{ive} object of productivity is not merely to raise output. It is to raise output while at the same time saving man-hours, materials, space or fuel/power - or all of them at once. This is the meaning of higher productivity.
25. But how does one go about it in Telecoms. At this point of time "Productivity in Telecoms" shall be directed at these two aspects viz:
- (a) Innovative and creative changes in the manner we provide our services i.e. "New and Different"
 - (b) Identification by workers of their problems for study to be developed into productivity projects for implementation i.e. "Better and More".
26. "New and Different" - As part of management, your efforts would be to develop, create and innovate new and different ways to provide our services. I am thinking of creative and innovative management changes to improve productivity rather than introducing new technology to improve productivity. I am not suggesting that you should neglect the latter, but I want management at this point of time to concentrate on creative management rather than innovative technology.
27. Let me illustrate: - When we think of the assembly line we invariably think of Henry Ford. We of course think of a flow chart, and of a supervised team of unskilled or semi-skilled workmen working together following certain systematic procedures towards the end product.
28. But the assembly line concept was not his achievement. He had set out to make cars cheaper to be produced. Cars were constructed by skilled workmen but Henry Ford redesigned the car as an assembly of parts so that it could be manufactured on an assembly line. The car which used to be constructed by independent skilled workers working alone, could now be assembled by unskilled workmen working as a team in an ordered and systematic way i.e. on an assembly line. Henry Ford was someone who had applied creative managerial changes rather than innovative technological changes to get his objectives. He was not the creator of the assembly line, which he copied from the mail-order service. But his success had popularised the assembly line. His real achievement was to redesign the car to make it possible to manufacture it on an assembly line.
29. Henry Ford's achievement was therefore not technological but managerial. He applied systematic rationale to a function, which characterises superior management.
30. This is what I want all of you to do. However, whenever we talk about increasing productivity, we immediately think of work study, method study, work measurement, job evaluation process study, production control, stock control, budgetary control, quality control, etc.

31. But at this point of time, I do not want you to waste your energy on these nitty-gritty productivity techniques. I want you to concentrate in terms of creative and innovative management to change the ways and means (i.e. the techniques) used and followed to achieve our objectives.
32. The creative and innovative strategy that you should adopt is to assume that what existing ways and means we are using and following to achieve our objectives do get out of date and is getting out of date and will need changing and replacing soon, in the light of the very high growth rates and greatest technological changes.
33. The creative and innovative strategy is to be "New and Different".
34. The tactics is to systematically get rid of what are old, aging and out of date. We should not waste time in defending the present, but rather systematically abandon it and free our assets and resources especially the scarce, intelligent, ~~the~~ courageous, ~~the~~ dedicated, ~~the~~ scientific, ~~the~~ humanitarian, and ~~the~~ political staff for formulating the New and the Different.
35. Secondly, our creative and innovative strategy must be daring. It is just as difficult to make changes on the present system to achieve the same amount of productivity improvements as to introduce something new and different.
36. The creative and innovative strategy therefore aims at formulating new and different ways and means to provide our services rather than improvement in the present ways and means to provide our services.
37. The objective of the creative and innovative strategy is to make a significant impact on "Productivity in Telecoms". You must recognise that the significance is not a technical decision. It is not the quality of the engineering, it is not how much capital expenditure or how much effort is expended to bring the change. It is the impact on the productivity of Telecoms.
38. The "New and Different" that emerges will happen in steps. You may find efforts exerted over a long period without results. But any successful change will be a significant quantum so be patient and persevere.
39. Let me give you now two practical proposals that top management has developed for consideration by management for implementation.
40. Today many man-hours and fuel are spent to visit the premises of subscribers to repair, resite and replace the telephone instruments. The introduction of plug and socket system to terminate the telephone will cut down these visits. Subscribers will exchange for the faulty telephone instruments at our "Telephone Shops". He can call at the shop when he wants to change the colour and/or model of his telephone instrument. For external removals, he will merely bring the telephone instruments to his new premises himself.

41. Currently, Telecoms is responsible for the internal wirings in subscribers' premises to provide telephone service. If we can persuade or legislate especially developers of multi-storey office buildings and complexes to provide such wiring, we will be relieved of this work.
42. We have here two proposals which are creative and innovative. They recommend New and Different means and ways of doing our work, of servicing our subscribers. The proposals are simple but innovative but are very effective in improving productivity.
43. I look forward to receive some very innovative proposals from you.
44. "Better and More" - Your part as Management is to encourage our workers to identify problems which when removed will increase productivity.
45. The identified problems will be studied and developed into specific productivity projects for implementation.
46. What I have in mind is to instill in the minds of our workers and staff that productivity improvements is not merely more hard work, more discipline and more dedication from them.
47. I want to instill in them maximum security in their jobs - that they would not become redundant.
48. I want to instill in them the awareness of their individual contribution to the final product - our services.
49. I want to instill in them the important contributions which only they can make to improve the final product - our services.
50. I want them to know that productivity improvements is the responsibility of Management.
51. The strategy is to get total involvement both from top Management as well as from the lowest level of our workers. And this has to be right from the start.
52. The tactics is that proposals for improvements to achieve Better service and More business shall come from themselves - from the lowest levels of our workers.
53. Management would have to assist in the formulating of the final Productivity projects advising on work study, method study, work measurements, job evaluation, process study, production control, stock control, budgetary control, quality control etc. as appropriate.
54. At no time should Management introduce any of these except arising from productivity projects which have been developed from the problems identified by the workers themselves.
55. In this respect, you would have to familiarise yourselves with the techniques which can be used to improve productivity. Our

technical advisers would of course be our O & M Department with whom you should discuss these projects.

56. "Productivity in Telecoms" will be galvanised this year by a Productivity Campaign. Its purpose is to explain and promote ^{higher} productivity and to initiate conscious effort for productivity improvements.
57. The Productivity Campaign is being co-ordinated by a Productivity Committee consisting of the General Manager (Chairman), the Director (Special Projects), Divisional Manager (Resource Planning), Head (Public Relations), Head (Organisation and Methods) and Manager (Career Development).
58. The Campaign will be launched by the General Manager on 13 May 77 by a one-way closed circuit public address by him to all staff in the various offices, exchanges and stations.
59. The Campaign will close on 15 May 1978.