

**INDUSTRIAL STATISTICAL STUDIES
OF TELEPHONE INDUSTRY AND UTILIZATION IN EGYPT**

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Thesis in Mechanical Engineering

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CONTENTS

Page

- Acknowledgments

- CHAPTER ONE

Introduction

1

PART ONE

TELEPHONE UTILIZATION

CHAPTER TWO

Telephone Equipment In A National System

8

2.1 - The telephone equipment

9

2.11- Telephone instruments

11

2.12- Local network

12

2.13- Telephone exchange equipment

13

2.14- Trunk network

15

2.2 - Investment required for telephone system

16

2.21 - Unit of reference

17

2.22 - Major cost sectors

17

2.23 - Cost distribution by sector

18

2.24 - Investment per subscriber line

20

2.3 - A commenting remarks on telephone investments .

22

- CHAPTER THREE

Exchange Lines And Telephones In Service

24

3.1 - Exchange lines

25

3.2 - Telephone instruments

43

3.3 - Faults in telephone service

46

3.4 - Potential Subscribers

47

	Page
- CHAPTER FOUR	
Telephone Density	48
4.1 - Introduction	49
4.2 - Telephone density development prognoses	53
4.21 - Trend method	54
4.22 - Comparison method	55
4.23 - Economic method	57
4.3 - Telephone density in Egypt.	60
4.31 - The trend method	60
4.32 - The comparison method	65
4.33 - Telephone density in relation to national income per capita.	72
4.4 - Comparison between values of telephone density estimated by the various methods	78
- CHAPTER FIVE	
Comparative Study of The Telephone Density In Egypt And Other Countries .	82
5.1 - Arab countries	84
5.2 - The Mediterranean countries	88
5.3 - The African countries	93

P A R T T W O

TELEPHONE INDUSTRY

- CHAPTER SIX	
Historical Notes And Description	99

	Page
6.1 - The telephone factory	102
6.2 - The telephone products	104
6.21 - The telephone instruments	104
6.22 - The telephone exchanges	106
6.3 - Products analysis	111
6.4 - Production capacity	116
6.41 - Manufacturing shops.	117
6.42 - Manufacturing shops capacity	119
6.43 - Manufacturing time	119
6.44 - Manufacturing shops efficiency	124
6.5 - The production volume	126
6.6 - The future extensions	126
- CHAPTER SEVEN	
Productivity of the Local Telephone Factory	130
7.1 - Factory layout	132
7.2 - Control systems	133
7.3 - Work environment.	134
7.4 - Incentive systems	140
7.5 - Productivity measures	145
- CHAPTER EIGHT	
Improvement of Productivity	153
8.1 - Review of assembly line balancing methods	154
8.2 - Definitions and nomenclature	156
8.3 - Balancing technique	158
8.4 - Application of assembly line balancing technique	160

	Page
- CHAPTER NINE	
Control Techniques	176
9.1 - Planning stage	179
9.2 - Manufacturing stage	188
9.3 - Quality control technique	198
9.31 - Quality inspection	198
9.32 - Quality evaluation	203
- REFERENCES	210
- ENGLISH SUMMARY	216
- ARABIC SUMMARY	216

Chapter One

Introduction

Telephony is a public service for the majority of the population. In fact, it is necessary for the community to reach a certain economic level before the demand for telephones arises. On the other hand, certain basic telecommunication facilities are necessary for furthering the economic development of the country. Nowadays, all countries have reached the stage, when the telephone becomes a necessity for all the individuals in the country. For this reason, it is given a great importance by most countries all-over the world. This importance is indicated in the development of the number of telephones in service in the whole world. It was 134.6 million in 1960 and reached 255.2 million in 1970, i.e. the number has been doubled in 10 years. It is expected that this number will reach 1 billion in the year 2000. Also, the international mean number of telephones was 4.5 per 100 population in 1960 and jumped to 7.4 in 1970.

In Egypt the growth of telephony is rather small, but it has been enhanced recently due to the State economic plans of raising the standard of living. The number of telephones per 1000 population was 8 and then 11 in 1960 and 1970 respectively.

If real progress is to be achieved, the various telephone equipment should be adequate in number and quality to

comply with the requisites of the developing plans. For this reason the presented work has been undertaken, hoping that it reflects the various sides of the telephony "problem" with a view toward :

- i - Focussing attention on such vital service .
- ii - The evaluation of the telephone problem .
- iii - Forecasting the future development of the telephones.

The undertaken approach is mainly divided into two broad parts . The first part deals with " Telephone Utilisation", which is mainly a technical and statistical study of all concerned items. In the second part the purely engineering aspects are dealt with under the heading of " Telephone Industry " .

Accordingly the undertaken work is presented in the following chapters :

Part I ; includes the following chapters :

Chapter 2 -- " Telephone equipment in a national system", a review of the main equipment forms a telephone system, followed by an approximate estimation of the investment required per subscriber line. It concludes with a discussion the reasons for telephone growth.

Chapter 3 - " Exchange lines and telephones in service "; a statistical analysis of the development in the installed lines and telephones in service, based on the last 12 years . This analysis is carried out for the whole country and for the different zones of Egypt. The analysis shows that Cairo embraces the greatest part of the telephone service . Also the analysis points that the tendency for automatic exchanges continuously increases .

Chapter 4 - " The telephone density " ; a review of the different methods employed in forecasting the future development of telephone density and thus the number of telephones . Applications of these methods to forecast the telephone density and the number of telephones in Egypt in the next 10 years are included .

Chapter 5 - " Comparative study of the telephone density in Egypt and the other countries " ; a study of telephone density in the closely related countries in comparison with that of Egypt . The study points out strickly the low telephone density of Egypt.

Part II, includes 4 chapters which are :

Chapter 6 - " Historical notes and description ",
a brief review of the circumstances and stages of introducing
the local telephone industry and telephone equipment . The
nature of the telephone industry is indicated through stati-
stical and engineering analysis of the telephone products .
Calculations of the production capacity of the local tele-
phone factory and the new projects are included .

Chapter 7 - " Productivity of the local telephone
industry " ; a study of the factors affect the productivity
followed by some efficient measure for the productivity .
The study points out a noticable improvement in the rate of
growth in the local telephone industry .

Chapter 8 - " Improvement of productivity " ; an
applied study of one of the most efficient tools employed
for increasing the productivity of the assembly lines . It
involves the assembly line balancing technique .

Chapter 9 " Controls techniques " ; a review of the different techniques employed by the local telephone factory in controlling the production and its quality . Practical examples are included .

The thesis ends with a list of 39 references almost all of them are recent .

PART ONE

Telephone Utilization