

**THE FINANCIAL EVALUATION  
FOR  
MEDAN (INDONESIA) – COLOMBO (SRI LANKA)  
SUBMARINE CABLE PROJECT  
(FOR INDONESIA)**

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## Summary

Taking into account the required cable length and the required number of repeaters etc., based on the route survey, total construction cost of the Medan-Colombo Submarine Cable System is estimated 80.84 Million US \$. The construction (investment) cost of the Medan-Colombo Submarine Cable System born by INDONESIA is estimated 4.9 Million US \$.

On the other hand, it is expected that revenues yielded from using this cable system (for telephone, telex, telegraph service) increase by 12% on an annual average in INDONESIA.

The financial internal rate of return (FIRR) for INDONESIA's investment in this cable project, calculated from the total costs and revenues, is 26.0%. Therefore, the investment by INDONESIA in this cable project can be judged financially feasible, taking into consideration the opportunity cost of capital in INDONESIA.

## **1. General**

### **1.1 Medan-Colombo Submarine Cable Project**

Medan (Indonesia)-Colombo (Sri Lanka) submarine cable project (M-C Cable Project) is one segment of the Southeast Asia-Middle East-Western Europe submarine cable project (SEA-ME-WE cable project).

This SEA-ME-WE cable project is expected to be completed by the end of 1985.

This planned submarine cable will consist of the following 8 segments.

- |                 |                        |
|-----------------|------------------------|
| A. SINGAPORE    | - MEDAN (INDONESIA)    |
| B. MEDAN        | - COLOMBO (SRI LANKA)  |
| C. COLOMBO      | - DJIBOUTI             |
| D. DJIBOUTI     | - JEDDA (SAUDI ARABIA) |
| E. JEDDA        | - SUEZ (EGYPT)         |
| F. SUEZ - CAIRO | - ALEXANDRIA           |
| G. ALEXANDRIA   | - SICILY (ITALY)       |
| H. SICILY       | - MARSEILLES (FRANCE)  |

(note) Singapore-Medan segment precedes others and is to be completed in the late 1984.

This planned submarine cable would be the first cable route connecting South-east Asia, the Middle-East, and Western Europe. Furthermore, the new submarine cable will provide alternative routing if the existing satellite telecommunications route is damaged.

## **1.2 Methodology**

This financial evaluation, appended to the report of route survey on the M-C cable, is done for INDONESIA and SRI LANKA which are the landing points of the M-C cable and would invest in it together with other related countries.

The object of this evaluation is to ascertain the Financial Internal Rate of Return on investment (FIRR) by assessing the return of prospective investments by INDONESIA in the M-C cable project.

Therefore, the following items must be calculated on an annual basis.

- 1) expected revenues**
- 2) prospective expenses**
  - a. investment costs**
  - b. recurrent charges (working capital, annual operation and maintenance cost, terrestrial extension circuit cost)**

## **2. Financial Evaluation (FIRR)**

### **2.1 Preconditions**

- (1) This evaluation is conducted by ascertaining investment costs in the M-C cable by INDONESIA and service revenues derived from the cable circuits possessed by INDONESIA in proportion to the investment.**
- (2) INDONESIA must use the other SEA-MB-WE submarine cable section connecting with and extending from the M-C cable to connect with Middle-East and Western Europe countries which agreed to provide telecommunication services with INDONESIA through the M-C cable.**

Therefore, INDONESIA needs to obtain ownership in proportion to needed circuits, in the other SEA-ME-WE cable sections (indicated in Table 7).

These costs for ownership are summed up as the initial investment.

- (3) The life of the projected cable is assumed to be 25 years after R.P.S (1986), so the calculation is made from 1986 to 2010.
- (4) Cost calculation is made at the prevailing price level as of 1983.
- (5) The data and materials have been collected before the 4th investors meeting held in Paris (Nov. 29 - Dec. 2) of SEA-ME-WE cable project. Though, only the construction cost and capacity of the SEA-ME-WE cables except the M-C cable are the data provided at the 4th investors meeting.

All data and materials from INDONESIA and SRI LANKA are collected for the evaluation, so the traffic forecast and needed circuits between INDONESIA and SRI LANKA are not equal to each other's.

- (6) The following currency rate is used.  
1 US \$ = 990 RP = 2,5374 Gold Franc = 235 YEN

## 2.2 Revenues Evaluation

- (1) Services taken into consideration

The evaluation considers international telephone, telex, and telegram services for the revenue calculation.

## (2) Related countries

The following 11 countries with which INDONESIA has agreed to establish the cable route through the M-C cable are considered in the evaluation.

EGYPT, FRANCE, W. GERMANY, ITALY, KUWAIT, NETHERLAND, SAUDI ARABIA, SPAIN, SRI LANKA, SWITZERLAND, U.A.E

## (3) Traffic forecast

The telephone, telex, and telegram traffic forecasts for the year 1986 are provided in Table 1. These were given by INDOSAT or were partly estimated based on data from ITU (Asia and Oceania plan Manila 1982).

## (4) Traffic growth rates

Growth rates of the telephone, telex and telegram traffic between INDONESIA and the related countries are given in Table 2.

As to telephone, telex and telegram, the growth rates of total traffic for the period of 1986 - 1990 are based on INDOSAT forecast and the data of plan book mentioned above, and as a general rule the growth rates of telephone and telex for the period of 1990 - 1996 are equal to 80 percent of the growth rates for 1986 - 1990. The growth rates after 1996 are estimated to be zero considering no spare cable circuits after 1996 because INDONESIA owns the needed cable circuits based on the traffic forecast for 1996.

Total telegram traffic is estimated to be decreasing.

(5) Collection rates

The collection rates of each service in INDONESIA indicated in Table 3 are used to calculate the revenues from 1986 to 2010.

Rates between INDONESIA and the related countries are assumed to be devided equally (50%, 50%).

(6) Révenues

The annual revenues derived from using the M-C cable are indicated in Table 4. The service revenues for each related country are detailed in the annex. These revenues are calculated by year, service, and related country in the following manner.

Telephone, telex and telegram revenues =

Total traffic x collection rates x 1/2 x  
traffic percentages via M-C cable

Total revenues = telephone revenues + telex  
revenues + telegram revenues

(note)

$$\text{traffic percentages via M-C cable} = \frac{\text{number of M-C cable circuits}}{\text{number of total circuits}} \\ (\text{given in Table 5})$$

## **2.3 Cost Evaluation**

### **(1) Investments**

#### **1) Needed circuits**

Half circuits in the M-C cable and the other cables needed by INDONESIA are indicated in Table 6. Circuits forecast for the year of 1996, provided by INDOSAT, are used for the needed cable circuits between INDOSAT and the related countries. Planned INDONESIA - SINGAPORE cable is assumed to be invested on ownership basis.

#### **2) Total construction costs**

80,84 million US \$, which was estimated based on the route survey, is used as the total construction costs of the M-C cable.

The (estimated) construction costs published or provided at the 4th investors meeting are used for the other cables except the M-C cable.

#### **3) Investment costs**

INDONESIA's investment costs for the cables are listed in Table 7. The costs of ownership investment in the M-C cable and the other cables are 4802 million RP and 19590 million RP respectively. So, total investment costs of INDONESIA amounts to 24392 million RP. One third (8131 mill. RP) of total investment costs in the M-C cable and the other cables are assumed to be paid each year for the period of 1984-1986.

No residual (scrap) value of these cables is taken into account.

(2) Running costs (maintenance, operation and administration costs, and terrestrial extension circuits costs)

Annual running costs for maintenance, operation, and administration after R.P.S of the cable, are shown in Table 8. These consist of summing up the costs for the cable section and the inland (terrestrial) section.

Annual terrestrial extension circuit costs are shown in Table 9. Total annual running costs, summed up maintenance, operation, administration costs and terrestrial extension circuit costs, are indicated in Table 10.

1) Maintenance, operation and administration costs

a. Cable section

The costs\* for maintenance and operation of the cables are considered equal to 4 percent\*\* of the amount of the investment for the needed cable circuits and the increase is assumed equal to 10 percent every year after 1986.

\* These costs consist of costs of terminal operating costs, cableship costs (including standby costs, cable depot cost and risk factor).

\*\* It is generally considered that 2 - 4 percent of the investment costs is suitable for the maintenance and operation costs of submarine cable. 4 percent of the investment costs is used for this evaluation, taking into account the cost data of the cables in the Pacific Ocean etc.

b: Inland section

The costs for maintenance and operation of inland (terrestrial) lines, plants, and exchange equipments relative to the provision of services via the M-C cable are indicated in Table 8 ③.

These costs are estimated at 30 percent of the operating revenues yielded from telecommunication services via the M-C cable.

Administration costs are estimated at 10 percent of the maintenance and operation costs.

2) Terrestrial extension circuit costs

Indonesia must lease the terrestrial extension circuits for the related countries not be located in the landing points.

These costs are calculated considering the followings:

- Transit fee (6242 RP) of 16 Gold francs per kilometer and per year (two ends)
- Distance between the cable landing points and boundaries of the related countries.
- Annual needed circuits between INDONESIA and the related countries.

(3) Working Capital

Annual increments of working capital required for providing services after R.P.S are described in the Table below.

Generally, the working capital required is said to be around 30 percent of operating revenues. This percentage, however, is considered to decrease in accordance with service scale expansion.

In this evaluation, 30 percent of operation revenues are used for the working capital.

Table 3. 3

(units: MM. RP)

Year	'86	'87	'88	'89	'90	'91	'92	'93	'94
"Working Capital requirements"	2436	2810	3178	3397	3925	4521	5019	5573	6189
"Annual Increments"	324	368	419	478	446	498	554	616	
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003
"Working Capital requirements"	6976	7641	7640	7639	7639	7638	7638	7637	7637
"Annual Increments"	657	765	-1	-1	0	-1	0	-1	0
Year	2004	2005	2006	2007	2008	2009	2010		
"Working Capital requirements"	7636	7636	7636	7635	7634	7634	-7638		
"Annual Increments"	-1	0	0	-1	-1	0	-7634		

#### 2.4 Financial Internal Rate of Return

Table 11 presents year by year breakdowns of the submarine cables investment costs estimated, running cost and of the revenue calculated in preceding chapters.

Some working capital is to be recovered after 1997 when the revenue decreases compared with the year before and all of the balance is to be recovered at the end of the project life. It is entered as debits to expenditures.

The project life is set at 25 years after R.P.S as stated in the preceding chapter.

The financial internal rate of return (FIRR) for INDONESIA's investment in this cable project computed based on Table 11, i.e., the discount rate that equalizes the present value as of 1984 of the costs and revenues streams estimated at the price level of 1983, is 26.0 percent\*\*\*.

\*\*\* Table of the Net Present Value is shown in Annex 4 for reference.

### 3. Conclusion

The FIRR (26.0 percent) of this cable investment in the M-C cable is concluded to exceed the opportunity cost of capital, which is estimated about 12 - 15 percent, judging from interest in INDONESIA. Therefore, it can be judged that the investment by INDONESIA in the M-C Cable Project is financially feasible.

Table 1 Traffic Forecast for 1986

INDONESIA relations	Telephone (thousand minutes)	Telex (thousand minutes)	Telegram (thousand words)
Egypt	15.19	17.96	-
France	1595.88	1708.96	253.33
W. Germany	2007.81	2256.52	240.19
Italy	454.05	1253.82	249.96
Kuwait	10.31	17.23	-
Netherlands	3710.36	1216.19	269.92
Saudi Arabia	2620.33	212.50	114.00
Spain	265.53	15.70	-
Sri Lanka	19.33	19.81	46.00
Switzerland	300.64	285.04	87.47
U.A.E	43.92	0.52	-

Table 2 Growth Rate

period relations	Telephone			Telex			Telegram		
	1986 - 1990	1990 - 1996	1996 - 2010	1990 - 1996	1990 - 2010	1996 - 2010	1986 - 1990	1990 - 2000	1990 - 2010
Egypt	16%	13%	9%	10%	8%	6%	-10%	-8%	-6%
France	12	10	0	12	10	0	-10	-8	-6
W. Germany	12	10	0	12	10	0	-10	-8	-6
Italy	12	10	0	22	10	8	-10	-8	-6
Kuwait	16	22	0	10	8	0	-10	-8	-6
Netherlands	16	22	0	12	10	8	-10	-8	-6
Saudi Arabia	16	22	0	10	8	0	-10	-8	-6
Spain	16	22	0	12	10	8	-10	-8	-6
Sri Lanka	16	22	0	10	8	0	-10	-8	-6
Switzerland	16	22	0	10	8	0	-10	-8	-6
U.A.E	16	22	0	10	8	0	-10	-8	-6

**Table 3 - Collection Rates**

<b>rélations</b>	<b>Téléphone (RP/min)</b>	<b>Teléx (RP/min)</b>	<b>Telegram (RP/word)</b>
EGYPT	5750	4690	930
FRANCE	4600	3520	460
W. GERMANY	4030	3520	630
ITALY	4600	3520	640
KUWAIT	3450	4690	540
NETHERLAND	4030	3520	460
SAUDI ARABIA	3450	4690	750
SPAIN	4030	3520	650
SRI LANKA	3450	3520	470
SWITZERLAND	4030	3520	620
U.A.E	3450	4690	930

Table 4 Revenues

(Unit: Mill. Rp)

Year	(1) Telephone	(2) Telex	(3) Telegram	(5) Total
1986	5330.84	2867.87	86.67	8285.38
87	6081.93	3205.42	77.99	9365.34
88	6940.95	3582.79	70.19	10593.93
89	7923.72	4004.75	63.17	11991.64
1990	9048.40	4476.53	56.87	13581.80
91	10104.48	4914.50	52.31	15071.29
92	11285.82	5395.50	48.12	16729.44
93	12607.52	5923.79	44.29	18575.60
94	14086.53	6503.97	40.74	20631.24
1995	15741.76	7141.21	32.48	22920.45
96	17594.58	7841.11	34.48	25470.17
97	17594.58	7841.11	31.73	25467.42
98	17594.58	7841.11	29.18	25464.87
99	17594.58	7841.11	26.85	25462.54
2000	17594.58	7841.11	24.70	25460.39
01	17594.58	7841.11	23.22	25458.91
02	17594.58	7841.11	21.82	25457.51
03	17594.58	7841.11	20.52	25456.21
04	17594.58	7841.11	19.29	25454.98
2005	17594.58	7841.11	18.13	25453.82
06	17594.58	7841.11	17.04	25452.73
07	17594.58	7841.11	16.03	25451.72
08	17594.58	7841.11	15.06	25450.75
09	17594.58	7841.11	14.15	25449.84
2010	17594.58	7841.11	13.29	25448.98
<b>Total</b>	<b>363070.65</b>	<b>165632.98</b>	<b>903.32</b>	<b>529606.95</b>

Table 5 Traffic Ratio via MEDAN-COLOMBO Cable

INDONESIA relations	Traffic ratio	INDONESIA relations	Traffic ratio
EGYPT	25%	SAUDI ARABIA	40%
FRANCE	50%	SPAIN	10%
W. GERMANY	15%	SRI LANKA	100%
ITALY	10%	SWITZERLAND	15%
KUWAIT	25%	U.A.E	15%
NETHERLAND	10%		

Table 6 Needed Circuits for the each submarine cable

Segment Relations	MEDAN COLOMBO	SINGAPORE MEDAN	COLOMBO DJIBOUTI	DJIBOUTI JEDDA	JEDDA SUZ	SUEZ - ALEXANDRIA	ALEXANDRIA STRETCH	STRETCH MARETILLES	INDONESIA SINGAPORE
EGYPT	1	1	1	1	1	1			1
FRANCE	51	51	51	51	51	51	51	51	51
W. GERMANY	21	21	21	21	21	21	21	21	21
ITALY	7	7	7	7	7	7	7	7	7
KUWAIT	2	2	2	2	2				2
NETHERLAND	20	20	20	20	20	20	20	20	20
SAUDI ARABIA	22	22	22	22	22				22
SPAIN	4	4	4	4	4	4	4	4	4
SRI LANKA	8	8	8						8
SWITZERLAND	6	6	6	6	6	6	6	6	6
U.A.E	2	2	2	2	2	2			2
TOTAL	244	244	244	256	256	256	256	256	244
									102
									144

Table 7 Investment Cost in the cable for INDONESIA

Cables	Total construction cost (mill. US\$)	Cable capacity (channel)	Total needed half circuits	Investment Share (\$)	Investment cost mill. US (mill. R\$)
MEDAN - COLOMBO	80.84	1200	244	6.0%	4.86 (4802) (2206)
SINGAPORE - MEDAN	39.0	1260	244	5.71%	2.23 (5797)
COLOMBO - DUTBOUTI	93.0	2080	336	6.30%	5.86 (5797)
DUTBOUTI - JEPDA	52.2	1200	236	5.67%	2.95 (2929) (1154)
JEPDA - SUIZZ	54.7	2580	510	2.31%	1.27 (461)
SUIZZ - CAIRO - ALEXANDRIA	17.6	2060	309	2.65%	0.47 (1173) (612)
ALEXANDRIA - MARSAILIS	56.1	2580	309	2.21%	1.19 (600)
INDONESIA - SINGAPORE	66.4	900	144	8.00%	5.31 (5259)
Total				491.09	24.66 M. US\$ (24392 M. R\$)

**Table 8 Cost of Maintenance, Operation and Administration**  
 (Units: Million Rp)

Year	① H-C Cable	② Other Cables	③ Inland Maintenance, operation	④ Inland Administration	⑤ Total
	Maintenance, operation cost		Maintenance, operation	Administration	
1986	192.08	783.60	2485.61	248.56	3709.85
1987	211.29	861.96	2809.60	260.96	4163.81
1988	232.42	918.16	3378.18	317.82	4676.58
1989	255.66	1062.97	3597.49	359.75	5255.87
1990	281.22	1147.27	4074.54	407.45	5910.48
1991	309.35	1262.00	4521.39	452.14	6544.88
1992	340.28	1388.20	5018.83	501.83	7249.19
1993	371.31	1527.01	5522.68	552.27	8031.27
1994	411.74	1679.72	6189.37	618.94	8899.77
1995	452.91	1817.69	6876.14	687.61	9864.35
1996	498.21	2032.46	7641.05	763.11	10935.83
1997	548.03	2235.70	7840.23	761.02	11187.98
1998	602.83	2459.27	7639.46	763.95	11465.51
1999	663.11	2705.20	7638.76	763.88	11720.95
2000	729.42	2975.72	7638.12	763.81	12107.07
2001	802.37	3273.29	7637.67	763.77	12477.10
2002	882.60	3600.62	7637.25	763.73	12884.20
2003	970.86	3960.68	7636.86	763.69	13332.09
2004	1067.95	4356.75	7636.49	763.65	13824.84
2005	1176.74	4792.43	7636.15	763.62	14366.98
2006	1292.22	5271.67	7635.82	763.58	14963.29
2007	1421.44	5798.83	7635.52	763.55	15619.34
2008	1563.58	6378.72	7635.23	763.52	16341.05
2009	1719.94	7016.59	7634.95	763.50	17134.98
2010	1891.98	7718.25	7634.69	763.47	18008.35
Total	18890.50	77064.76	158802.08	15888.23	270725.57

(Note) ① = H-C cable Investment cost  $\times 0.04 \times (1.1)^{t-1986}$

② = Other cables Investment cost  $\times 0.04 \times (1.1)^{t-1986}$

③ = Revenues via H-C cable  $\times 0.3$

④ = ③  $\times 0.1$

⑤ = ① + ② + ③ + ④

Table 9 - Expenses for terrestrial extension circuits (INDONESIA end only) (1/2)

Country	W. GERMANY (from MARSHALLS)				NETHERLAND (from MARSHALLS)				SPAIN (from MARSHALLS)			
	(1) Distance (km)	(2) Unit cost (Rp7/km)	(3) Needed circuits (cm)	(4) Expenses (Rp7/cm)	(1) Distance (km)	(2) Unit cost (Rp7/km)	(3) Needed circuits (cm)	(4) Expenses (Rp7/cm)	(1) Distance (km)	(2) Unit cost (Rp7/km)	(3) Needed circuits (cm)	(4) Expenses (Rp7/cm)
YEAR												
1986	760	3121	6	18.32	1000	3121	6	18.73	400	3121	2	2.50
1987	7	35.29										
1988	8	27.48										
1989	9	39.66										
1990	10	21.84										
1991	12	26.22										
1992	13	28.40										
1993	15	32.77										
1994	17	37.14										
1995	20	43.69										
1996	21	45.88										
2010												

$$(2) = 16 \text{ QF/km/year} \times 1/2$$

$$(4) = (1) \times (2) \times (3)$$

Table 9. Expenses for terrestrial extension circuits (INDONESIA end only) (2/2)

COUNTRY	SWITZERLAND (from MARSHALLS)			KUWAIT (from JEDDAH)			U.A.E (from JEDDAH)					
	Distance (km)	Unit cost (Rp./km)	Needed circuit (cm)	Expenses (Mill. Rp.)	Distance (km)	Unit cost (Rp./km)	Needed circuit (cm)	Expenses (Mill. Rp.)	Distance (km)	Unit cost (Rp./km)	Needed circuit (cm)	Expenses (Mill. Rp.)
1986	250	3.221	2	2.26	1200	3.221	1	3.75	2200	3.221	1	3.75
1987		3	3.28				2	3.75			2	3.75
1988		4	4.37				2	3.75			2	3.75
1989		4	4.37				2	3.75			2	3.75
1990		4	4.37				2	3.75			2	3.75
1991		4	4.37				2	3.75			2	3.75
1992		4	4.37				2	3.75			2	3.75
1993		5	5.46				2	7.49			2	7.49
1994		5	5.46				2	7.49			2	7.49
1995		5	5.46				2	7.49			2	7.49
1996		6	6.55				2	7.49			2	7.49
2010												

Table 10 Running Cost

(Unit: Million RP)

Year	Maintenance operation & administration cost	Terrestrial extension circuit cost	Total
1986	3709.85	45.12	3754.97
1987	4163.81	50.42	4214.23
1988	4676.58	56.82	4733.40
1989	5255.87	62.12	5317.99
1990	5910.48	72.41	5982.89
1991	6544.88	83.03	6627.91
1992	7249.19	88.33	7337.52
1993	8031.27	100.65	8131.92
1994	8899.77	112.51	9012.28
1995	9864.35	125.30	9989.65
1996	10935.83	134.82	11070.65
1997	11187.98	134.82	11322.80
1998	11465.51	134.82	11600.33
1999	11770.95	134.82	11905.77
2000	12107.07	134.82	12241.89
2001	12477.10	134.82	12611.92
2002	12884.20	134.82	13019.02
2003	13332.09	134.82	13466.91
2004	13824.84	134.82	13959.66
2005	14366.94	134.82	14501.76
2006	14963.29	134.82	15098.11
2007	15619.34	134.82	15754.16
2008	16341.05	134.82	16475.87
2009	17134.98	134.82	17269.80
2010	18008.35	134.82	18143.17
Total	270725.57	2819.01	273544.58

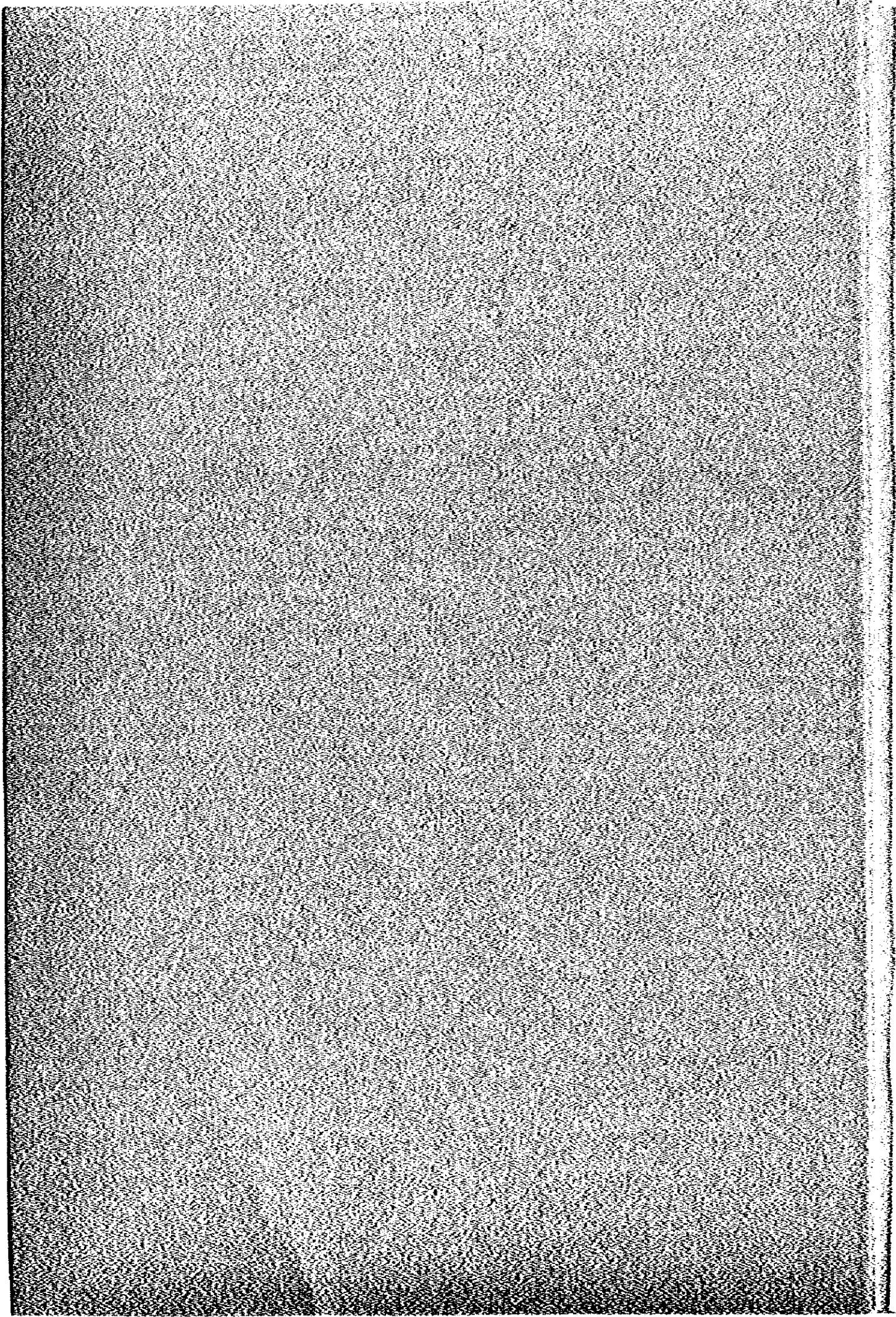
Table 11 I R R

Unit = Million RP

IRR = 26.04%

Year	Working capital	Running cost	Investment	Revenues	cash flow	Cumulative capital	Present value
1984	0	0	8,130	0	-8,130	-8,130	-8,130
1985	0	0	8,131	0	-8,131	+16,261	-6,451
1986	2,486	3,755	8,131	8,285	-6,087	-22,348	-3,831
1987	324	4,214	0	9,365	4,827	+17,521	2,410
1988	368	4,733	0	10,594	5,493	-12,028	2,176
1989	419	5,318	0	11,992	6,255	-5,773	1,966
1990	478	5,983	0	13,582	7,121	1,348	1,776
1991	446	6,628	0	15,071	7,997	9,345	1,582
1992	498	7,338	0	16,729	8,893	18,238	1,396
1993	554	8,132	0	18,576	9,890	28,128	1,231
1994	616	9,012	0	20,631	11,003	39,131	1,087
1995	687	9,990	0	22,920	12,243	51,374	959
1996	765	11,071	0	25,470	13,634	65,008	848
1997	-1	11,323	0	25,467	14,145	79,153	698
1998	-1	11,600	0	25,465	13,866	93,019	543
1999	0	11,906	0	25,463	13,557	106,576	421
2000	-1	12,242	0	25,460	13,219	119,795	326
2001	0	12,612	0	25,459	12,847	132,642	251
2002	-1	13,019	0	25,458	12,440	145,082	193
2003	0	13,467	0	25,456	11,989	157,071	147
2004	-1	13,960	0	25,455	11,496	168,567	112
2005	0	14,502	0	25,454	10,952	179,519	85
2006	0	15,098	0	25,453	10,355	189,874	64
2007	-1	15,754	0	25,452	9,699	199,573	47
2008	-1	16,476	0	25,451	8,976	208,549	35
2009	0	17,270	0	25,450	8,180	216,729	25
2010	-7,634	18,143	0	25,449	14,940	231,669	36

ANNEX



**Annex 1**  
**INDONESIA**

**TELEPHONE REVENUES**

**(Note)**

**① : Total Traffic (Outgoing + Incoming)**

**② : Total Revenues = Total Traffic**  
**× Collection Rates × 1/2**

**③ : Revenues via M-C Cable = ② × Traffic Ratio**  
**via M-C Cable**



**Relation = EGYPT**

Year	① Traffic (IN/OUT)	② Revenue	③ C-revenue
1986	15.19	43.67	10.92
1987	17.62	50.66	12.67
1988	20.44	58.76	14.69
1989	23.71	68.17	12.04
1990	27.50	79.07	19.77
1991	31.08	89.35	22.34
1992	35.12	100.97	25.24
1993	39.68	114.09	28.52
1994	44.84	128.93	32.23
1995	50.67	145.69	36.42
1996	57.26	164.63	41.16
1997	57.26	164.63	41.16
1998	57.26	164.63	41.16
1999	57.26	164.63	41.16
2000	57.26	164.63	41.16
2001	57.26	164.63	41.16
2002	57.26	164.63	41.16
2003	57.26	164.63	41.16
2004	57.26	164.63	41.16
2005	57.26	164.63	41.16
2006	57.26	164.63	41.16
2007	57.26	164.63	41.16
2008	57.26	164.63	41.16
2009	57.26	164.63	41.16
2010	57.26	164.63	41.16
<b>Total</b>		<b>3348.81</b>	<b>837.24</b>

Relation = FRANCE

Year	Traffic (IN/OUT)	Revenue	C-revenue
1986	1,595.88	3,670.52	1,835.26
1987	1,787.39	4,110.99	2,055.50
1988	2,901.87	4,604.31	2,302.16
1989	2,242.10	5,156.82	2,578.41
1990	2,511.15	5,775.64	2,887.82
1991	2,762.26	6,353.21	3,176.61
1992	3,038.49	6,988.53	3,494.27
1993	3,342.34	7,687.38	3,843.69
1994	3,676.57	8,456.12	4,228.06
1995	4,044.23	9,301.73	4,650.87
1996	4,448.65	10,231.90	5,115.95
1997	4,448.65	10,231.90	5,115.95
1998	4,448.65	10,231.90	5,115.95
1999	4,448.65	10,231.90	5,115.95
2000	4,448.65	10,231.90	5,115.95
2001	4,448.65	10,231.90	5,115.95
2002	4,448.65	10,231.90	5,115.95
2003	4,448.65	10,231.90	5,115.95
2004	4,448.65	10,231.90	5,115.95
2005	4,448.65	10,231.90	5,115.95
2006	4,448.65	10,231.90	5,115.95
2007	4,448.65	10,231.90	5,115.95
2008	4,448.65	10,231.90	5,115.95
2009	4,448.65	10,231.90	5,115.95
2010	4,448.65	10,231.90	5,115.95
<b>Total</b>		<b>215,584.00</b>	<b>107,792.00</b>

Relation = W.GERMANY

Year	Traffic (IN/OUT)	Revenue	C-revenue
1986	2,002.81	4,045.74	606.86
1987	2,248.75	4,581.23	679.68
1988	2,518.60	5,074.97	761.25
1989	2,820.83	5,683.97	852.60
1990	3,159.33	6,366.05	954.91
1991	3,475.26	7,002.65	1,050.40
1992	3,822.79	7,702.92	1,155.44
1993	4,205.07	8,473.21	1,270.98
1994	4,625.57	9,320.53	1,398.08
1995	5,088.13	10,252.60	1,537.89
1996	5,596.94	11,277.80	1,691.68
1997	5,596.94	11,277.80	1,691.68
1998	5,596.94	11,277.80	1,691.68
1999	5,596.94	11,277.80	1,691.68
2000	5,596.94	11,277.80	1,691.68
2001	5,596.94	11,277.80	1,691.68
2002	5,596.94	11,277.80	1,691.68
2003	5,596.94	11,277.80	1,691.68
2004	5,596.94	11,277.80	1,691.68
2005	5,596.94	11,277.80	1,691.68
2006	5,596.94	11,277.80	1,691.68
2007	5,596.94	11,277.80	1,691.68
2008	5,596.94	11,277.80	1,691.68
2009	5,596.94	11,277.80	1,691.68
2010	5,596.94	11,277.80	1,691.68
<b>Total</b>		<b>237,622.00</b>	<b>35,643.30</b>

**Relation = ITALY**

Year	Traffic (IN/OUT)	Revenue	C-revenue
1986	454.05	1,044.32	104.43
1987	508.54	1,169.63	116.96
1988	569.56	1,309.99	131.00
1989	637.91	1,467.19	146.72
1990	714.46	1,643.25	164.33
1991	785.90	1,807.57	180.76
1992	864.49	1,988.33	198.83
1993	950.94	2,187.17	218.72
1994	1,046.04	2,405.88	240.59
1995	1,150.64	2,646.47	264.65
1996	1,265.70	2,911.12	291.11
1997	1,265.70	2,911.12	291.11
1998	1,265.70	2,911.12	291.11
1999	1,265.70	2,911.12	291.11
2000	1,265.70	2,911.12	291.11
2001	1,265.70	2,911.12	291.11
2002	1,265.70	2,911.12	291.11
2003	1,265.70	2,911.12	291.11
2004	1,265.70	2,911.12	291.11
2005	1,265.70	2,911.12	291.11
2006	1,265.70	2,911.12	291.11
2007	1,265.70	2,911.12	291.11
2008	1,265.70	2,911.12	291.11
2009	1,265.70	2,911.12	291.11
2010	1,265.70	2,911.12	291.11
<b>Total</b>		<b>61,336.60</b>	<b>6,133.64</b>

Relation = KUWAIT

Year	Traffic (IN/OUT)	Revenue	C-revenue
1986	10.31	12.78	4.45
1987	11.96	20.63	5.16
1988	13.87	23.93	5.98
1989	16.09	27.76	6.94
1990	18.67	32.20	8.05
1991	21.09	36.39	9.10
1992	23.84	41.12	10.28
1993	26.94	46.46	11.62
1994	30.44	52.50	13.13
1995	34.39	59.33	14.83
1996	38.87	67.04	16.76
1997	38.87	67.04	16.76
1998	38.87	67.04	16.76
1999	38.87	67.04	16.76
2000	38.87	67.04	16.76
2001	38.87	67.04	16.76
2002	38.87	67.04	16.76
2003	38.87	67.04	16.76
2004	38.87	67.04	16.76
2005	38.87	67.04	16.76
2006	38.87	67.04	16.76
2007	38.87	67.04	16.76
2008	38.87	67.04	16.76
2009	38.87	67.04	16.76
2010	38.87	67.04	16.76
<b>Total</b>		<b>1,363.70</b>	<b>340.74</b>

Relation = NETHERLAND

Year	Traffic (IN/OUT)	Revenue	C—revenue
1986	3,710.36	7,476.38	747.64
1987	4,304.02	8,672.60	862.26
1988	4,992.66	10,060.20	1,006.02
1989	5,791.49	11,669.80	1,166.98
1990	6,718.12	13,537.00	1,353.70
1991	7,591.48	15,296.80	1,529.68
1992	8,578.37	17,285.40	1,728.54
1993	9,693.56	19,532.50	1,953.25
1994	10,953.70	22,071.80	2,207.18
1995	12,377.70	24,941.10	2,494.11
1996	13,986.80	28,183.40	2,818.34
1997	13,986.80	28,183.40	2,818.34
1998	13,986.80	28,183.40	2,818.34
1999	13,986.80	28,183.40	2,818.34
2000	13,986.80	28,183.40	2,818.34
2001	13,986.80	28,183.40	2,818.34
2002	13,986.80	28,183.40	2,818.34
2003	13,986.80	28,183.40	2,818.34
2004	13,986.80	28,183.40	2,818.34
2005	13,986.80	28,183.40	2,818.34
2006	13,986.80	28,183.40	2,818.34
2007	13,986.80	28,183.40	2,818.34
2008	13,986.80	28,183.40	2,818.34
2009	13,986.80	28,183.40	2,818.34
2010	13,986.80	28,183.40	2,818.34
<b>Total</b>		<b>573,295.00</b>	<b>57,329.50</b>

Relation = SAUDI ARABIA

Year	Traffic (IN/OUT)	Revenue	C-revenue
1986	2,620.33	4,520.07	1,808.03
1987	3,039.58	5,243.28	2,097.31
1988	3,525.92	6,082.21	2,432.88
1989	4,090.06	7,055.36	2,822.14
1990	4,744.47	8,184.21	3,273.68
1991	5,361.25	9,248.16	3,699.26
1992	6,058.22	10,450.40	4,180.17
1993	6,845.78	11,809.00	4,723.59
1994	7,735.74	13,344.20	5,337.66
1995	8,741.38	15,078.90	6,031.55
1996	9,877.76	17,039.10	6,815.66
1997	9,877.76	17,039.10	6,815.66
1998	9,877.76	17,039.10	6,815.66
1999	9,877.76	17,039.10	6,815.66
2000	9,877.76	17,039.10	6,815.66
2001	9,877.76	17,039.10	6,815.66
2002	9,877.76	17,039.10	6,815.66
2003	9,877.76	17,039.10	6,815.66
2004	9,877.76	17,039.10	6,815.66
2005	9,877.76	17,039.10	6,815.66
2006	9,877.76	17,039.10	6,815.66
2007	9,877.76	17,039.10	6,815.66
2008	9,877.76	17,039.10	6,815.66
2009	9,877.76	17,039.10	6,815.66
2010	9,877.76	17,039.10	6,815.66
<b>Total</b>		<b>346,603.00</b>	<b>138,641.00</b>

Relation = SPAIN

Year	Traffic (IN/OUT)	Revenue	C-revenue
1986	265.53	535.04	53.50
1987	308.01	620.65	62.07
1988	357.30	719.95	72.00
1989	414.46	835.15	83.52
1990	480.78	968.77	96.88
1991	543.28	1,094.71	109.47
1992	613.91	1,237.02	123.70
1993	693.71	1,397.83	139.78
1994	783.90	1,579.55	157.96
1995	886.80	1,784.90	178.49
1996	1,000.96	2,016.93	201.69
1997	1,000.96	2,016.93	201.69
1998	1,000.96	2,016.93	201.69
1999	1,000.96	2,016.93	201.69
2000	1,000.96	2,016.93	201.69
2001	1,000.96	2,016.93	201.69
2002	1,000.96	2,016.93	201.69
2003	1,000.96	2,016.93	201.69
2004	1,000.96	2,016.93	201.69
2005	1,000.96	2,016.93	201.69
2006	1,000.96	2,016.93	201.69
2007	1,000.96	2,016.93	201.69
2008	1,000.96	2,016.93	201.69
2009	1,000.96	2,016.93	201.69
2010	1,000.96	2,016.93	201.69
<b>Total</b>		<b>41,027.50</b>	<b>4,102.72</b>

Relation = SRI LANKA

Year	Traffic (IN/OUT)	Revenue	C—revenue
1986	19.33	33.34	33.34
1987	22.42	38.68	38.68
1988	26.01	44.87	44.87
1989	30.17	52.05	52.05
1990	35.00	60.37	60.37
1991	39.55	68.22	68.22
1992	44.69	77.09	77.09
1993	50.50	87.11	87.11
1994	57.07	98.44	98.44
1995	64.48	111.20	111.24
1996	72.87	125.70	125.70
1997	72.87	125.70	125.70
1998	72.87	125.70	125.70
1999	72.87	125.70	125.70
2000	72.87	125.70	125.70
2001	72.87	125.70	125.70
2002	72.87	125.70	125.70
2003	72.87	125.70	125.70
2004	72.87	125.70	125.70
2005	72.87	125.70	125.70
2006	72.87	125.70	125.70
2007	72.87	125.70	125.70
2008	72.87	125.70	125.70
2009	72.87	125.70	125.70
2010	72.87	125.70	125.70
<b>Total</b>		<b>2 556.91</b>	<b>2 556.91</b>

**Relation = SWITZERLAND**

Year	Traffic (IN/OUT)	Revenue	C-revenue
1986	3 8 0 . 6 4	766.99	115.05
1987	4 4 1 . 5 4	889.71	133.46
1988	5 1 2 . 1 9	1,032.06	154.81
1989	5 9 4 . 1 4	1,197.19	179.58
1990	6 8 9 . 2 0	1,388.74	208.31
1991	7 7 8 . 8 0	1,569.28	235.39
1992	8 8 0 . 0 4	1,773.28	265.99
1993	9 9 4 . 4 5	2,003.81	300.57
1994	1,123.73	2,264.31	339.65
1995	1,269.81	2,558.67	383.80
1996	1,434.88	2,891.29	433.69
1997	1,434.88	2,891.29	433.69
1998	1,434.88	2,891.29	433.69
1999	1,434.88	2,891.29	433.69
2000	1,434.88	2,891.29	433.69
2001	1,434.88	2,891.29	433.69
2002	1,434.88	2,891.29	433.69
2003	1,434.88	2,891.29	433.69
2004	1,434.88	2,891.29	433.69
2005	1,434.88	2,891.29	433.69
2006	1,434.88	2,891.29	433.69
2007	1,434.88	2,891.29	433.69
2008	1,434.88	2,891.29	433.69
2009	1,434.88	2,891.29	433.69
2010	1,434.88	2,891.29	433.69
<b>Total</b>		<b>58,813.40</b>	<b>8,821.96</b>

Relation = U.A.E

Year	Traffic (IN/OUT)	Revenue	C-revenue
1986	43.92	75.76	11.36
1987	50.95	87.88	13.18
1988	59.10	101.95	15.29
1989	68.55	118.26	17.74
1990	79.52	137.18	20.58
1991	89.86	155.01	23.25
1992	101.54	175.16	26.27
1993	114.74	197.93	29.69
1994	129.66	223.66	33.55
1995	146.52	252.74	37.91
1996	165.56	285.60	42.84
1997	165.56	285.60	42.84
1998	165.56	285.60	42.84
1999	165.56	285.60	42.84
2000	165.56	285.60	42.84
2001	165.56	285.60	42.84
2002	165.56	285.60	42.84
2003	165.56	285.60	42.84
2004	165.56	285.60	42.84
2005	165.56	285.60	42.84
2006	165.56	285.60	42.84
2007	165.56	285.60	42.84
2008	165.56	285.60	42.84
2009	165.56	285.60	42.84
2010	165.56	285.60	42.84
<b>Total</b>		<b>5,809.53</b>	<b>871.42</b>



**Annex 2**  
**INDONESIA**

**TELEX REVENUES**



**Relation = EGYPT**

Year	Traffic (IN/OUT)	Revenue	C-revenue
1986	17.96	4212	1053
1987	19.76	4633	1158
1988	21.73	5096	1274
1989	23.90	5606	1402
1990	26.30	6166	1542
1991	28.40	6660	1665
1992	30.67	7192	1798
1993	33.12	7768	1942
1994	35.77	8389	2097
1995	38.64	9060	2265
1996	41.73	9785	2446
1997	41.73	9785	2446
1998	41.73	9785	2446
1999	41.73	9785	2446
2000	41.73	9785	2446
2001	41.73	9785	2446
2002	41.73	9785	2446
2003	41.73	9785	2446
2004	41.73	9785	2446
2005	41.73	9785	2446
2006	41.73	9785	2446
2007	41.73	9785	2445
2008	41.73	9785	2445
2009	41.73	9785	2445
2010	41.73	9785	2445
<b>Total</b>		<b>2,115.57</b>	<b>528.86</b>

**Relation = FRANCE**

Year	Traffic (IN/OUT)	Revenue	C-revenue
1986	1,708.96	3,007.77	1,503.89
1987	1,914.04	3,368.70	1,684.35
1988	2,143.72	3,772.95	1,886.48
1989	2,400.97	4,225.70	2,112.85
1990	2,689.08	4,732.78	2,366.39
1991	2,957.99	5,206.06	2,603.03
1992	3,253.79	5,726.67	2,863.34
1993	3,579.17	6,299.34	3,149.67
1994	3,937.09	6,929.27	3,464.64
1995	4,330.79	7,622.20	3,811.10
1996	4,763.87	8,384.42	4,192.21
1997	4,763.87	8,384.42	4,192.21
1998	4,763.87	8,384.42	4,192.21
1999	4,763.87	8,384.42	4,192.21
2000	4,763.87	8,384.42	4,192.21
2001	4,763.87	8,384.42	4,192.21
2002	4,763.87	8,384.42	4,192.21
2003	4,763.87	8,384.42	4,192.21
2004	4,763.87	8,384.42	4,192.21
2005	4,763.87	8,384.42	4,192.21
2006	4,763.87	8,384.42	4,192.21
2007	4,763.87	8,384.42	4,192.21
2008	4,763.87	8,384.42	4,192.21
2009	4,763.87	8,384.42	4,192.21
2010	4,763.87	8,384.42	4,192.21
<b>Total</b>		<b>176,658.80</b>	<b>38,328.90</b>

Relation = W-GERMANY

Year	Traffic (IN/OUT)	Revenue	C-revenue
1986	2,258.52	3,975.00	596.25
1987	2,529.54	4,452.00	667.80
1988	2,833.09	4,986.23	747.93
1989	3,173.06	5,584.58	837.69
1990	3,553.83	6,254.73	938.21
1991	3,909.21	6,880.21	1,032.03
1992	4,300.13	7,568.23	1,135.23
1993	4,730.14	8,325.05	1,248.76
1994	5,203.16	9,157.55	1,373.63
1995	5,723.47	10,073.30	1,511.00
1996	6,295.82	11,080.60	1,662.10
1997	6,295.82	11,080.60	1,662.10
1998	6,295.82	11,080.60	1,662.10
1999	6,295.82	11,080.60	1,662.10
2000	6,295.82	11,080.60	1,662.10
2001	6,295.82	11,080.60	1,662.10
2002	6,295.82	11,080.60	1,662.10
2003	6,295.82	11,080.60	1,662.10
2004	6,295.82	11,080.60	1,662.10
2005	6,295.82	11,080.60	1,662.10
2006	6,295.82	11,080.60	1,662.10
2007	6,295.82	11,080.60	1,662.10
2008	6,295.82	11,080.60	1,662.10
2009	6,295.82	11,080.60	1,662.10
2010	6,295.82	11,080.60	1,662.10
<b>Total</b>		<b>233,467.00</b>	<b>35,020.00</b>

**Relation = ITALY**

Year	Traffic (IN/OUT)	Revenue	C—revenue
1986	1,253.82	2,206.72	220.67
1987	1,404.28	2,471.53	247.15
1988	1,572.79	2,768.11	276.81
1989	1,761.53	3,100.29	310.03
1990	1,972.91	3,472.32	347.23
1991	2,170.20	3,819.55	381.96
1992	2,387.22	4,201.51	420.15
1993	2,625.94	4,621.66	462.17
1994	2,888.54	5,083.83	508.38
1995	3,177.39	5,592.21	559.22
1996	3,495.13	6,151.43	615.14
1997	3,495.13	6,151.43	615.14
1998	3,495.13	6,151.43	615.14
1999	3,495.13	6,151.43	615.14
2000	3,495.13	6,151.43	615.14
2001	3,495.13	6,151.43	615.14
2002	3,495.13	6,151.43	615.14
2003	3,495.13	6,151.43	615.14
2004	3,495.13	6,151.43	615.14
2005	3,495.13	6,151.43	615.14
2006	3,495.13	6,151.43	615.14
2007	3,495.13	6,151.43	615.14
2008	3,495.13	6,151.43	615.14
2009	3,495.13	6,151.43	615.14
2010	3,495.13	6,151.43	615.14
<b>Total</b>		<b>129,609.00</b>	<b>12,960.90</b>

Relation = KUWAIT

Year	Traffic (IN/OUT)	Revenue	C-revenue
1986	17.23	40.40	10.10
1987	18.95	44.44	11.11
1988	20.85	48.89	12.22
1989	22.93	53.78	13.45
1990	25.23	59.16	14.79
1991	27.24	63.89	15.97
1992	29.42	69.00	17.25
1993	31.78	74.52	18.63
1994	34.32	80.48	20.12
1995	37.07	86.92	21.73
1996	40.03	93.87	23.47
1997	40.03	93.87	23.47
1998	40.03	93.87	23.47
1999	40.03	93.87	23.47
2000	40.03	93.87	23.47
2001	40.03	93.87	23.47
2002	40.03	93.87	23.47
2003	40.03	93.87	23.47
2004	40.03	93.87	23.47
2005	40.03	93.87	23.47
2006	40.03	93.87	23.47
2007	40.03	93.87	23.47
2008	40.03	93.87	23.47
2009	40.03	93.87	23.47
2010	40.03	93.87	23.47
<b>Total</b>		<b>2,829.53</b>	<b>507.42</b>

**Relation = NETHERLAND**

Year	Traffic (IN/OUT)	Revenue	C-revenue
1986	1,216.19	2,140.49	214.05
1987	1,362.13	2,397.35	239.74
1988	1,525.59	2,685.04	268.50
1989	1,708.66	3,002.24	300.72
1990	1,913.70	3,368.11	336.81
1991	2,105.07	3,704.92	370.49
1992	2,315.58	4,075.41	407.54
1993	2,547.13	4,482.95	448.30
1994	2,801.85	4,931.25	493.13
1995	3,082.03	5,424.38	542.44
1996	3,390.23	5,966.81	596.68
1997	3,390.23	5,966.81	596.68
1998	3,390.23	5,966.81	596.68
1999	3,390.23	5,966.81	596.68
2000	3,390.23	5,966.81	596.68
2001	3,390.23	5,966.81	596.68
2002	3,390.23	5,966.81	596.68
2003	3,390.23	5,966.81	596.68
2004	3,390.23	5,966.81	596.68
2005	3,390.23	5,966.81	596.68
2006	3,390.23	5,966.81	596.68
2007	3,390.23	5,966.81	596.68
2008	3,390.23	5,966.81	596.68
2009	3,390.23	5,966.81	596.68
2010	3,390.23	5,966.81	596.68
<b>Total</b>		<b>125,719.00</b>	<b>12,571.90</b>

Relation = SAUDI ARABIA

Year	Traffic (IN/OUT)	Revenue	C-revenue
1986	21250	498.31	199.32
1987	23375	548.14	219.26
1988	25713	602.96	241.18
1989	28284	663.25	265.30
1990	31112	729.58	291.83
1991	33601	787.95	315.18
1992	36289	850.98	340.39
1993	39192	919.06	367.62
1994	42328	992.58	397.03
1995	45714	1,071.99	428.80
1996	49371	1,157.75	463.10
1997	49371	1,157.75	463.10
1998	49371	1,157.75	463.10
1999	49371	1,157.75	463.10
2000	49371	1,157.75	463.10
2001	49371	1,157.75	463.10
2002	49371	1,157.75	463.10
2003	49371	1,157.75	463.10
2004	49371	1,157.75	463.10
2005	49371	1,157.75	463.10
2006	49371	1,157.75	463.10
2007	49371	1,157.75	463.10
2008	49371	1,157.75	463.10
2009	49371	1,157.75	463.10
2010	49371	1,157.75	463.10
<b>Total</b>		<b>25,031.10</b>	<b>10,012.40</b>

**Relation = SPAIN**

Year	Traffic (IN/OUT)	Revenue	C-revenue
1986	15.70	22.63	2.76
1987	17.58	30.95	3.10
1988	19.69	34.66	3.47
1989	22.06	38.82	3.88
1990	24.70	43.48	4.35
1991	27.17	47.83	4.78
1992	29.89	52.61	5.26
1993	32.88	52.87	5.79
1994	36.17	63.66	6.37
1995	39.79	70.02	7.00
1996	43.77	72.03	7.70
1997	43.77	72.03	7.70
1998	43.77	72.03	7.70
1999	43.77	72.03	7.70
2000	43.77	72.03	7.70
2001	43.77	72.03	7.70
2002	43.77	72.03	7.70
2003	43.77	72.03	7.70
2004	43.77	72.03	7.70
2005	43.77	72.03	7.70
2006	43.77	72.03	7.70
2007	43.77	72.03	7.70
2008	43.77	72.03	7.70
2009	43.77	72.03	7.70
2010	43.77	72.03	7.70
<b>Total</b>		<b>1,622.98</b>	<b>162.26</b>

**Relation = SRI LANKA**

Year	Traffic (IN/OUT)	Revenue	C-revenue
1986	19.81	34.87	34.87
1987	21.79	38.35	38.35
1988	23.97	42.19	42.19
1989	26.37	46.41	46.41
1990	29.00	51.05	51.05
1991	31.32	55.13	55.13
1992	33.83	59.54	59.54
1993	36.54	64.30	64.30
1994	39.46	69.45	69.45
1995	42.62	75.00	75.00
1996	46.03	81.00	81.00
1997	46.03	81.00	81.00
1998	46.03	81.00	81.00
1999	46.03	81.00	81.00
2000	46.03	81.00	81.00
2001	46.03	81.00	81.00
2002	46.03	81.00	81.00
2003	46.03	81.00	81.00
2004	46.03	81.00	81.00
2005	46.03	81.00	81.00
2006	46.03	81.00	81.00
2007	46.03	81.00	81.00
2008	46.03	81.00	81.00
2009	46.03	81.00	81.00
2010	46.03	81.00	81.00
<b>Total</b>		<b>1,751.29</b>	<b>1,751.29</b>

**Relation = SWITZERLAND**

Year	Traffic (IN/OUT)	Revenue	C-revenue
1986	285.04	501.67	75.25
1987	313.54	551.84	82.78
1988	344.90	602.02	91.05
1989	379.39	662.72	100.16
1990	417.33	734.50	110.18
1991	450.71	793.26	118.99
1992	486.77	856.72	128.51
1993	525.71	925.25	138.79
1994	567.77	999.27	149.89
1995	613.19	1,079.22	161.88
1996	662.25	1,165.55	174.83
1997	662.25	1,165.55	174.83
1998	662.25	1,165.55	174.83
1999	662.25	1,165.55	174.83
2000	662.25	1,165.55	174.83
2001	662.25	1,165.55	174.83
2002	662.25	1,165.55	174.83
2003	662.25	1,165.55	174.83
2004	662.25	1,165.55	174.83
2005	662.25	1,165.55	174.83
2006	662.25	1,165.55	174.83
2007	662.25	1,165.55	174.83
2008	662.25	1,165.55	174.83
2009	662.25	1,165.55	174.83
2010	662.25	1,165.55	174.83
<b>Total</b>		<b>25,199.70</b>	<b>3,779.93</b>

Relation = U,A,E

Year	Traffic (IN/OUT)	Revenue	C-revenue
1986	0.52	1.22	0.18
1987	0.57	1.34	0.20
1988	0.63	1.48	0.22
1989	0.69	1.62	0.24
1990	0.76	1.79	0.27
1991	0.82	1.93	0.29
1992	0.89	2.08	0.31
1993	0.96	2.25	0.34
1994	1.04	2.43	0.36
1995	1.12	2.62	0.39
1996	1.21	2.83	0.42
1997	1.21	2.83	0.42
1998	1.21	2.83	0.42
1999	1.21	2.83	0.42
2000	1.21	2.83	0.42
2001	1.21	2.83	0.42
2002	1.21	2.83	0.42
2003	1.21	2.83	0.42
2004	1.21	2.83	0.42
2005	1.21	2.83	0.42
2006	1.21	2.83	0.42
2007	1.21	2.83	0.42
2008	1.21	2.83	0.42
2009	1.21	2.83	0.42
2010	1.21	2.83	0.42
<b>Total</b>		<b>61.21</b>	<b>9.10</b>



**Annex 3**  
**INDONESIA**

**TELEGRAM REVENUES**



Relation = FRANCE

Year	Traffic (IN/OUT)	Revenue	C-revenue
1986	253.33	58.27	29.14
1987	228.00	52.44	26.22
1988	205.20	47.20	23.60
1989	184.68	42.48	21.24
1990	166.21	38.23	19.12
1991	152.91	35.17	17.58
1992	140.68	32.36	16.18
1993	129.43	29.77	14.89
1994	119.07	27.39	13.70
1995	109.55	25.20	12.60
1996	100.78	23.18	11.59
1997	92.72	21.33	10.67
1998	85.30	19.62	9.81
1999	78.48	18.05	9.02
2000	72.20	16.61	8.31
2001	67.87	15.61	7.81
2002	63.80	14.67	7.34
2003	59.97	13.79	6.90
2004	56.37	12.97	6.49
2005	52.99	12.19	6.10
2006	49.81	11.46	5.73
2007	46.82	10.77	5.39
2008	44.01	10.12	5.06
2009	41.37	9.52	4.76
2010	38.89	8.94	4.47
<b>Total</b>		<b>602.34</b>	<b>303.72</b>

Relation = W.GERMANY

Year	Traffic (IN/OUT)	Révenue	C-révenue
1986	240.19	75.66	11.35
1987	216.17	68.09	10.21
1988	194.55	61.28	9.19
1989	175.10	55.16	8.27
1990	157.59	49.64	7.45
1991	144.98	45.67	6.85
1992	133.38	42.02	6.30
1993	122.71	38.65	5.80
1994	112.90	35.56	5.33
1995	103.86	32.72	4.91
1996	95.55	30.10	4.52
1997	87.91	27.69	4.15
1998	80.88	25.48	3.82
1999	74.41	23.44	3.52
2000	68.45	21.56	3.23
2001	64.35	20.27	3.04
2002	60.49	19.05	2.86
2003	56.86	17.91	2.69
2004	53.45	16.84	2.53
2005	50.24	15.83	2.37
2006	47.22	14.88	2.23
2007	44.39	13.98	2.10
2008	41.73	13.14	1.97
2009	39.22	12.36	1.85
2010	36.87	11.61	1.74
Total		788.59	118.28

**Relation = ITALY**

Year	Traffic (IN/OUT)	Revenue	C-revenue
1986	249.96	79.99	8.00
1987	224.96	71.99	7.20
1988	202.47	64.79	6.48
1989	182.22	58.31	5.83
1990	164.00	52.48	5.25
1991	150.88	48.28	4.83
1992	138.81	44.42	4.44
1993	122.70	40.82	4.09
1994	117.49	37.60	3.76
1995	108.09	34.59	3.46
1996	99.44	31.82	3.18
1997	91.49	29.28	2.93
1998	84.17	26.93	2.69
1999	77.43	24.78	2.48
2000	71.24	22.80	2.28
2001	66.96	21.43	2.14
2002	62.95	20.14	2.01
2003	59.17	18.93	1.89
2004	55.62	17.80	1.78
2005	52.28	16.73	1.67
2006	49.15	15.73	1.57
2007	46.20	14.78	1.48
2008	43.43	13.90	1.39
2009	40.82	13.06	1.31
2010	38.37	12.28	1.23
<b>Total</b>		<b>833.71</b>	<b>83.37</b>

Relation = NETHERLAND

Year	Traffic (IN/OUT)	Revenue	C-revenue
1986	269.62	6201	6.20
1987	242.66	5581	5.58
1988	218.39	5023	5.02
1989	196.55	4521	4.52
1990	176.90	4069	4.07
1991	162.75	3743	3.74
1992	149.73	3444	3.44
1993	137.75	3168	3.17
1994	126.73	2915	2.92
1995	116.59	2682	2.68
1996	107.26	2467	2.47
1997	98.68	2270	2.27
1998	90.79	2088	2.09
1999	83.52	1921	1.92
2000	76.84	1767	1.77
2001	72.23	1661	1.66
2002	67.90	1562	1.56
2003	63.82	1468	1.47
2004	59.99	1380	1.38
2005	56.39	1297	1.30
2006	53.01	1219	1.22
2007	49.83	1146	1.15
2008	46.84	1077	1.08
2009	44.02	1013	1.01
2010	41.39	952	0.95
Total		646.35	64.64

Relation = SAUDI ARABIA

Year	Traffic (IN/OUT)	Revenue	C-revenue
1986	11400	4275	1210
1987	10260	3848	1539
1988	9234	3463	1385
1989	8311	3116	1246
1990	7480	2805	1122
1991	6881	2580	1032
1992	6331	2374	950
1993	5824	2184	874
1994	5358	2009	804
1995	4930	1849	740
1996	4535	1701	680
1997	4172	1565	626
1998	3839	1439	576
1999	3532	1324	530
2000	3249	1218	487
2001	3054	1145	458
2002	2871	1077	431
2003	2699	1012	405
2004	2537	951	380
2005	2384	894	358
2006	2241	841	336
2007	2107	790	316
2008	1981	743	297
2009	1862	698	279
2010	1750	656	262
<b>Total</b>		<b>445.57</b>	<b>178.23</b>

Relation = SRI LANKA

Year	Traffic (IN/OUT)	Revenue	C-revenue
1986	46.00	10.81	10.81
1987	41.40	9.73	9.73
1988	37.26	8.76	8.76
1989	33.53	7.88	7.88
1990	30.18	7.09	7.09
1991	27.77	6.53	6.53
1992	25.54	6.00	6.00
1993	23.50	5.52	5.52
1994	21.62	5.08	5.08
1995	19.89	4.67	4.67
1996	18.30	4.30	4.30
1997	16.84	3.96	3.96
1998	15.49	3.64	3.64
1999	14.25	3.35	3.35
2000	13.11	3.08	3.08
2001	12.32	2.90	2.90
2002	11.58	2.72	2.72
2003	10.89	2.56	2.56
2004	10.24	2.41	2.41
2005	9.62	2.26	2.26
2006	9.04	2.13	2.13
2007	8.50	2.00	2.00
2008	7.99	1.88	1.88
2009	7.51	1.77	1.77
2010	7.06	1.66	1.66
<b>Total</b>		<b>112.69</b>	<b>112.69</b>

Relation = SWITZERLAND

Year	Traffic (IN/OUT)	Revenue	C-revenue
1986	87.47	27.12	4.07
1987	78.72	24.40	3.66
1988	70.85	21.96	3.29
1989	63.77	19.77	2.97
1990	57.39	17.79	2.67
1991	52.80	16.37	2.46
1992	48.57	15.06	2.26
1993	44.69	13.85	2.08
1994	41.11	12.75	1.91
1995	37.82	11.73	1.76
1996	34.80	10.79	1.62
1997	32.01	9.92	1.49
1998	29.45	9.13	1.37
1999	27.10	8.40	1.26
2000	24.93	7.73	1.16
2001	23.43	7.26	1.09
2002	22.03	6.83	1.02
2003	20.71	6.42	0.96
2004	19.46	6.03	0.90
2005	18.30	5.67	0.85
2006	17.20	5.33	0.80
2007	16.17	5.01	0.75
2008	15.20	4.71	0.71
2009	14.28	4.43	0.66
2010	13.43	4.16	0.62
<b>Total</b>		<b>282.62</b>	<b>42.39</b>



## Financial Analysis (NPV)

(Unit: Million Rupee)																											
Year	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
TF revenue	5,331	6,082	6,944	7,924	9,048	10,104	11,236	12,608	14,086	15,742	17,585	17,595	17,595	17,595	17,595	17,595	17,595	17,595	17,595	17,595	17,595	17,595	17,595	17,595	17,595	17,595	
TIX revenue	2,668	3,205	3,583	4,005	4,477	4,915	5,395	5,924	6,504	7,141	7,841	7,841	7,841	7,841	7,841	7,841	7,841	7,841	7,841	7,841	7,841	7,841	7,841	7,841	7,841	7,841	
TC revenue	86	78	70	63	57	52	48	44	41	37	34	31	29	27	24	23	22	20	19	18	17	16	15	14	13		
Total revenue	8,285	9,365	10,594	11,992	13,582	15,071	16,729	18,576	20,633	22,920	25,467	25,467	25,467	25,467	25,467	25,467	25,467	25,467	25,467	25,467	25,467	25,467	25,467	25,467	25,467	25,467	
Investment cost	8,130	8,131	8,131																								
Mo-Cable O&M cost (inc. cable add'l cost)	192	211	222	259	281	309	341	374	412	453	498	548	603	643	729	802	882	971	1,068	1,175	1,292	1,421	1,563	1,720	1,892		
Order cables, O&M cost	784	862	948	1,043	1,147	1,262	1,388	1,527	1,689	1,848	2,033	2,238	2,459	2,705	2,976	3,273	3,601	3,960	4,357	4,752	5,277	5,795	6,379	7,016	7,718		
Inland, O&M cost	2,488	2,810	3,178	3,597	4,075	4,522	5,019	5,573	6,189	6,876	7,641	7,640	7,639	7,638	7,638	7,638	7,637	7,637	7,636	7,636	7,636	7,635	7,635	7,635	7,635		
Inland Administration cost	248	281	318	360	408	452	502	557	619	688	764	764	764	764	764	764	764	764	764	764	764	764	764	763	763		
Territorial estimates circuit cost	45	50	57	62	72	83	98	101	112	125	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	
Total running cost	3,755	4,214	4,753	5,318	5,983	6,628	7,338	8,132	9,012	9,990	11,071	11,323	11,600	11,908	12,249	12,612	13,023	13,427	13,823	14,327	14,827	15,327	15,827	16,327	16,827	17,327	17,827
Working capital	2,496	324	348	419	473	446	488	534	616	687	765	-1	-1	0	-1	0	-1	0	-1	0	0	-1	-1	0	-1	-1	-1
Depreciation cost <sup>#</sup>	976	976	976	976	976	976	976	976	976	976	976	976	976	976	976	976	976	976	976	976	976	976	976	976	976	976	976
No. of Depreciation (excl. Depreciation cost)	1,876	1,801	1,726	1,651	1,576	1,501	1,426	1,351	1,276	1,201	1,126	1,051	976	826	751	675	600	525	450	375	300	225	150	75			
Present value (10%) <sup>**</sup>	-6,130	-6,134	-6,087	4,827	5,453	6,253	7,121	7,997	8,893	9,890	11,038	12,249	13,634	14,145	14,866	15,557	13,219	12,947	12,440	11,952	11,498	11,098	10,358	9,699	8,976	8,120	7,490
Present value (15%) <sup>***</sup>	-6,130	-7,392	-5,034	3,627	3,752	3,884	4,020	4,149	4,194	4,242	4,291	4,344	4,097	3,651	3,245	2,877	2,542	2,237	1,980	1,708	1,480	1,272	1,083	911	755	1,254	
Present value (15%) <sup>***</sup>	-6,130	-7,070	-4,603	3,174	3,116	3,079	3,006	2,937	2,811	2,720	2,639	2,548	2,299	1,960	1,660	1,413	1,194	1,005	842	702	582	478	390	314	248	305	

Discount Rate 10% : NPV=49,127 (Remarks) For calculation of NPV, depreciation cost is deleted.  
 15% : NPV=22,813 # Under: sum of years digit method