BUSINESS ANALYSIS REPORT:

COSTS AND BENEFITS OF SPONSORING FAMILY PLANNING SERVICES FOR EMPLOYEES OF C.V. JAYA ABADI JAKARTA, INDONESIA

TECHNICAL INFORMATION ON POPULATION FOR THE PRIVATE SECTOR
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Preface

This report describes the benefits and costs which would result from the provision of family planning services by C. V. Jaya Abadi to its employees. The report is the result of a study conducted by the Economics Faculty of Atma Jaya University, in association with the *TIPPS* (Technical Information on Population for the Private Sector) Project.

Information for this study was provided by company management, and, through a survey, by its employees. We would like to thank the owner, managers and employees of C. V. Jaya Abadi for their cooperation in providing the information upon which this report is based.

EXECUTIVE SUMMARY

The TIPPS (Technical Information on Population for the Private Sector) Project has collaborated with Atma Jaya University to produce this business analysis of C. V. Jaya Abadi, a biscuit manufacturer located in North Jakarta, Indonesia. The intent of this analysis is to assess whether or not it would be beneficial for C. V. Jaya Abadi to obtain for its employees the family planning services offered by the Atma Jaya Hospital.

Important information produced, and conclusions reached, by the analysis include the following:

- Fertility of C. V. Jaya Abadi couples is higher than the Indonesian average. However, many employees wish to space or limit their family size. This could be an area of health care savings for the company since, of the 21 women surveyed who wanted to space or limit their children, 7 (33.3%) were using either traditional or the least effective methods of birth control or none at all.

- C.V. Jaya Abadi provides benefits to married female employees. There are 97 such women, all of whom are in their child-bearing years.

- Every female employee pregnancy will cost the company Rp. 182,000, including the delivery costs and maternity leave.

- In the most recent year, C.V. Jaya Abadi employee couples had 26 babies. The analytic model predicts that if employee desires for reduced fertility were realized in three years, births in a year would be reduced by 3 to 23 babies in a year.

- The analytic model projected an increased use of contraception from the current 41.2% to 57.5% overall over a three year period of time. A shift in contraceptive method use, from less effective to more effective, was also projected.

- Atma Jaya Hospital can offer to provide family planning services to C.V. Jaya Abadi through a mobile arrangement, for which Rp. 3000 would be charged per year per family planning user couple.

- Counting this as the cost to C.V. Jaya Abadi, Jaya Abadi would save a total of Rp 1,588,983 over five years, an benefit-to-cost ratio of 4.69:1.

The contents of this report demonstrate that there is a demand for quality family planning services, for spacing or for limiting child-bearing. The very positive benefit-to-cost ratio, the low cost of services, and the high quality of services from Atma Jaya Hospital make an investment in family planning quite attractive for a company like C.V. Jaya Abadi. An investment in the health of workers can have financial rewards in increased productivity and cost-savings in health benefits.

TABLE OF CONTENTS

TABLES

TABLES

INTRODUCTION

Indonesian National Interest in Family Planning

The national family planning program of Indonesia, since its inception in 1980, has succeeded in substantially increasing the number of contraceptive users within the country. This success has been the result of a strong political will, active community participation and a flexible strategy that is responsive to changing needs.

However, revenues of the Government of Indonesia have declined in recent years due primarily to a price drop in its petroleum exports. This has forced smaller allocations of funds for all government programs, including family planning and health. As a result, the private sector is being encouraged to increase its participation in sponsoring family planning and health care programs for its employees.

The objective of this privatization effort is to shift a portion of the resources of private industry to provide family planning services for its employees and their eligible dependents, especially in the urban centers.

Privatization, as a program strategy, is based on a network of private clinics, hospitals and practitioners and builds on the interests of private industry in promoting and protecting the health and welfare of its employees. This strategy has not been well exploited, although the private sector is the preferred source of family planning information and contraceptive services by urban clientele.

Although the decision-makers of most privately owned companies understand the government's efforts to promote family planning, they are often unaware of the relationship between family planning, employee health, and employee benefit expenditures. Existing employee benefit packages generally do not include family planning, although they generally do include employee medical care and 90 days of paid maternity leave.

Role of Atma Jaya Hospital

Atma Jaya Hospital (AJH) is a private hospital located in the Penjaringan Subdistrict of North Jakarta. AJH has been actively providing motivational and contraceptive services for several years as part of a postpartum family planning program.

AJH seeks to be the center of a growing network of factory-based health and family planning services in the Penjaringan area. AJH has been able to heavily subsidize the service it has provided in the past, but for a variety of reasons, it cannot continue to do so. In the future, AJH hopes to better meet community needs by expanding its services while encouraging community institutions such as factories to increase their support of services which benefit their employees.

There are 88 such industrial establishments in the Penjaringan area, each of which employs between 50 and 1,100 workers. Altogether, approximately 16,000 people are employed in these factories, and approximately 40 percent represent couples in need of family planning assistance.

In association with the University Research Corporation, Atma Jaya University is conducting a Family Planning Operations Research Project. The purpose of the project is to develop, analyze, test and recommend solutions for improving the cost effectiveness and accessibility of factory-based family planning services. It will assess the financial viability of linking a private general hospital with a network of privately owned businesses to provide support services for family planning and health care for employees and their dependents.

Role of *TIPPS*

TIPPS (Technical Information on Population for the Private Sector) is designed to encourage private, for-profit companies to invest in family planning services for their employees and their employees' eligible dependents. *TIPPS* measures the demand for family planning (births spacing) services, analyzes the cost and benefits of such programs to a participating company, and offers recommendations for instituting and maintaining the programs.

An employee survey is conducted, management views are examined, and the company's requirements are carefully analyzed to determine the company's costs; both the costs of failing to provide family planning services to employees and their eligible dependents, and the costs of providing such services in-house. An individual analysis provides the following information:

- Current levels of maternity-related behaviors (births, contraceptive use, etc.) among female employees, wives of male employees, and other eligible dependents.

- Current annual company expenditures for maternity-related benefits.

- Potential demand for family planning by company employees and their eligible dependents.

- Potential health benefits for female employees, wives of male employees, and their children through improved birth spacing and reduction of unwanted and high risk pregnancies.

- Probable costs to the company of providing family planning services, in terms of personnel, training, equipment, supplies, education, and administration.

- Probable financial benefits to the company due to reduced expenditures for hospitalization, maternity leave, absenteeism due to illness among employees and their dependents, and other categories of employee costs related to pregnancy, child-bearing, and child health.

- Company benefits-to-costs ratios, including cash flow, present discounted value of future savings, pay-back period, and internal rate of return.

The *TIPPS* approach to the cost-benefit analysis of providing family planning services in the industrial context is based on the following assumptions:

1. A sizable proportion of the company's labor force either does not use contraceptives at all and/or uses the less effective contraceptive methods. As a consequence, many pregnancies are unwanted and/or mistimed.

2. Unwanted pregnancies incur high costs to the employer in terms of legislated or contractually-mandated maternity leave, child care, treatment of the complications of illegal abortions, salary supplements, and absenteeism related to the impaired health of female employees. Some portion of male employee absenteeism may be due to their need to care for wives who suffer the same ill effects of unwanted, mistimed, or aborted pregnancies.

3. The promotion and provision of company-sponsored family planning services can and does increase contraceptive use and improves the contraceptive method mix, thereby reducing the incidence of unwanted and/or mistimed pregnancies and illegal abortions.

4. The cost incurred by family planning services is more than compensated for by cost reductions in maternity-related services and health care for employees and dependents, leading to a positive benefits-to-costs ratio, greater employee productivity, and other mutual employer-employee benefits.

Objective Of This Report

The objective of this report is to ascertain the desirability of company subsidization of family planning services for its employees and their eligible dependents. In-depth interviews of employees and management provided the data used in the report to determine the demand for such services.

In addition to demonstrating the advantages which are available to a factory by providing family planning services for its people, the analysis may uncover ways of improving the cost-effectiveness of other employee benefit programs.

The study will demonstrate to C. V. Jaya Abadi that the economic benefits derived from participation in family planning exceed the costs incurred by subsidizing family planning services. Even small and medium-sized businesses can expect to accrue significant savings in the costs of their employee benefits programs by promoting family planning among employees and their eligible dependents.

C. V. JAYA ABADI

C. V. Jaya Abadi is located on Jalan Jembatan II in the Penjaringan subdistrict of northern Jakarta. Founded in 1977, it produces biscuits under the brand name of "REGAL". It is a private enterprise, employing 220 men and women.

Company Employees

The majority (77.27%) of the 220 C. V. Jaya Abadi employees are female, of whom 15 are top managers, middle managers and supervisors.

All employees receive medical benefits for themselves, but health care coverage for spouses and children is provided only to employees of supervisory status and above. Table 1 shows statistics relating employee status to benefits provided by the company.

TABLE 1
EMPLOYEES BY CLASSIFICATION AND SEX

	EMPLOYEES							
STATUS	MALE		BENEFIT	FEMALE		BENEFIT	TOTAL	
	N	%	STATUS	N	%	STATUS	N	%
TOP MANAGERS	1	2.00%	A	0	0.00%	A	1	0.45%
MID MANAGERS	3	6.00%	A	2	1.18%	A	5	2.27%
SUPERVISORS	5	10.00%	A	13	7.65%	A	18	8.18%
WORKERS	41	82.00%	B	155	91.18%	B	196	89.09%
TOTAL N	50	100.00%		170	100.00%		220	100.00%
%	22.73%			77.27%			100.00%	

Source: Company Survey

Notes:

1. Benefit Status A: Employees and Dependents Receive Benefits
2. Benefit Status B: Employees only receive benefits

Table 2 presents the age distribution and marital status of female employees. There are ninety-seven married female employees, of whom 84.5% are below the age of thirty. These women are women at risk of unwanted and/or mistimed pregnancies.

TABLE 2
AGE AND MARITAL STATUS OF FEMALE EMPLOYEES

	FEMALE EMPLOYEES			
AGE	MARRIED	UNMARRIED	TOTAL	
	N	N	N	%
<20	3	22	25	14.71%
20-24	41	20	61	35.88%
25-29	38	17	55	32.35%
30-34	12	14	26	15.29%
35-39	2	0	2	1.18%
40-44	1	0	1	0.59%
>44	0	0	0	0.00%
TOTAL N	97	73	170	100.00%
%	57.06%	42.94%	100.00%	

Source: Individual Questionnaire

While 73 of the 170 female employees are presently unmarried, one can expect that most will marry. This indicates that the need for family planning services will increase over the years as this group of women marry and become women at risk.

Of the 68 married women who were surveyed, 16% have no education, while nearly 6% are High School graduates. In spite of the wide differences in educational background, however, knowledge of contraception and family planning are almost universal, as is discussed later in this report.

Table 3 displays the educational backgrounds of the married female employees at C. V. Jaya Abadi.

TABLE 3
YEARS OF EDUCATION COMPLETED

EDUCATION COMPLETED	N	%
NO SCHOOL	11	16.18%
PRIMARY SCHOOL	38	55.88%
MIDDLE SCHOOL	15	22.06%
HIGH SCHOOL	4	5.88%
COLLEGE	0	0.00%
TOTAL	68	100.00%

Source: Individual Questionnaire

The majority (63%) of the women surveyed have been married five years or less, with 19% having been married for only one year. Thus, the married female labor force at C. V. Jaya Abadi is young, as shown in Table 2, and is just beginning family life; a time when women normally commence and add to their families. For this group of women, the major interest in family planning services will be in family spacing rather than family limitation.

Table 4 shows the number of years the surveyed women have been married.

TABLE 4
YEARS MARRIED

YEARS MARRIED	N	%
1	13	19.12%
2	3	4.41%
3	12	17.65%
4	8	11.76%
5	7	10.29%
1- 5	43	63.24%
6-10	18	26.47%
11-15	5	7.35%
16-20	1	1.47%
>20	1	1.47%
Total	68	100.00%

Source: Individual Questionnaire

Note: Missing values have been statistically imputed.

Benefit Structure And Cost Of Benefits

C. V. Jaya Abadi provides health care coverage for its employees. Two critically important features of the benefit structure must be noted. First, the benefits are offered to employees only and not to dependents. While managers and supervisors do receive some benefits for dependent spouses and children, such benefits are not provided to sub-supervisory personnel. Second, the benefits related to fertility are intended to assist with delivery costs, and provide three months salary. All benefits related to fertility are paid in the year of the pregnancy and birth; there are no additional benefits for which C. V. Jaya Abadi is liable as the infant grows.

Table 5 displays the benefits currently offered to C. V. Jaya Abadi employees.

TABLE 5
FERTILITY-RELATED BENEFITS OFFERED TO EMPLOYEES AND DEPENDENTS

BENEFIT	EMPLOYEES		DEPENDENTS			
	MALE	FEMALE	SPOUSE	CHILDREN	PARENTS	OTHERS
SALARY						
Maternity Leave	-	90 days	-	-	-	-
Child Illness	1 day/yr	1 day/yr	-	-	-	-
HEALTH CARE						
Hospitalization	50%	50%	(2)	(2)	-	-
Maternity	-	Rp 20000	(1)	-	-	-
Ill-Outpatient	50%	50%	(2)	(2)	-	-
Pharmaceuticals	50%	50%	(2)	(2)	-	-
SOCIAL WELFARE						
Social Services	-	-	-	-	-	-
Housing	-	-	-	-	-	-
Education	-	-	-	-	-	-
Recreation	-	-	-	-	-	-

Source: Company Survey

Notes:

1. Maternity care is provided to wives of white collar employees only. Amount is individually determined, but exceeds Rp 20,000.
2. Reimbursement for health care costs is made to dependents of white collar workers only. Amount paid is 50%. Whereas workers must go to Atma Jaya hospital to be reimbursed, white collar dependents can go to other facilities as well.

In the year of a child's birth, the employed mother receives 90 days paid maternity leave and a lump sum maternity benefit payment. The average wage for the 90 day leave in 1987 was Rp. 162,000, and the maternity payment was Rp. 20,000.

Table 6 illustrates benefits paid by the company to its employees during each year of a dependent child's life.

TABLE 6
ANNUAL COSTS OF FERTILITY-RELATED BENEFITS
(in 000 Rupiahs)

	TYPE OF BENEFIT			
AGE OF CHILD	MATERNITY HEALTH CARE	MATERNITY 90-DAY LEAVE	SOCIAL WELFARE (No Benefits)	TOTAL
0	20.000	162.000	0.000	182.000
1-21	0.000	0.000	0.000	0.000
TOTAL	20.000	162.000	0.000	182.000

Source: Company Survey

Notes:

1. Rupiahs 20,000 is not presumed to cover the full cost of delivery.
2. The maternity leave benefit was obtained by totaling the leave payment actually paid during 1987 and dividing by the 26 births in that year. The actual amount paid to a woman varies depending on her rate of pay.

DEMAND FOR FAMILY PLANNING

Methodology For Estimating Demand

A survey questionnaire was administered to married female employees of C. V. Jaya Abadi during March, 1988. The questionnaire collected information on the following topics:

- Personal Characteristics
- Attitudes Toward Family Planning
- Fertility
- Fertility Regulation
- Use of benefits

While the survey was used incidentally to acquire information concerning characteristics of these women which could not be obtained directly, the survey results were used primarily to estimate demand for family planning services at C. V. Jaya Abadi.

Table 7 displays the numbers of actual respondents to the survey in contrast to the survey universe.

TABLE 7
SURVEY UNIVERSE AND POPULATION SURVEYED

CATEGORY	SURVEY UNIVERSE	TARGET SAMPLE	INTER-VIEWED	PERSONS INTERVIEWED AS % OF	
				UNIVERSE	TARGET
EMPLOYEES					
Male	50	0	0	0.00%	
Female					
· Single	73	0	0	0.00%	
· Married	97	97	68	70.10%	70.10%
By Age					
15-19	3	3	2	66.67%	66.67%
20-24	41	41	31	75.61%	75.61%
25-29	38	38	28	73.68%	73.68%
30-34	12	12	4	33.33%	33.33%
35-39	2	2	2	100.00%	100.00%
40-44	1	1	1	100.00%	100.00%
TOTAL	220	97	68	30.91%	70.10%

Source: Company Survey & Individual Questionnaires

The 220 C. V. Jaya Abadi employees have 168 spouses -- 97 husbands and 71 wives. Since the spouses receive no medical benefits, they have not been included in Table 7.

Since the universe itself is relatively small, no effort was made to obtain a random sample; instead, the research team attempted to interview all female employees. Those who were not interviewed were those who were either unavailable or unwilling to be interviewed.

Current Employee Family Planning Practices

In 1987, company management reported 26 births to the 97 married female employees, an annual fertility rate of 268 births per thousand women. Company management did not record the ages of the mothers. However, we tabulated 36 births and pregnancies among the survey population over the last three years, and derived percentages from which we could estimate the births in 1987 among the mothers in each age group, as shown in Table 8.

TABLE 8
NUMBER OF BIRTHS AND CURRENT PREGNANCIES

AGE OF MOTHER	BIRTHS REPORTED BY SURVEY RESPONDENTS			RESPONDENTS CURRENTLY PREGNANT	TOTAL BIRTHS IN SAMPLE, 1986-1989	% BY AGE GROUP
	1986	1987	1988			
15-19				1	1	2.78%
20-24	5	4	1	10	20	55.56%
25-29	6	1		5	12	33.33%
30-34		2		1	3	8.33%
35-39					0	0%
40-44					0	0%
TOTAL	11	7	1	17	36	100.00%

Source: Individual Questionnaire

Note: The 36 births and pregnancies to the sample population over three years should not be confused with the 26 births to the universe population in one year.

It was then possible to multiply the 26 total births which occurred in 1988 by the percentages obtained in Table 8 and obtain an estimate of the number of mothers in each age group, as shown in Table 9.

It was also possible to calculate the marital, age-specific fertility rates for women at C. V. Jaya Abadi, and compare these rates to those for Indonesia as a whole. The rates for C. V. Jaya Abadi ranged from a high of 352 in the 20-24 age group to a low of 180 in the 30-34 age

group. No births were reported for women aged 40 and over, therefore no rates apply to them. While employed women normally have a lower fertility than average, women at C. V. Jaya Abadi exhibit a considerably higher fertility rate than Indonesia as a whole, as shown in Table 9.

Table 9 displays the current marital, age-specific fertility rates for both the married female employees at C. V. Jaya Abadi and for Indonesia as a whole.

TABLE 9
CURRENT (BASELINE) FERTILITY

	NO. OF WOMEN AT RISK			BIRTHS LAST YEAR			MARITAL AGE SPECIFIC FERTILITY RATE PER 1000 WOMEN	
AGE	MARRIED FEMALE EMPLOYEES	WIVES OF MALE EMPLOYEES (1)	TOTAL	% (2)	N (3)	rnd	JAYA ABADI (4)	INDONESIA
15-19	3	0	3	2.78%	0.72	1	240.74	100.30
20-24	41	0	41	55.56%	14.44	14	352.30	275.80
25-29	38	0	38	33.33%	8.67	9	228.07	273.00
30-34	12	0	12	8.33%	2.16	2	180.56	183.80
35-39	2	0	2	0.00%	0.00	0	0	183.10
40-44	1	0	1	0.00%	0.00	0	0	47.00
TOTAL	97	0	97	100.00%	26.00	26	268	

Source: Individual Questionnaire

Notes:

1. 71 wives of male employees are also, of course, at risk of pregnancy. However, since the employer does not provide any benefits related to their pregnancies, the employer is not at risk.
2. Percentages calculated using sample data in Table 8
3. 26 wives reported in 1987 times percentages
4. Number of births divided by women at risk times 1000.

As one might expect from this young population, family size is currently small, with an overall average of .85 children per family. An age specific breakdown of this average is displayed in Table 10, showing family size increasing with the age of the mother.

TABLE 10
TOTAL CHILDREN STILL LIVING, BY AGE OF MOTHER

NUMBER OF CHILDREN PER MOTHER	TOTAL SAMPLE # OF MOTHERS (M)	TOTAL SAMPLE # OF CHILDREN (C)	BY AGE 15 - 19 (M)	15 - 19 (C)	20 - 24 (M)	20 - 24 (C)	25 - 29 (M)	25 - 29 (C)	30 - 34 (M)	30 - 34 (C)	35 - 39 (M)	35 - 39 (C)	40 - 44 (M)	40 - 44 (C)
0	31	0	2	0	22	0	5	0	2	0	0	0	0	0
1	23	23	0	0	6	6	16	16	1	1	0	0	0	0
2	10	20	0	0	3	6	5	10	1	2	1	2	0	0
3	2	6	0	0	0	0	1	3	0	0	1	3	0	0
4	1	4	0	0	0	0	0	0	0	0	0	0	1	4
5	1	5	0	0	0	0	1	5	0	0	0	0	0	0
TOTAL	68	58	2	0	31	12	28	34	4	3	2	5	1	4
AVERAGE NUMBER OF CHILDREN PER MOTHER		0.85	0.00		0.39		1.21		0.75		2.50		4.00	
WOMEN IN UNIVERSE		97	3		41		38		12		2		1	
ESTIMATED TOTAL NUMBER OF LIVING CHILDREN		82.74	0.00		15.8		46.1		9.00		5.00		4.00	

Source: Individual Questionnaires

Note: Estimated total number of living children includes dependent children and adult children.

The low average number of children for mothers at C. V. Jaya Abadi (.85) is far below the population replacement level, and reflects the young age of these mothers. But more important than current family size is the desired family size to which these women aspire. While some mothers express a wish for as many as four children, the average number of children desired is

.9, far less than the population replacement level, less than the generally sought family size in Indonesia as a whole, and many fewer children than these mothers are likely to have without effective family planning protection. Table 11 displays the estimated number of children desired by the C. V. Jaya Abadi employees.

TABLE 11
TOTAL CHILDREN DESIRED, BY AGE OF MOTHER

NUMBER OF CHILDREN PER MOTHER	TOTAL SAMPLE # OF MOTHERS (M)	TOTAL SAMPLE # OF CHILDREN (C)	BY AGE 15 - 19 (M)	15 - 19 (C)	20 - 24 (M)	20 - 24 (C)	25 - 29 (M)	25 - 29 (C)	30 - 34 (M)	30 - 34 (C)	35 - 39 (M)	35 - 39 (C)	40 - 44 (M)	40 - 44 (C)
0	41	0	1	0	22	0	13	0	4	0	1	0	0	0
1	2	2	0	0	0	0	2	2	0	0	0	0	0	0
2	18	36	1	2	8	16	8	16	0	0	1	2	0	0
3	5	15	0	0	1	3	3	9	0	0	0	0	1	3
4	2	8	0	0	0	0	2	8	0	0	0	0	0	0
TOTAL	68	61	2	2	31	19	28	35	4	0	2	2	1	3
AVERAGE NUMBER OF CHILDREN PER MOTHER		0.90	1.00		0.61		1.25		0.00		1.00		3.00	
WOMEN IN UNIVERSE		97	3		41		38		12		2		1	
ESTIMATED TOTAL NUMBER OF DESIRED CHILDREN		87.01	3.00		25.13		47.50		0.00		2.00		3.00	

Source: Individual Questionnaires
Note: Missing values have been statistically imputed.

The actual contraceptive practice of these women is, therefore, of considerable interest. Projecting from the 68 women surveyed to all 97 married female employees, an estimated 42 women (43.2%) are using some form of family planning. Further, all but three of these women are using a very secure family planning method.

Table 12 displays the actual contraceptive usage of the women surveyed, as well as estimates for the use of family planning methods by the entire married female labor force at C. V. Jaya Abadi.

TABLE 12
CURRENT RATES OF CONTRACEPTIVE USE BY METHOD

AGE RANGE	15-19	20-24	25-29	30-34	35-39	40-44	TOTAL
WOMEN AT RISK	3	41	38	12	2	1	97
WOMEN SURVEYED	2	31	28	4	2	1	68
SAMPLE AS % OF TOTAL	66.7%	75.6%	73.7%	33.3%	100.0%	100.0%	70.1%
LEAST SECURE							
Traditional							
Users (Sample)	0	0	0	1	0	0	1
Est Users (Universe)	0.00	0.00	0.00	3.00	0.00	0.00	3.00
Per Cent Using	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	7.2%
VERY SECURE							
Injection							
Users (Sample)	0	7	8	1	1	0	17
Est Users (Universe)	0.00	9.26	10.86	3.00	1.00	0.00	24.12
Per Cent Using	0.0%	38.4%	45.0%	12.4%	4.1%	0.0%	57.5%
Pill							
Users (Sample)	0	2	5	1	0	0	8
Est Users (Universe)	0.00	2.65	6.79	3.00	0.00	0.00	12.43
Per Cent Using	0.0%	21.3%	54.6%	24.1%	0.0%	0.0%	29.7%
Intrauterine Device							
Users (Sample)	0	0	1	0	0	1	2
Est Users (Universe)	0.00	0.00	1.36	0.00	0.00	1.00	2.36
Per Cent Using	0.0%	0.0%	57.6%	0.0%	0.0%	42.4%	5.6%
PERMANENT							
Ligation							
Users (Sample)	0	0	0	0	0	0	0
Est Users (Universe)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Per Cent Using	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
TOTAL *							
Users (Sample)	0	9	14	3	1	1	28
Est Users (Universe)	0.00	11.90	19.00	9.00	1.00	1.00	41.90
% Using (by age)	0.0%	28.4%	45.3%	21.5%	2.4%	2.4%	100.0%
Contraceptive Prevalence	0.0%	29.0%	50.0%	75.0%	50.0%	100.0%	41.2%

Source: Individual Questionnaire
Note: Women at Risks include all married female employees.

As shown in Table 13, most of the women obtain their family planning method from the nearby Atma Jaya Hospital. In fact, over 79% of the women who indicate a source for their family planning method named Atma Jaya Hospital as their source.

TABLE 13
SOURCE OF FAMILY PLANNING SERVICES, BY METHOD

SOURCE OF METHOD	TOTAL	%
PUBLIC SOURCES		
Puskesmas (Community Health Center)	2	6.90%
Other	1	3.45%
PRIVATE SOURCES		
Atma Jaya Hospital	23	79.31%
Nurse	1	3.45%
Other	2	6.90%
TOTAL	29	100.00%

Source: Individual Questionnaires

Note: A small number of respondents obtain supplies from more than one source, hence total exceeds the number of contraceptive users shown in Table 12.

Indicators Of Employee Demand

Repeated surveys of a variety of populations in Jakarta indicate that knowledge of modern, effective family planning methods is virtually universal -- testimony to women's interest and to the effective information, education and communication programs supported by agencies working under the broad coordination of the National Family Planning Coordinating Board, BKKBN. As a result, the first component of demand, from a marketing perspective -- product knowledge -- is present. The second component of demand is fertility intentions.

Table 14 shows the intentions of the married women working at C. V. Jaya Abadi. A look at the family planning methods actually used by this population indicates that many are using methods appropriate to their intentions -- and many are not. Here, too, is an indication of the currently unmet demand for family planning.

TABLE 14
FERTILITY INTENTIONS AND CURRENT CONTRACEPTIVE BEHAVIOR

	CONTRACEPTIVE USERS								NON-USERS		TOTAL	
FUTURE FERTILITY INTENTIONS	TRADITIONAL N	%	IUD AND PILL N	%	INJECTION N	%	ALL USERS N	%	N	%	N	%
WANT MORE CHILDREN												
Within 1 year	0	0.0%	2	20.0%	1	5.9%	3	10.7%	16	40.0%	19	27.9%
1 To 2 Years	0	0.0%	1	10.0%	1	5.9%	2	7.1%	0	0.0%	2	2.9%
TOTAL IMMEDIATE	0	0.0%	3	30.0%	2	11.8%	5	17.9%	16	40.0%	21	30.9%
SPACERS & LIMITERS												
Delayed (Spacers)												
In two years	0	0.0%	2	20.0%	7	41.2%	9	32.1%	6	15.0%	15	22.1%
3 or more years	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Total Spacers	0	0.0%	2	20.0%	7	41.2%	9	32.1%	6	15.0%	15	22.1%
No More (Limiters)	0	0.0%	2	20.0%	3	17.6%	5	17.9%	1	2.5%	6	8.8%
Total Spacers & Limiters	0	0.0%	4	40.0%	10	58.8%	14	50.0%	7	17.5%	21	30.9%
Per Cent of Total	0.0%		19.0%		47.6%		66.7%		33.3%		100.0%	
Per Cent of Users	0.0%		28.6%		71.4%		100.0%					
OTHER												
God Decides	1	100.0%	1	10.0%	3	17.6%	5	17.9%	7	17.5%	12	17.6%
Don't Know When	0	0.0%	1	10.0%	0	0.0%	1	3.6%	2	5.0%	3	4.4%
Don't Know Whether	0	0.0%	1	10.0%	2	11.8%	3	10.7%	4	10.0%	7	10.3%
Other	0	0.0%	0	0.0%	0	0.0%	0	0.0%	4	10.0%	4	5.9%
TOTAL OTHER	1	100.0%	3	30.0%	5	29.4%	9	32.1%	17	42.5%	26	38.2%
TOTAL	1	100.0%	10	100.0%	17	100.0%	28	100.0%	40	100.0%	68	100.0%
Per Cent of Total	1.5%		14.7%		25.0%		41.2%		58.8%		100.0%	
Per Cent of Users	3.6%		35.7%		60.7%		100.0%					

Source: Company Survey

Consistent with our previous observations, 27.9% (or 19 women) want children immediately -- and we know from Table 8 that 17 are already pregnant. An additional 2.9% are seeking pregnancy in the short term. Neither of these groups, obviously, will have an interest in family planning at this time - although after the anticipated child is born, family planning will be extremely important to achieve proper spacing for any future children.

An additional 30.9%, however, do not want children immediately. Some of them are "spacers", who want more children after a delay of two or more years, while others are "limiters", who want no more at all. This group clearly requires family planning. In addition, a final third of the women are unclear whether or when to have children, or feel that "God decides". Special information, education and communication should be targeted to this group.

Estimates Of Service Use

Based upon the indications of unmet demand for family planning services demonstrated in the previous section, our analysis shows that an increase in contraceptive prevalence from 41.2% to 57.5% is both appropriate and achievable for the employed married women of C. V. Jaya Abadi.

Table 15 shows this projection.

TABLE 15

PROJECTED CONTRACEPTIVE USE THREE YEARS AFTER PROGRAM LAUNCH

Age	15-19	20-24	25-29	30-34	35-39	40-44	TOTAL
Women at Risk (1)	3	41	38	12	2	1	97
Base Prevalence (2)	0.0%	31.3%	52.6%	35.7%	71.5%	100.0%	41.2%
Target Prevalence	50.0%	50.0%	60.0%	70.0%	80.0%	100.0%	57.5%
Current Users	0	13	20	4	2	1	40
Target Users	1.5	21	23	8	2	1	56
VERY SECURE							
PILL							
Target Mix	25.0%	25.0%	25.0%	25.0%	25.0%	0.0%	24.6%
Target Users	0.375	5	6	2	0	0	14
INJECTION							
Target Mix	75.0%	75.0%	75.0%	50.0%	50.0%	30.0%	69.7%
Target Users	1.125	15	17	4	1	0	39
IMPLANT							
Target Mix	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Target Users	0	0	0	0	0	0	0
IUD							
Target Mix	0.0%	0.0%	0.0%	5.0%	5.0%	30.0%	1.4%
Target Users	0	0	0	0	0	0	1
PERMANENT							
LIGATION							
Target Mix	0.0%	0.0%	0.0%	20.0%	20.0%	40.0%	4.3%
Target Users	0	0	0	2	0	0	2
TOTAL (3)							
Target Mix	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Target Users	1.5	21	23	8	2	1	56

Notes:

1. Women at Risk as displayed in Table 9.
2. Per cent using contraception (Contraceptive Prevalence) from Individual Questionnaire, as displayed in Table 12.
3. Number of Target Users do not total those shown due to rounding.
4. Method Mix percentages adapted from Table 12.
5. Users (method and age specific) calculated by multiplying age specific users by method mix.

In addition to an increase in the number of women using some form of family planning, it should also be possible to encourage many women to change from less effective to more effective methods.

This change is shown in Table 16.

TABLE 16
CHANGES IN METHOD MIX DURING FIRST THREE YEARS OF FAMILY PLANNING

CATEGORY	YEAR				PERCENT DISTRIBUTION BY METHODS	
	BASE	1	2	3		
TOTAL # Users	40	47	51	56	BASE YEAR	TARGET YEAR
# Change		7	4	5		
% Change		17.5%	8.5%	9.8%		
LEAST SECURE						
Traditional	3	2	1	0	7.2%	0.00%
# Change		-1	-1	-1		
% Change		-33.3%	-50.0%	-100.0%		
VERY SECURE						
Injection	24	29	33	39	57.5%	69.64%
# Change		5	4	6		
% Change		20.8%	13.8%	18.2%		
Pill	12	13	13	14	29.7%	25.00%
# Change		1	0	1		
% Change		8.3%	0.0%	7.7%		
IUD	2	2	2	1	5.6%	1.79%
# Change		0	0	-1		
% Change		0.0%	0.0%	-50.0%		
PERMANENT						
Sterilization	0	1	2	2	0.00%	3.57%
# Change		1	1	0		
% Change			100.0%	0.0%		

Sources: Base period contraceptive users from Individual Questionnaires. Year 1 and 2 figures were calculated by HOST model as interpolation between base and target. Year 3 figures were calculated by HOST model from Target Contraceptive Prevalence and Target Method Mix.

As a result of these changes, the *TIPPS* analysis predicts that over a period of four years, the number of births occurring to the employed married women of C. V. Jaya Abadi will decrease by seven, as shown in Table 17.

TABLE 17
FAMILY PLANNING PROGRAM IMPACT ON BIRTHS: FIRST FOUR YEARS OF PROGRAM

PERIOD	EXPECTED (No program)	EXPECTED (With program)	DIFFERENCE (Births Averted)
Base Period	26	26	0
Program Year 1	26	26	0
Program Year 2	26	25	1
Program Year 3	26	23	3
Program Year 4	26	23	3

Source: Base period births from Company Survey; Other cells from Table FERT in HOST computations

Since each of these births represents a cost to C. V. Jaya Abadi in terms of pregnancy leave and maternity care, the reduction in births will represent a savings to the company. At the same time, this reduction will be achieved by making available to these women something they want: better control of their fertility in order to exercise their own choices in the number and spacing of their children.

COSTS AND BENEFITS

Potential Arrangement And Cost Of Program

The Atma Jaya Hospital is proposing a variety of service arrangements to the nearly one hundred factories in its catchment area. These proposed packages, as listed below, include not only family planning but also other health services.

1. Acute/occupational outpatient services at Atma Jaya Hospital. These services will be offered to the company for Rp. 5,000 per visit;

2. Prenatal/Delivery/Postnatal Services, with delivery at Atma Jaya and prenatal and postnatal services offered at the company site by a visiting midwife;

3. Preventive Health Services;

4. Support and back-up for a company's existing in-house clinic.

5. Family Planning services, to be provided at the company site by a midwife visiting twice monthly. The price to the company would be Rp. 250 per family planning participant per month, or Rp. 3,000 per participant per year. Since this represents a subsidized price, the family planning service is offered only as a supplement to one or more of the other services listed.

The specific proposals will be tailored to the needs of each factory, reflecting both the recommendations of Atma Jaya and the expressed interests of factory management.

Atma Jaya Hospital carefully developed the price to be charged for these family planning services after an analysis of the actual costs of providing such services. Table 18 presents Atma Jaya's estimates of the non-commodity costs of providing a mobile family planning service capable of serving a number of factories at the various factory locations.

TABLE 18
ESTIMATED COSTS OF PROVIDING FAMILY PLANNING SERVICES
NON-COMMODITY COSTS - MOBILE SERVICE

BASIS				COSTS IN THOUSAND RUPIAHS			
Minutes/Consultation	15	Hours/day	6				
Consultations/Hour	4	Consultations/day	24				
Consultations/Week	120	Consultations/yr	6240		ALLOCATION		
ITEM				TOTAL	FIRST YEAR STARTUP	ANNUAL FIXED COSTS	ANNUAL VARIABLE NONCOMMOD.	ANNUAL VARIABLE COMMOD.
PERSONNEL								
Doctor fulltime				6000			6000	
Midwife				3600			3600	
Driver/helper				2400		2400		
TRAINING				0	0			
TRANSPORTATION								
Automobile, depreciated over 5 years				0		0		
Fuel				0		0		
Car Maintenance				0		0		
Car tax				0		0		
Car/taxi rent				0		0		
EQUIPMENT AND BUILDING								
Depreciation of Equipment & Building				978		978		
Building Maintenance				50		50		
Utilities Expense				225		225		
CONSUMABLE SUPPLIES/ADMINISTRATION								
Promotional Materials, IEC				0		0		
Office Supply/Administrative Overhead				0		0		
General Consumable Supplies/Administration				1750		1750		
SUBTOTAL				15003	0	5403	9600	0

Thus, an overall family program at Atma Jaya Hospital, exclusive of commodities, would cost Rp. 15,003,000 per year, of which Rp. 5,403,000 are annual fixed costs and Rp. 9,600,000 are variable, non-commodity costs such as personnel. This program would provide 120 family

planning consultations per week, or 6,240 consultations per year. Since the cost of family planning commodities would vary with the number of users and by method, they are not included in Table 18.

The analysis of actual costs then turns to the specific family planning services which C. V. Jaya Abadi employees would use. During the first year, *TIPPS* estimates that the 40 current family planning users at C. V. Jaya Abadi, plus 7 new users, would utilize the family planning program. *TIPPS* also estimates that 148 consultations will be necessary to meet this demand. Multiplying this volume times the unit costs calculated above produces the portion of Atma Jaya's fixed costs and non-commodity costs to be allocated to C. V. Jaya Abadi. Based on the method mix presented in Table 12, the 40 users are allocated by method. Required family planning commodities are multiplied by the method used to obtain annual commodity costs.

In addition, at start-up, a half-year supply of commodities must be purchased as a necessary advance inventory. In all, *TIPPS* estimates a total first year cost of Rp. 808,942 from all sources for the family planning services required by the women of C. V. Jaya Abadi.

The portion of Atma Jaya's costs allocated to C. V. Jaya Abadi for its family planning participants, and the estimated costs of commodities required, are shown in Table 19.

TABLE 19
COSTS TO JAYA ABADI - MOBILE FAMILY PLANNING SERVICE

ITEM				TOTAL	COSTS IN THOUSAND RUPIAHS			
					ALLOCATION			
					FIRST YEAR STARTUP	ANNUAL FIXED COSTS	ANNUAL VARIABLE NONCOMMOD.	ANNUAL VARIABLE COMMOD.
STARTUP/FIXCOSTS/NONCOMMOD:					0	5403	9600	
Divide by Annual consults 6240 = unit fixcosts					0.000	0.866	1.538	
x 148 First Year Estimated Consults, Jaya Abadi					148	148	148	
Allocation of Startup/Fixcosts/Noncommod to Jaya Abadi				355.792	0.000	128.168	227.624	
FAMILY PLANNING COMMODITIES	Users	Unit Price (000 Rp.)	Annual Units Required per New User					
Traditional	2	0.000	0	0.000				
Condoms	1	0.125	80	10.000				10.000
Pill	12	1.000	13	156.000				156.000
Injection	23	1.300	4	119.600				119.600
IUDs	2	25.000	1	50.000				50.000
Implants	0	0.000	1	0.000				0.000
Sterilization	0	0.000	1	0.000				0.000

Commodities Subtotal	40			335.600	0.000	0.000	0.000	335.600
Start-up Commodities @ 1/2 yr supply				167.850	167.850			
SUBTOTAL				503.450	167.850	0.000	0.000	335.600
TOTAL COST TO JAYA ABADI (Thousand Rupiahs)				839.242	167.850	128.168	227.624	335.600

However, Atma Jaya Hospital would not charge C. V. Jaya Abadi the full first year cost of Rp. 839.242, or Rp. 20,981 for each family planning user. At the subsidized rates discussed earlier, Atma Jaya Hospital would charge C. V. Jaya Abadi for its 40 family planning users, at Rp. 3,000 per

year each, a total of Rp. 120,000. This, therefore, represents a total subsidy of Rp. 719,242 to the company. If a subsidized source of commodities, such as BKKBN, can be utilized, more than have of this subsidy could be covered, and the portion of the subsidy covered by Atma Jaya would be reduced to 232,752.

Cost Savings From Future Use Of Family Planning: A Prospective Assessment

A prospective assessment of the cost savings of future increases in the number of users and an improved method mix is presented in Table 20. During the first three years, *TIPPS* estimates an increase of 16 users (from 40 to 56), with a total of 7 averted births by the end of the fourth year.

In the first year of the program, the cost-benefit model shows first year costs and (at the subsidized rate of Rp. 3,000 per user per year), no benefits. Since pregnancies require almost a year for a birth, time must pass before a reduction in births can be attributed to the program.

TABLE 20
PROSPECTIVE ANNUAL BENEFITS AND COSTS OF PROVIDING FAMILY PLANNING SERVICES

YEAR	BENEFITS	COSTS	EXCESS OF BENEFITS OVER COSTS	BENEFIT TO COST RATIO
1	0	142,520	(142,520)	0.00
2	245,563	163,344	82,219	1.50
3	515,735	183,895	331,840	2.80
4	837,004	178,282	658,722	4.69
5	837,004	178,282	658,722	4.69

Source: Host/TIPPS Model Calculation

As shown in Table 20, benefits commence in the second year and rapidly increase. Contraceptive targets having been reached in the third year, the optimum annual benefits appear in the fourth year, and both benefits and costs level off thereafter. These benefits consist entirely of savings from maternity leave and maternity payments which C. V. Jaya Abadi would otherwise have to pay.

Cost Savings Already Being Realized From Employee Use Of Family Planning: A Retrospective Assessment

As noted previously, a majority of the surveyed C. V. Jaya Abadi employees currently receiving family planning services obtain them from the Atma Jaya Hospital. The program at Atma Jaya which enables them to do this is heavily subsidized by a donor agency - and these funds are at present being withdrawn. If alternate sources of funds are not found, it is possible that the family planning program at Atma Jaya Hospital will be canceled.

It is therefore important to calculate the number of births which the employed married women at C. V. Jaya Abadi would have each year if no family planning services were used. Table 21A begins the process by displaying the estimated total number of protected couples.

TABLE 21
A: CALCULATION OF PROTECTED COUPLES, ADJUSTED FOR METHOD EFFECTIVENESS

METHOD	CURRENT USERS, BY AGE						
	15-19	20-24	25-29	30-34	35-39	40-44	USERS
TRADITIONAL	0	0	0	3	0	1	3
PILL	0	3	7	3	0	0	13
INJECTION	0	9	11	3	1	0	24
IUD	0	0	1	0	0	1	2
OTHER	0	0	0	0	0	0	0
1. TOTAL CURRENT USERS	0	12	19	9	1	1	42

METHOD	USE-EFFECTIVENESS OF METHOD	ADJUSTED COUPLE YEARS OF PROTECTION						TOTAL
		15-19	20-24	25-29	30-34	35-39	40-44	USERS
TRADITIONAL	1%	0.00	0.00	0.00	0.03	0.00	0.00	0.03
PILL	95%	0.00	2.85	6.65	2.85	0.00	0.00	12.35
INJECTION	95%	0.00	8.55	10.45	2.85	0.95	0.00	22.80
IUD	95%	0.00	0.00	0.95	0.00	0.00	0.95	1.90
VASECTOMY	99%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2. TOTAL ADJUSTED PROTECTED COUPLES		0.00	11.40	18.05	5.73	0.95	0.95	37.08

Source: Current Users by Method: Table 12
Effectiveness of Method: Bongaarts

Notes:

1. Current Users are presumed to have been using their method for one year.
2. Adjusted Couple Years of Protection is obtained by multiplying Current Users Protected By Method times Effectiveness of Method.

Table 21B then shows the calculations of the number of unprotected couples, the fertility of the unprotected couples, and the number of births which the protected couples would have if they exhibited the fertility of the unprotected couples instead.

TABLE 21
B: CALCULATION OF NUMBER OF UNPROTECTED COUPLES AND PREDICTED BIRTHS

	CURRENT USERS, BY AGE						
	15-19	20-24	25-29	30-34	35-39	40-44	TOTAL USERS
1. TOTAL WOMEN AT RISK	3	41	38	12	2	1	97
2. LESS ADJUSTED PROTECTED COUPLES	0.00	11.40	18.05	5.73	0.95	0.95	37.08
3. TOTAL UNPROTECTED COUPLES	3.00	29.60	19.95	6.27	1.05	0.05	59.92
EST. CURRENT BIRTHS (UNROUNDED)	0.72	14.44	8.67	2.67	0.00	0.00	26.50
4. AGE SPECIFIC FERTILITY, UNPROTECTED COUPLES	0.240	0.488	0.435	0.426	0.000	0.000	0.442
5. EXPECTED ADDITIONAL BIRTHS IN ABSENCE OF FAMILY PLANNING	0.0	5.56	7.84	2.44	0.00	0.00	15.85
EST. CURRENT BIRTHS (UNROUNDED)	0.72	14.44	8.67	2.67	0.00	0.00	26.50
6. PREDICTED BIRTHS IN ABSENCE OF FAMILY PLANNING	0.72	20.00	16.51	5.11	0.00	0.00	42.35
(Rounded values:)	1	20	17	5	0	0	42

Notes:

1. Total Women At Risk from Table 2 (married women only).
2. Protected couples are calculated in Table 21A.
3. The number of unprotected couples in each age group is obtained by subtracting the adjusted number of protected couples from the total of couples at risk.
4. The Age-Specific Fertility of the couples who are unprotected is obtained by dividing the number of births by the number of unprotected couples.
5. Multiplying the number of protected couples by the age-specific fertility of the unprotected couples produces the additional number of births which might be expected if the protected couples were not using family planning.
6. When added to the current births of this population, the predicted births have been estimated in the absence of this family planning program. The predicted births, in their rounded form, are entered into the HOST/TIPPS cost-benefit model for combined retrospective/prospective computation.

As displayed in Table 21B, almost 16 additional births each year, with all the associated expenses, would occur if C. V. Jaya Abadi employees stopped their current level of family planning.

It was estimated in Table 6 that each birth costs C. V. Jaya Abadi Rp. 182,000 (US $107). Multiplying this number by the 15.85 births shown as already being averted by current users, an estimated Rp. 2,884,700 (US $1,700) are already being saved by C. V. Jaya Abadi each year.

In order to obtain a truer estimate of the benefits which C. V. Jaya Abadi is obtaining from family planning, compared to the costs, the current cost savings (Rp. 2,884,700) are added to the benefits of projected increases in contraceptive prevalence. Total benefits, including the adjusted benefits, are presented in Table 22. Once the benefits already being received by C. V. Jaya Abadi are included in the calculation, it can be estimated that C. V. Jaya Abadi is receiving more than Rp. 20 in benefits for every Rp. 1 expended in costs.

TABLE 22
ADJUSTED ANNUAL COSTS AND BENEFITS
ASSUMING NO FAMILY PLANNING AT START

PERIOD	UNADJUSTED BENEFITS	ADJUSTED BENEFITS	COSTS	EXCESS OF BENEFITS OVER COSTS	BENEFIT-TO-COST RATIO
ADJUSTMENT		2,884,700			
YEAR 1	0	2,884,700	142,520	2,742,180	20.241
YEAR 2	245,563	3,130,263	163,344	2,966,919	19.164
YEAR 3	515,735	3,400,435	183,895	3,216,540	18.491
YEAR 4	837,004	3,721,704	178,282	3,543,422	20.875
YEAR 5	837,004	3,721,704	178,282	3,543,422	20.875

Source: Table 20 with adjustments

CONCLUSION AND RECOMMENDATION

This analysis illustrates the advantages available to C. V. Jaya Abadi, should it decide to participate in the family planning program being offered by Atma Jaya Hospital. At the subsidized rate, C. V. Jaya Abadi will experience a positive return on its investment even if only new reductions in fertility of its married female employees are taken into account. The benefit to cost ratio is even greater when consideration is given to the advantages which the company already obtains from current users. The fact that current service levels may be severely reduced if the factories do not pay for the services that Atma Jaya provides, makes the conclusion is even stronger.

Elements contributing to this conclusion are the young age of the married women employed at C. V. Jaya Abadi, their relatively high fertility, their expressed interest in a small family size, their exceptional knowledge of contraception, and their willingness to use contraception when afforded the opportunity.

Elements which must be considered, but which cannot be measured, include healthier mothers and children, decreased employee absenteeism, and increased productivity when employees are more satisfied with their family lives. Family planning contributes to healthier mothers and children when births are properly spaced. It has a positive impact on employee productivity, and reduces absenteeism due to childbirth, complications of childbirth, and illness of children. A small investment in family planning services will return large dividends to C. V. Jaya Abadi, both in terms which can be measured and in those which are less tangible but equally important.

Jakarta, September, 1988