

A Feasibility Stuady on estabishing a Sock Shop in Bangiok
by
Mr. Surachai Sathitakorn

## A Final Report of the Six-Credit Course CE 6998 - CE 6999 Project

> Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Science in Computer and Engineering Management Assumption University

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| Project Title | A Feasibility Study on Establishing a Sock Shop in Bangkok |
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#### Abstract

This project is conducted to meet the purpose of studying the possibility of establishing a sock shop in Siam Square area, Bangkok. Before establishing a sock shop, the investor has ensure that his shop can survive in the market with profits. In order for the investor to make sure that his shop can survive and give him the desired return, feasibility study must be conducted as it is a way to analyze data, information, situation and calculate the return prior real operating.

This project focuses on 2 main considerations - marketing research and financial analysis. A research was conducted with well-designed questionnaire, as a research tool with 400 sampling population, focused on persons who are in trend and have their own life styles. The result can measure the attitude of the target group towards sock products in Bangkok. All data from the questionnaires have been analyzed by frequency distribution and descriptive statistics by percentage. Furthermore, the SPSS version 11.0 for Windows was applied to analyze and produce the survey result in the form of tables, bar charts, and pie chart. Another main consideration is the analysis of marketing and finance (budget) which would help in decision making to invest or establish a sock shop in Siam Square area.

From the project result, it could be concluded that sock market in Bangkok has potential to boost especially sport socks since people in Bangkok have become more and more interested in sports. Besides, there is a great opportunity for sock market as the government is trying to make Bangkok to be a "fashion center" of the world. In terms of finance, the rate of return for this project is quite high. Overall the project is favorable and attractive for making investment


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## I. INTRODUCTION

### 1.1 The Significance of Feasibility Study for the Project

The feasibility of establishing a sock shop is the study of the feasibility in establishing a sock shop and to find out whether investment should be made. It includes location, marketing, financial analysis, etc.

Before making a decision to run a business, investors have to understand the business very well that they are going to run. Marketing analysis and financial analysis are significant input for decision making whether to implement the project or just leave it since they can help predict profit or loss that may rise from the business. Financial analysis is especially important as it can illustrate useful figures such as the payback period, the project's break-even point, its internal rate of return, and all of which provide better insights of the project in question.

The feasibility study is thus an important part of the project that helps in decisionmaking process. Despite the fact that feasibility study can provide the insights of the project, it alone is not a strong indicator of business success of the business even the result of the feasibility analysis turns to be a positive one.

### 1.2 Objectives

(1) Describe the concept of sock business
(2) Study the feasibility study for establishing a sock shop in Bangkok
(3) Analyze and study all the factors concerned in order to determine a marketing plan in establishing a sock shop

### 1.3 Scope of Study

Sock Market in Bangkok

### 1.4 Research Framework

In order to accomplish the objectives of the research study, the research framework has been developed to provide a guideline to analyze opinions of people in Bangkok towards sock products.

The framework of the research is:
(1) to analyze the opinions of people in Bangkok towards socks products and
(2) to conclude and give recommendations for entrepreneurs who would like to invest in sock business.

### 1.5 History of Socks

Hose or stockings of the Renaissance period were the refined descendents of leggings introduced to Northern and Central Europe by "Northern Barbarians". These leggings were generally constructed of animal skins and held up at the waist by a leather belt or girdle, (a belt with ends that extend long past the buckle or fastener at the waist). They were often cross tied down the legs with strips of leather, and were worn mainly for warmth and protection. By the 1300 s stockings were most commonly cut on the bias from fine woven fabrics such as silk, cotton, and wool, and sewn to fit as closely as possible to the leg. Also, hose were no longer held up by a belt but were tied through sets of holes in one's shirt, or jerkin with lacings which were attached at intervals to the waist of the hose.

Particoloured hose appeared in the 1400 s, enjoyed a revival during the reign of Henry VIII, and lingered into the beginning of the reign of Elizabeth I. Although this fashion gained its most eccentric heights in Germany, it was copied throughout Europe and remained popular till about the mid 1500 s.

Hose could be fashioned so that at least one leg was slashed from waist to toe, revealing dramatic contrasting fabric beneath. But later they became puffy at the top
and stuffed with horse hair, bran or other such materials to support the elaborate slashing of the costly and heavy fabrics used. These slashes evolved into panes and ribbons at the top, with particoloured and/or slashed stockings, from the knee down.

Red, from the very beginning, was the most popular colour for stockings or hose, but yellow, blue, black, green, violet, grey, and white were also worn with pride. Decorations of gold or silver gilt worked into the fabric all over, and as an edging at the top of the hose were also popular.

Although the technique of knitting garments was known from as early as the 4th or 5th century, and was used upon occasion to construct socks or stockings of sorts, most often for children, it was not widely used as a method of garment construction until the mid 1500s because of the difficulty of producing long, smooth, fine steel knitting needles.

The first mechanization of wireworks, by waterpower, was begun in 1566 in England. Within 30 years England and much of Europe were well supplied with lovely knitting needles, and the knitting of garments greatly increased thereafter. Elizabeth I was also responsible for a change in fashion from cut and sewn to knitted hose.

Silk knitted hose had been available to the upper class since the time of King Henry VIII and perhaps before, and fine knit hose, many with complex and beautiful patterns, became all the rage.

By this time, multi-coloured hose fell out of fashion, and, although hose could be of a bright or subtle shade, they were almost certainly of a solid colour, and persisted in this vein until Victorian times, when they were replaced with trousers.

In our efforts to recreate the flavor of Medieval and Renaissance Europe, we most often choose that more comfortable descendant of ancient hosiery, modern, stretchy tights. Although our zeal to be as authentic as possible may tempt us to construct hose
from bias cut woven cotton, silk or wool, the discomfort involved in wearing close fitting garb-without-give should be kept in mind. Rashes and irritations from rough fabrics were a problem for renaissance folk who could not afford knitted silk. Our limbs, left tender and soft by the comfort of relatively loose fitting trousers and stretchy fabrics, would most certainly chafe in such attire, even more so then our ancestors, whose skin must have grown accustomed to such rough treatment from daily donning of wool or cotton hose. And the expense and difficulty of obtaining hand knitted silk hose as a more comfortable, yet correct attire is, nowadays, prohibitive.

This brings us back to our modern-day tights. Good, flat finished, (non-shiney), opaque tights can, under the above mentioned circumstances, be quite excellent standins for the tight fitting, leg flattering, fine textured silk knit or woven hose.

## II. LITERATURE REVIEW

### 2.1 Marketing Research Is

The formal definition of "Marketing Research", specified by the American Marketing Association is that it is the function which links the consumer, customer, and public to the marketer through information-information used to identify and define marketing opportunities and problems; generate, refine, and evaluate marketing action, monitor marketing performance, and improve understanding of marketing as a process. Marketing Research specifies the information required to address these issues, designs the method for collecting information, manages and implements the data collection process, analyzes the results, and communicates the findings and their implications.

The study of marketing research methodology provides you with the knowledge and skills you need to solve the problems and meet the challenges of a fast-paced decision making environment.

The trend toward complexity has increased the risk associated with business decisions, making it more important to have a sound information base. Each of the factors listed below, which characterize the complex business decision-making environment, demands that management must have more and better information for decision making:
(1) More variables to be considered for making any decision.
(2) More knowledge in every field of management.
(3) High competition in global and domestic businesses.

### 2.2 Methods of Research

There are three basic research methods: survey, observation, and experiment
(1) Survey: Survey research involves an interviewer (except in mail surveys)
interacting with respondents to obtain facts, opinions, and attitudes. A questionnaire is used to provide an orderly and structured approach to data gathering. Face-to-face interviews may take place within the respondent's home, in a shopping mall, or in a place of business.
(2) Observation: The fastest growing form of observation research involves the use of cash registers with scanners, which read tags with bar codes to identify the item being purchased. However, the future of observation research is somewhat mind-boggling.
(3) Experiments: Experiments are the third method researchers used to gather data. An experiment is distinguished by the researcher's changing one or more variables such as price, package, design, shelf space, advertising theme, or advertising expenditures, while observing the effects of those changes on another variable (usually sales). The objective of experiments is to measure causality. The best experiments are those in which all factors are held constant except the ones being manipulated. Holding all other factors constant in the external environment is a monumental and costly, if not impossible, task. Factors such as competitors' actions in various markets, weather, and economic conditions are beyond the control of the researcher.

### 2.3 Selecting Sampling Procedure

The sample is actually part of the research design but is a separate step in the research process. A sample is a subset from a larger population. Several questions must be answered before a sampling plan is selected. First, the population or universe of interest must be defined. This is the group from which the sample will be drawn. It should include all the people whose opinions, behaviors, preferences, attitudes, and so on, aid the marketer's decision making.

After the population has been defined, the next question is whether to use a probability sample or a non-probability sample.
(1) Probability Sample is characterized by every element in the population having a known non-zero probability of being selected. Șuch sample allows the researcher to estimate how sampling error is present in a given study.
(2) Non-probability samples are any sample, which does not meet the requirements of a probability sample. Specifically, any sample in which little or no attempt is made to ensure that a representative cross-section of the population is obtained can be considered a non-probability sample. The researchers cannot statistically calculate the reliability of the sample; that is, they cannot determine the degrees of sampling error that can be expected.

### 2.4 Data Collection Methods

The research designer has a wide variety of data collection methods to consider, either single or in combination. Such methods can be grouped first according to whether they use secondary or primary sources of data.
(1) Secondary Data

Secondary data are data that were collected by persons or agencies for purposes other than solving the present problem at hand including
(a) The existing company information system.
(b) Databanks of other organizations, including government sources such as the Census Bureau or trade association studies and reports.
(c) Syndicated data sources, such as consumer purchase panels, where one organization collects reasonably standardized data for use by client companies.
(2) Primary Data

Primary data are collected especially to address a specific research objective. A variety of methods, ranging from qualitative research to surveys or experiments, may be employed.
(a) Qualitative research

The purpose of qualitative research is to find out what is in consumer's mind. It is done in order to get access through and a rough idea about the person's perspective. It helps the researcher to become oriented to the range and complexity of consumer activity and concerns. Qualitative data are collected to know more about things that cannot be directly observed and measured. Feelings, thoughts, intentions, and behavior that took place in the past are a few examples of those things that can be obtained only through qualitative data collection methods. It is also used to identify likely methodological problems in the study, and to clarify certain issues that were not clear in the problem. Sometimes it may not be possible or desirable to obtain information from respondents by using fully structured or formal methods. Qualitative data collection methods are used in such situations. Collectively, these methods are less structured and more intensive than standardized questionnaire-based interviews. There is a longer, more flexible relationship with the respondent, so the resulting data has more depth and greater richness of context - which also means a greater potential for new insights and perspectives. The numbers of respondents are small and only partially representative of any target population, making them prelude to, but not substitute for, carefully structured, large-scale field studies.

Limitations of Qualitative Methods: Qualitative research does not distinguish small difference as well as large-scale quantitative research. Qualitative research sometimes is superior, however, in detecting minor problems that may escape notice in a quantitative study. Most of the limitations of these qualitative methods stem from the susceptibility of the results of misuse, rather than their inherent shortcomings. There is a great temptation among many managers to accept small-sample exploratory results as sufficient for their purposes, because they are so compelling in reality.
(b) Observation Research

Observation research can be defined as the systematic process of recording the behavioral patterns of people, objects, and occurrences without questioning or communicating with them. A marketing researcher uses the observation technique witnesses and records information as events occur or compile evidence from records of past events. These techniques are limited to providing information on current behavior. Observation may be the least expensive and most accurate method of collecting purely behavioral data such as in-store traffic patterns or traffic passing a certain point on a highway system.

Limitation of Observation Methods: The primary disadvantage of observation research is that only behavior and physical personal characteristics can usually be examined. The researcher does not learn about motives, attitudes, intentions, or feelings. Also, only public behavior is observed; private behavior, such as dressing for work, family activities at home, is beyond the
scope of the researcher. A second problem is that present observed behavior may not be projectable in the future. They are often more costly and time consuming, and may yield biased results if there are sampling problems or if significant observer subjectivity is involved.
(c) Survey Research

Survey research is the use of a questionnaire to gather facts, opinions, and attitudes. It is the most popular way to gather primary data. There are various types:
(1) Personal Interviewing

Persona! Interviewing can be classified into cifferent methods of conducting, based on the respondents to be contacted and on the means of contacting them.
(2) Door-to-Door Interviewing

Door-to-Door Interviewing is a personal, face-to-face interview with all the attendant advantageous-feedback from the respondent, the ability to explain complicated tasks, the ability to use special questionnaire techniques that require visual contact to speed up the interview or improve data quality, and so on.
(3) Mall Intercept

Mall Intercept is a popular survey method when funds are limited and the respondent must see, feel, or taste something. This survey approach is relatively simple. Shoppers are intercepted either in public areas of shopping malls or interviewed on the Mall.

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Mall surveys are less expensive than door-to-door interviews because respondents are coming to the interviewer rather than the other way around. However, a number of serious disadvantages are associated with this method. First, it is virtually impossible to get a sample representative of a large metropolitan area from shoppers at a particular mall. Second, the mall environment is not the comfortable home environment associated with the door interview.
(4) Executive Interviewing

Executive Interviewing is very expensive. This type of survey involves interviewing business people at their offices concerning industrial products or services.
(5) Telephone Interviewing

Telephone Interviewing has gradually become the dominant method for obtaining information from large samples as no-response problems of personal interviews have become more acute. The advantages of the telephone interviewing are more interviews can be conducted in a given time period, because no time is lost in traveling and locating respondents. And also, the repeated callbacks at different times of the day can be made at very low cost. However, there is limitation in this method. The most obvious problem is the inability to employ visual aids or complex tasks. A further limitation of telephone interviewing is the potential for sample bias, which is a

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consequence of some people being without phones, having unlisted phones, and so on.
(6) Mail Surveys

In this survey mode, traditionally, questionnaires are mailed to potential customers, who complete and return them by mail. Mail surveys appear to be convenient, efficient, and inexpensive. There is consistent evidence that mail surveys yield more accurate results among those completing the survey. Because mailed questionnaire is answered at the respondent's discretion, the replies are likely to be more thoughtful and others can be consulted for necessary information. As a general rule, the length of the interview and consequently the quantity of information is more limited in the case of the mail survey than survey methods involving interviewers.

## (d) Experiment

Experiment is straightforward. The researcher changes or manipulates one thing, called an explanatory, independent, or experimental variable, to observe what effect this change has on something else, referred to as dependent variable. Experiments can be conducted in a laboratory or in a field setting. Experiments have an obvious advantage. It is the only type of research that can demonstrate the existence and nature of causal relationships between variables of interest.

### 2.5 Sampling Fundamentals

Marketing research often involves the estimation of a characteristic of some population of interest. In the area of sampling, the terms population can be defined as the set of all objects that possess some common sets of characteristics with respect to a marketing research problem. Defining the population of interest is a key step in the sampling process. There are no specific rules to follow in defining the population of interest. It requires the researcher to apply good logic and judgment.
(1) Sample or Census

The term Census is used to refer to those situations where data are obtained from or about every member of the population of interest. A census is appropriate if the population size itself is quite small. A census also is conducted if information is needed from every individual or object in the population. Furthermore, if the cost of making an incorrect decision is high or if sampling errors are ligh, then a census may be more appropriate than a sample. In most marketing research situations, the population includes many thousands, hundreds of thousands, or millions of individuals. The cost and time required to take a census of population of this magnitude are so great as to preclude the possibility of their use. Therefore, Censuses are not often employed in marketing research.

Samples are quite accurately reflecting the characteristics of the population from which it is drawn. Ideally, the subset of the population from which information is obtained should be a representative cross section of the total population. Sampling may be useful if the population size is large and if both the cost and time associated with obtaining information from the population is high. Furthermore, the opportunity to make a quick decision
may be lost if a large population must be surveyed. Also, with sampling, in a given time period, more time can be spent on each interview (personal), thereby increasing the response quality. Additionally, it is easy to manage surveys of smaller samples and exercise quality control in the interview process. If the population being dealt with is homogeneous, then sampling is the only alternative.
(2) Sampling Frame

It is important to distinguish between the population and the sampling frame. The sampling frame usually is a list of population members used to obtain a sample. Actually, the description of a sampling frame does not have to enumerate all population members. It may be sufficient to specify the procedure by which each sampling unit can be located.

### 2.6 Probability Sampling Methods

In probability sampling, all population members have a known probability of being in the sample. Various methods can be used to select a probability sample:
(1) Simple Random Sampling is considered to be the purest form of probability sample. A probability sample is a sample in which every element of the population has known and equal probability of being selected into the sample. For a simple random sample, known and equal probability is computed as follows:

Probability of selection $=\frac{\text { Sample Size }}{\text { Population size }}$

Simple random sampling is appealing because it seems simple and meets all necessary requirements of a probability sample. It guarantees that
every member of the population has a known and equal chance of being selected for the sample. Simple random samples begin with a complete listing of the population. Complete current listings are extremely difficult and often impossible to obtain. It can be employed quite successfully in telephone surveys through the use of random digit dialing. Finally, simple random sampling can be used to select respondents from computer files. Computer programs are available or can be readily written to select random samples from computer files as customer lists.
(2) Stratified Samplings are probability samples that are distinguished by the following procedural steps:

First, the original or parent population is divided into two or more mutually exclusive and exhaustive subsets. Second, simple random samples of elements from the two or more subsets are chosen independently from each other. Stratified samples are used rather than simple random samples because of their potential for greater statistical efficiency. This means that if we have two samples from the same population, one a properly stratified sample and the other a simple random sample, the stratified sample will have a smaller sampling error. If, on the other hand, the goal is to attain a certain target level of sampling error, it can be achieved with a smaller stratified sample. Stratified samples are statistically more efficient because one source of variation has been eliminated. Stratified samples are not used as often as one might expect in marketing research. The problem is that the researcher frequently does not have, in advance, the information necessary to properly stratify the sample. Stratification cannot be based on guesses or hunches, but must be based on hard data regarding the characteristics of the
population and the relationship between these characteristics and the behavior under investigation. Stratified samples are frequently used in political polling and media audience research.
(3) Cluster Samples: The sampling units are selected in groups. There are two basic steps in cluster sampling:

First, the population of interest is divided into mutually exclusive and exhaustive subsets. Second, a random sample of the subsets is selected. If the researcher samples all of the elements in the subsets selected, the procedure is a one-stage cluster sample. However, if a sample of elements is selected in some probable manners from the selected subsets, then the procedure is a two-stage cluster sample. In the case of cluster sampling, the researcher selects a sample of subgroups and he either collects data from all the elements in the subgroup or from a sample of the elements. Under cluster sampling it is assumed that the elements in a cluster are just as heterogeneous as the total population. If the characteristics of the elements of a cluster are very similar, then that assumption is violated and the researcher has a problem. The sampling efficiency is improved by decreasing cost at a faster rate than accuracy. Even though cluster sampling is very cost effective, it has its limitations. Cluster sampling results in relatively imprecise samples, and it is difficult to form heterogeneous clusters. Cluster sampling is useful when subgroups that are representative of the whole population can be identified.
(4) Systematic Sampling is often used as a substitute for simple random sampling. Its popularity is based on its simplicity. Systematic sampling produces samples that are almost identical to those generated via simple
random sampling. To use this approach, it is necessary to obtain a listing of the population. The researcher must determine a skip interval and select names based on this skip interval. This interval can be computed very simply through the use of the following formula:

$$
\text { Skip interval }=\frac{\text { Population Size }}{\text { Sample Size }}
$$

For example, if you use local telephone directory and compute a skip interval of 100 , every hundredth name would be selected for the sample. The use of this formula ensures that the entire list will be covered.

The main advantage of systematic sampling over simple random sampling is economy. It is often simpler, less time consuming, and less expensive to use systematic sampling than simple random sampling. The greatest danger in the use of systematic sampling lies in the listing of the population. Some populations may contain hidden patterns that the researcher may inadvertently pull onto the sample. However, this danger is remote when alphabetical listings are used.

### 2.7 Marketing Mix

The company's marketer must then move into the tactical marketing stage, to set the tools of the marketing mix (MM) that will support and deliver the product's positioning. The tools are known as four Ps:
(1) Product: the market offering itself, specifically a tangible product, packaging, and a set of services that the buyer would acquire through the purchase.
(2) Price: the price of the product along with other charges that are made for
delivery, warranty, and so on.
(3) Place of distribution: the arrangement to make the product readily available and accessible to the target market.
(4) Promotion: the communication activities, such as advertising, sales promotion, direct mail, and publicity to inform, persuade, or remind the target market about the product's availability and benefits.

### 2.8 Financial Study

Financial study involves the study of the economy and the competitors in order to make the assumption of the estimated cost, how to raise funds and how money is generated. Projected balance sheet, income statement and cash flow statement must be made based on the assumptions to be set.
(1) The income Statement

It shows the profit or loss from a firm's operation over a period of time.
(2) The Balance Sheet

While the income statement reports the results from operating the business for a period of time, such as a year, the balance sheet provides a snapshot of the firm's financial position at a specific point in time.

Thus a balance sheet captures the cumulative effect of prior decisions down to a single point in time. The basic ingredients of a balance sheet are assets, liabilities and equity.
(3) The Cash Flow Statement

It shows changes in a firm's cash position over a given period of time. The cash flows generated are divided into three main areas:
(a) Cash flows from operations
(b) Investments made by the firm and
(c) Financial transactions such as issuing stock, or borrowing or repaying debt.

The data needed to construct a cash flow statement comes from two sources:
(1) The balance sheets for the firm and
(2) The income statement.

## Payback Period - A Non-discounted Cash Flow Criterion

Payback period measures how long it will take to recover the initial cash outlay of the investment. The merits of any project are judged on whether it recovers the initial investment outlay in lesser time than some maximum acceptable payback period.

## Discounted Cash Flow Techniques

It takes into consideration the fact that cash today is more valuable than cash received one year from now. The discounted cash flow techniques compare the present value of the future cash flows with the initial investment outlay. The analysis may take the form of (a) The net present value method and (b) The internal rate of return method.
(a) The Net Present Value

To measure a project's net present value, we estimate today's value of the dollars flowing in from the project in the future and deduct the amount of the investment being made. That is, we discount the future after-tax cash flows back to their present value and then subtract the initial investment outlay. The computation may be represented as follows:

Net present value (NPV) = Present value of future after-tax cash flows - Initial investment outlay

If the net present value of the investment is positive (that is, if the present value of future cash flows exceeds the initial outlay), we would accept the project. Otherwise, we would reject the investment.
(b) Internal Rate of Return

It provides the answer by measuring the rate of return we expect to earn from the project. To calculate the internal rate of return, we must find the discount rate that gives us a zero net present value. To find the discount rate or IRR is as follows:

## Present value of future after-tax cash flows - Initial investment outlay $=0$

Or

## Present value of future after-tax cash flows = Initial investment outlay

To compute the internal rate of return, we have a bit of a problem. We cannot solve the problem directly. We must try different rates until we discover the rate that gives us a zero net present value, or we can use a financial calculator and let it derive the answer for us.

The decision criterion, when the IRR is used in making accept-reject decisions, is as follows: If the IRR is greater than the cost of capital, accept the project; if the IRR is less than the cost of capital, reject the project. This criterion guarantees that the firm earns at least its required return. Such an outcome should enhance the market value of the firm and therefore the wealth of its owners.

## Breakeven Analysis

For breakeven analysis, the number of units produced or percentage utilization of plant capacity is computed by using relations for revenue and cost estimates for each alternative.

It is often necessary to determine the quantity of a variable at which revenues and costs are equal in order to estimate the amount of profit or loss. This quantity, called the breakeven point, QBE , is determined by using relations for revenue and cost estimation as a function of different quantities "Q" of a particular variable. The size of Q may be expressed in units per year, percentage of capacity, hours per month, and many other dimensions. We commonly use units per year for illustration

Both revenue and cost may be linear or non-linear and costs are usually comprised of two components -- fixed and variable.

Fixed costs (FC) include costs such as buildings, insurance, fixed overhead or indirect costs, some minimum level of labor, and capital recovery.

Variable costs (VC) include costs such as direct labor, materials, indirect and support labor, contractors, marketing, advertisement, and warranty.

The fixed cost component is usually constant for all values of the variable, so it does not vary with different production levels or workforce sizes. Even if no units are produced, fixed costs are incurred, because the plant must be maintained and some employees paid. Of course, this situation could not last for long before the plant would have to shut down to reduce fixed costs. Fixed costs are reduced through improved equipment, information system and workforce utilization, less costly fringe-benefit packages, subcontracting some functions, and so on.

Variable costs change with production level, workforce size, and other variables. It is usually possible to decrease variable costs through better product design,
manufacturing efficiency, and sales volume.
When FC and VC are added, they form the total-cost relation.
At some quantity of the variable the revenue and total-cost relations will intersect to identify the breakeven point, QBE . If $\mathrm{Q}>\mathrm{QBE}$, there is a predictable profit, but if Q $<\mathrm{QBE}$, there is loss, provided the relations continue to estimate correctly as Q changes in value. If the variable cost per unit is reduced, the TC line will also be lowered and the breakeven point will decrease in amount; that is, it will take less to breakeven. This is an advantage because the smaller the value of QBE, the greater the profit for a given amount of revenue. For linear models of R and VC , the greater the actual quantity sold, the larger the profit.

If nonlinear R or TC models are used, there may be more than one breakeven point. In fact, no static R and TC relations - linear or nonlinear - are able to estimate exactly the revenue and cost amounts for a product or service over an extended period of time. But it is possible to estimate breakeven points, which may be excellent target points for planning purposes.

To find breakeven point is as follows:

$$
\begin{aligned}
& T C=\mathrm{FC}+\mathrm{VC} \text { or } \mathrm{RQ}=\mathrm{FC}+\mathrm{VQ} \\
& \mathrm{So} ; \mathrm{QBE}=\mathrm{FC} /(\mathrm{R}-\mathrm{V})
\end{aligned}
$$

Where as; $\quad$| TC | $=$ | Total cost |
| :--- | :--- | :--- |
| FC | $=$ | Total Fixed cost |
| VC | $=$ | Total Variable cost |
| QBE | $=$ | Break even point |
| R | $=$ | Revenue price |
| V | $=$ | Variable cost |

## III. RESEARCH METHODOLOGY

This research is conducted to meet the purpose of studying the possibility of establishing a sock shop in Bangkok. Therefore, it is focused on consumer behavior of sock consuming in Bangkok areas.

The scope of this research includes:
(1) Research Design
(2) Questionnaire Design
(3) Data Collection
(4) Sample Size
(5) Data Analysis

### 3.1 Research Design

The definition of the research design is a plan to be followed to answer the objectives of research hypothesis. In essence, the researcher develops a structure to solve a specific problem.

For this study, the researcher selected the survey method for collecting the data because it allowed the researcher to collect the data for directly describing a large population. Therefore, the 400 sets of questionnaires were distributed to respondents in Bangkok areas from September 29 to October 12, 2003. The questionnaire was divided into 4 main sections. The first section consists of 2 close-ended questions, which were designed to evaluate the consuming of sock to analyze the market situation in Thailand. The second section consists of 17 close-ended questions, which were designed to collect the consumer behavior in consuming sock. The third section was designed to obtain the opinions of non-using sock to find out the alternative ways to increase sales, with 3
close-ended questions. Finally, the fourth section was designed to collect the respondent's personal information by using 7 closed-ended questions.

### 3.2 Questionnaire Design

According to the surveys, research relies on using questionnaire. Therefore, the questionnaires play the important role to collect the data. The collected data is valuable to analyze the market situation, to make the marketing plan and also able to identify the problems that lead to the solutions to the problems too. Therefore, to design a good questionnaire is a critical step in making marketing plan.

Questionnaire Design consists of:
(1) The Questionnaire Development Process

Designing a questionnaire involves a logical series of steps, which are as follows:
Step 1: Determine Surveys objective, Resources, and Constraints.
Step 2: Determine the Data Collection Method.
Step 3: Determine the Question Response Format.
Step 4: Decide the Question Wording.
Step 5: Establish Questionnaire Flow and Layout.
Step 6: Evaluate the Questionnaire.
Step 7: Obtain approval from all Relevant Parties.
Step 8: Pretest and Revise
Step 9: Prepare Final Questionnaire Copy.
Step 10: Implementing the Survey.
(2) Questionnaire Construction

To achieve the objectives of the study, the questionnaire was designed to be easy to understand, short and easy to answer. Therefore, the researcher tried to design the close-ended question as much as possible to
collect right data quickly form the respondents. Therefore, all the questions in the questionnaire close-ended questions which are easy to answer by simply circling or ranking the level of importance with numbers, 12345 , which means Very important, Important, Neutral, Unimportant and Absolutely unimportant, respectively.

### 3.3 Data Collection

The survey method is used in the research. The 400 sets of questionnaire were distributed to the respondents, mainly to teenagers and working people in Bangkok areas who are our target market. To prevent the occurrence of error or incomplete data, the researcher immediately checked the questionnaires after the respondent returned them. When any error or incomplete data occurs, the researcher would ask the respondents to fill or correct it immediately.

### 3.4 Sampling Size

In this research, the non-probability sampling design is used. Due to the infinite populations, the techniques for determining sample size of statistical inference are based on the relationships of the estimated proportion of the consumers, the maximum allowance for error between the proportion and sample proportion, and confidence level which indicates the long-run probability that the confidence interval estimate will be correct. So, the samples of this survey are randomly selected from teenagers and working people in Bangkok areas. In addition, the exact population proportion is unknown in this research, so a common procedure is to assume the worst case or pessimistic assumption (where the population variance is at its maximum) regarding the value of P .

The formula is:

$$
\mathrm{n}=\frac{\mathrm{Z}^{2}[\mathrm{P}(1-\mathrm{P})]}{\mathrm{E}^{2}}
$$

Where,
$\mathrm{n}=$ Sampling size
$\mathrm{P}=$ Population proportion that has required characteristics
$Z=$ Acceptable level of confidence in standard error
$\mathrm{E}=$ Allowed level of sampling error
The level of confidence was specified at $95 \%$, so the maximum allowance for error between the true and sample proportion is $5 \%$ or 0.05 . The Z score, in accordance with the specific confidence level is 1.96 . The formular is shown below.

$$
\begin{aligned}
n & =\frac{(1.96)^{2}(0.5)(0.5)}{(0.05)^{2}} \\
& =384.16 \approx 400
\end{aligned}
$$

Therefore, the sample size for this research is 400 units

### 3.5 Data Analysis

In this research, we use the statistical analysis to analyze and deliver the survey result by gathering data from the questionnaires, which is SPSS (the Statistical Package for Social Sciences) version 11.0 for windows. The frequency distribution and percentage distribution is also used to summarize the finding of the analysis. The result from the analysis is in the form of tables, pie charts and bar charts and Appendix part.

## IV. DATA ANALYSIS

This chapter presents the research result on Bangkok people's opinion toward the sock products.

### 4.1 Sample Design

The sample size of this research was 400 respondents, calculated by using the formula for random sampling. The emphasis of the information of this research was male teenager respondents in Bangkok area. All questionnaires were answered during the personal research from September to October 2003. To get complete data of 400 questionnaires, the researcher would ask the respondent to answer it again correctly, if any error or incomplete data occurred.

### 4.2 The Analysis of Sock Market Situation

(1) Total Number of Respondents Classified by "Wear Sock".

Table 4.1. Table of Respondents Classified by "Wear Sock".
Wear Sock

|  |  |  |  |  | Cumulative |
| :--- | :--- | ---: | ---: | ---: | ---: |
|  |  | Frequency | Percent | Valid Percent | Percent |
| Valid | yes | 347 | 86.8 | 86.8 | 86.8 |
|  | no | 53 | 13.3 | 13.3 | 100.0 |
|  | Total | 400 | 100.0 | 100.0 |  |

The research shows that the majority of respondents had worn socks, representing $86.8 \%$ of the total response. $13.3 \%$ of the respondents had never worn socks.


Figure 4.1. Respondents Classified by "Wear Sock".
(2) Total Number of Respondents Classified by "Official Use".

Table 4.2. Table of Respondents Classified by "Official Use".
Official Use

|  |  |  |  |  |  |
| :--- | :--- | ---: | ---: | ---: | ---: |
| Valid | yes | 241 | 60.3 | 69.5 | Cumulative <br> Percent |
|  | no | 106 | 26.5 | 30.5 | 100.0 |
|  | Total | 347 | 86.8 | 100.0 |  |
| Missing | 9.00 | 53 | 13.3 |  |  |
| Total |  | 400 | 100.0 |  |  |

According to the research, almost $70 \%$ of the respondents wear socks. Fashion, new trends, new shoe designs, and many activities make people wear more socks.


Figure 4.2. Respondents Classified by "Official Use".
(3) Total Number of Respondents Classified by "Sport Use".

Table 4.3. Table of Respondents Classified by "Sport Use".
Sport Use

|  |  | Frequency | Percent | Valid Percent | Cumulative Percent |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Valid | yes | 261 | 65.3 | 75.2 | 75.2 |
|  | no | 86 | 21.5 | 24.8 | 100.0 |
|  | Total | 347 | 86.8 | 100.0 |  |
| Missing | 9.00 | 53 | 13.3 |  |  |
| Total |  | 400 | 100.0 |  |  |

It is seen that $75.2 \%$ of the respondents use the sport socks. It shows that people consider sport and health as an important thing in their lives. People are more encouraged to play sport or even exercise for better health, and have longer lives. It is not surprising that almost $80 \%$ of people using socks to play sport. It is an important and deciding factor.


Figure 4.3. Respondents Classified by "Sport Use".
(4) Total Number of Respondents Classified by "Fashion Use".

Table 4.4. Table of Respondents Classified by "Fashion Use".
Fashion Use

|  |  |  |  |  | Cumulative <br> Percent |
| :--- | :--- | ---: | ---: | ---: | ---: |
| Valid | yes | 201 | 50.3 | 57.9 | 57.9 |
|  | no | 146 | 36.5 | 42.1 | 100.0 |
|  | Total | 347 | 86.8 | 100.0 |  |
| Missing | 9.00 | 53 | 13.3 |  |  |
| Total |  | 400 | 100.0 |  |  |

In this research, we found that about $60 \%$ of people consider buying socks to match with the dress and for occasions. Now fashion is important and changing quickly in the modern world, especially with the young generation. Because of quick fashion changes, people wear socks as fashion. It is a major factor that influenced the respondents' decision. $42 \%$ of the respondents do not wear socks for fashion, we can
imply that there is a room to generate the trend socks in the market. So there is a potential in the market to generate a trend in the future.


Figure 4.4. Respondents Classified by "Fashion Use".
(5) Total Number of Respondents Classified by "Get Warm".

Table 4.5. Table of Respondents Classified by "Get Warm".

## Get Warm

|  |  |  |  |  |  |
| :--- | :--- | ---: | ---: | ---: | ---: |
|  | Frequency | Percent | Valid Percent | Cumulative <br> Percent |  |
| Valid | yes | 107 | 26.8 | 30.8 | 30.8 |
|  | no | 240 | 60.0 | 69.2 | 100.0 |
|  | Total | 347 | 86.8 | 100.0 |  |
| Missing | 9.00 | 53 | 13.3 |  |  |
| Total |  | 400 | 100.0 |  |  |

According to the research, only $30 \%$ of the respondents wear socks to keep them warm. As Thailand is a hot country, not many people wear socks to keep them warm. They wore socks only when they slept in air conditioned rooms. $70 \%$ of respondents do not wear socks for warmth.


Figure 4.5. Respondents Classified by "Get Warm".
(6) Total Number of Respondents Classified by "Odour Protection".

Table 4.6. Table of Respondents Classified by "Odour Protection".
Odour Protection

|  |  | Frequency | Percent | Valid Percent | Cumulative <br> Percent |
| :--- | :--- | ---: | ---: | ---: | ---: |
| Valid | yes | 68 | 17.0 | 19.6 | 19.6 |
|  | no | 279 | 69.8 | 196980.4 | 100.0 |
|  | Total | 347 | 86.8 | 100.0 |  |
| Missing | 9.00 | 53 | 13.3 |  |  |
| Total |  | 400 | 100.0 |  |  |

From the table, it is seen that only $19.6 \%$ wear socks for odour protection and $84 \%$ of the respondents do not wear socks for odour protection for their feet.


Figure 4.6. Respondents Classified by "Odour Protection".

### 4.3 The Analysis of the Behavior in Consuming Socks

(7) Total Number of Respondents Classified by "Frequency/Week".

Table 4.7. Table of Respondents Classified by "Frequency/Week".
Frequency / Week

|  |  |  |  |  |  |
| :--- | :--- | ---: | ---: | ---: | ---: |
|  | Frequency | Percent | Valid Percent | Cumulative <br> Percent |  |
| Valid | less than 4 | 32 | 8.0 | 9.2 | 9.2 |
|  | 4 | 31 | 7.8 | 8.9 | 18.2 |
|  | 5 | 66 | 16.5 | 19.0 | 37.2 |
|  | 75 | 18.8 | 21.6 | 58.8 |  |
|  | 9 | 94 | 24.8 | 28.5 | 87.3 |
|  | 74 | 11.0 | 12.7 | 100.0 |  |
|  | more than 7 | 347 | 86.8 | 100.0 |  |
|  | Total | 53 | 13.3 |  |  |
| Missing | 9.00 | 400 | 100.0 |  |  |
| Total |  |  |  |  |  |

According to the frequency of using socks by Bangkokians, we found out that most of the people wear socks everyday, 7 pairs of socks a week. The second largest group and the third largest group wear 6 and 5 pairs a week respectively. About 12.7\%,
of the people use more than 7 pairs a week for sports and other occasions. Not over $20 \%$ of the people use less than 4 pairs of socks per week.

frequency /week

Figure 4.7. Respondents Classified by "Frequency/Week".
(8) Total Number of Respondents Classified by "The Duration of the Use of Socks".

Table 4.8. Table of Respondents Classified by "The Duration of the Use of Socks".
Duration of The Use of Socks

|  |  |  |  | Cumulative <br> Percent |
| :--- | ---: | ---: | ---: | ---: |
| Valid | less than 1 month | 5 | 1.3 | 1.4 |
|  | Frequency | Percent | Valid Percent | 1.4 |
|  | month | 20 | 5.0 | 5.8 |

In the frequency of changing socks research, we can clearly see that $70 \%$ will change socks after using them for more than 3 months, 3 months, 2 months, 1 month, or for less than 1 month respectively. People do not intend to change socks frequently, but use them as long as they last.


Figure 4.8. Respondents Classified by "The Duration of the Use of Socks".
(9) Total Number of Respondents Classified by "Sock Patterns".

Table 4.9. Table of Respondents Classified by "Sock Patterns".
Sock Patterns

|  |  |  |  |  | Cumulative <br> Percent |
| :--- | :--- | ---: | ---: | ---: | ---: |
| Valid | solid | 192 | 48.0 | 55.3 | 55.3 |
|  | stripe | 99 | 24.8 | 28.5 | 83.9 |
|  | colorful | 41 | 10.3 | 11.8 | 95.7 |
|  | logo | 15 | 3.8 | 4.3 | 100.0 |
|  | Total | 347 | 86.8 | 100.0 |  |
| Missing | 9.00 | 53 | 13.3 |  |  |
| Total |  | 400 | 100.0 |  |  |

This table shows that more than half, that is $55.3 \%$ of the respondents prefer solid design, followed by stripe design with $28.5 \%$, colourful design $11.8 \%$ and with logo 4.8\%.

sock pattern

Figure 4.9. Respondents Classified by "Sock Patterns".
(10) Total Number of Respondents Classified by "Buying Decision".

Table 4.10. Table of Respondents Classified by "Buying Decision".
Buying Decision

|  |  | Frequency | Percent | Valid Percent | Cumulative <br> Percent |
| :--- | :--- | ---: | ---: | ---: | ---: |
| Valid | yes | 339 | 84.8 | 97.7 | 97.7 |
|  | no | 8 | 2.0 | 2.3 | 100.0 |
|  | Total | 347 | 86.8 | 100.0 |  |
| Missing | 9.00 | 53 | 13.3 |  |  |
| Total |  | 400 | 100.0 |  |  |

Mostly people buy socks themselves. According to the research, it is found that $97.7 \%$ buy themselves while $2.3 \%$ do not.


Figure 4.10. Respondents Classified by "Buying Decision".
(11) Total Number of Respondents Classified by "Price Factor".

Table 4.11. Table of Respondents Classified by "Price Factor".
Price Factor

|  |  |  |  |  | Cumulative <br> Percent |
| :--- | :--- | ---: | ---: | ---: | ---: |
| Valid | very important | 14 | 3.5 | 4.1 | 4.1 |
|  | important | 89 | 22.3 | 26.3 | 30.4 |
|  | neutral | 153 | 38.3 | 45.1 | 75.5 |
|  | unimportant | 65 | 16.3 | 19.2 | 94.7 |
|  | very unimportant | 18 | 4.5 | 5.3 | 100.0 |
|  | Total | 339 | 84.8 | 100.0 |  |
| Missing | 9.00 | 61 | 15.3 |  |  |
| Total |  | 400 | 100.0 |  |  |

Price factor affects buying decisions. According to the research, we can say that $45 \%$ of the respondents are not price conscious, $26.0 \%$ are concerned about the price, $19.2 \%$ not concerned and $5.9 \%$ not concerned at all.


Figure 4.11. Respondents Classified by "Price Factor".
(12) Total Number of Respondents Classified by "Packaging Factor".

Table 4.12. Table of Respondents Classified by "Packaging Factor".
Packaging Factor

|  |  |  |  |  | Cumulative <br> Percent |
| :--- | :--- | ---: | ---: | ---: | ---: |
| Valid | very important | 37 | 9.3 | 10.9 | 10.9 |
|  | neutral | 20 | 5.0 | 5.9 | 16.8 |
|  | unimportant | 97 | 24.3 | 28.6 | 45.4 |
|  | very unimportant | 174 | 43.5 | 51.3 | 96.8 |
|  | 6.00 | 11 | 2.8 | 3.2 | 100.0 |
|  | Total | 339 | 84.8 | 100.0 |  |
| Missing | 9.00 | 61 | 15.3 |  |  |
| Total |  | 400 | 100.0 |  |  |

According to the research, we found out that people are not concerned about sock packing. $51.6 \%$ of the respondents did not consider it as an important factor and $31.6 \%$ did not consider it important at all.


Figure 4.12. Respondents Classified by "Packaging Factor".
(13) Total Number of Respondents Classified by "Format Factor".

Table 4.13. Table of Respondents Classified by "Format Factor".
Format Factor

|  |  |  |  | Cumulative <br> Percent |  |
| :--- | :--- | ---: | ---: | ---: | ---: |
| Valid | very important | 181 | 45.3 | 53.4 | 53.4 |
|  | important | 111 | 27.8 | 32.7 | 86.1 |
|  | neutral | 28 | 7.0 | 8.3 | 94.4 |
|  | very unimportant | 19 | 4.8 | 5.6 | 100.0 |
|  | Total | 339 | 84.8 | 100.0 |  |
| Missing | 9.00 | 61 | 15.3 |  |  |
| Total |  | 400 | 100.0 |  |  |

According to the table, we can say that the respondents consider the format very important. $54.9 \%$ of the respondents consider the format very important, $29.20 \%$ important and $10.3 \%$ - neutral. We can conclude that consumers think that format is an important factor in buying socks.


Figure 4.13. Respondents Classified by "Format Factor".
(14) Total Number of Respondents Classified by "Quality Factor".

Table 4.14. Table of Respondents Classified by "Quality Factor".
Quality Factor

|  |  |  |  |  |  |
| :--- | :--- | ---: | ---: | ---: | ---: |
|  |  | Frequency | Percent | Valid Percent | Cumulative <br> Percent |
| Valid | very important | 107 | 26.8 | 31.6 | 31.6 |
|  | important | 94 | 23.5 | 27.7 | 59.3 |
|  | neutral | 120 | 30.0 | 35.4 | 94.7 |
|  | unimportant | 18 | 4.5 | 5.3 | 100.0 |
|  | Total | 339 | 84.8 | 100.0 |  |
| Missing | 9.00 | 61 | 15.3 |  |  |
| Total |  | 400 | 100.0 |  |  |

For quality factor, $34.2 \%$ is neutral. Respondents who considered quality as an important factor or very important factor is very high. Only a small number of the respondents considered it unimportant. It can imply that quality is an important factor for sock market.

quality factor

Figure 4.14. Respondents Classified by "Quality Factor".
(15) Total Number of Respondents Classified by "Brand Factor".

Table 4.15. Table of Respondents Classified by "Brand Factor".
Brand Factor

|  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: |
|  | Frequency | Percent | Valid Percent | Cumulative <br> Percent |
| Valid_ important | 45 | 11.3 | 13.3 | 13.3 |
|  | unimportant | 148 | 37.0 | 43.7 |
|  | very unimportant | 146 | 36.5 | 43.1 |
|  | Total | 339 | 84.8 | 100.0 |

For the brand factor, $43.4 \%$ of the respondents considered the brand unimportant, and $37.8 \%$ considered it not important at all. Only a small percentage considered it important or very important.


Figure 4.15. Respondents Classified by "Brand Factor".
(16) Total Number of Respondents Classified by "Buying Place".

Table 4.16. Table of Respondents Classified by "Buying Place".
Buying Place

|  |  |  |  |  |  |
| :--- | :--- | ---: | ---: | ---: | ---: |
|  | Frequency | Percent | Valid Percent | Cumulative <br> Percent |  |
| Valid | Convenient store | 32 | 8.0 | 9.4 | 9.4 |
|  | fashion clothing store | 57 | 14.3 | 16.8 | 26.3 |
|  | sport store | 162 | 40.5 | 47.8 | 74.0 |
|  | sock store | 88 | 22.0 | 26.0 | 100.0 |
|  | Total | 339 | 84.8 | 100.0 |  |
| Missing | 9.00 | 61 | 15.3 |  |  |
| Total |  | 400 | 100.0 |  |  |

The above data shows that $47.8 \%$ of the respondents buy socks at sport stores. The second favorite place is at sock store shops with $26 \%$ and the third favorite place is at fashion clothes stores with $16.8 \%$. Only $9.4 \%$ buy at the convenient stores.


Figure 4.16. Respondents Classified by "Buying Place".
(17) Total Number of Respondents Classified by "Sport Sock Length".

Table 4.17. Table of Respondents Classified by "Sport Sock Length".
Sport Sock Length

|  |  |  |  |  | Cumulative <br> Percent |
| :--- | :--- | ---: | ---: | ---: | ---: |
| Valid | angle | 106 | 26.5 | 31.3 | 31.3 |
|  | quarter of leg | 152 | 38.0 | 44.8 | 76.1 |
|  | half of leg | 81 | 20.3 | 23.9 | 100.0 |
|  | Total | 339 | 84.8 | 100.0 |  |
| Missing | 9.00 | 61 | 15.3 |  |  |
| Total |  | 400 | 100.0 |  |  |

The survey shows that the most favorite length for sport socks is one quarter of the leg with $44.8 \%$ followed by angle length with $31.3 \%$ and half of the leg with $23.9 \%$.


Figure 4.17. Respondents Classified by "Sport Sock Length".
(18) Total Number of Respondents Classified by "Sport Sock Thickness".

Table 4.18. Table of Respondents Classified by "Sport Sock Thickness".
Sport Sock Thickness

|  |  |  |  |  | Cumulative <br> Percent |
| :--- | :--- | ---: | ---: | ---: | ---: |
| Valid | thick | 287 | 71.8 | 84.7 | 84.7 |
|  | thin | 52 | 13.0 | 15.3 | 100.0 |
|  | Total | 339 | 84.8 | 100.0 |  |
| Missing | 9.00 | 61 | 15.3 |  |  |
| Total |  | 400 | 100.0 |  |  |

For the thickness of sport socks, about $85 \%$ of people like thick ones. This is because thick ones provide protection to feet. Thick ones are more durable and suitable for sport activities.


Figure 4.18. Respondents Classified by "Sport Sock Thickness".
(19) Total Number of Respondents Classified by "Appropriate Price".

Table 4.19. Table of Respondents Classified by "Appropriate Price".
Appropriate Price

|  |  |  |  | Cumulative <br> Percent |
| :--- | ---: | ---: | ---: | ---: |
| Valid | below 30 | 2 | .5 | .6 |
|  | $31-50$ | 46 | 11.5 | 13.6 |

The reasonable price for a pair of socks chosen by $38.6 \%$ of the respondents is 71 -90 baht. $32.4 \%$ think the reasonal price should be in the range of $51-70$ baht.


Figure 4.19. Respondents Classified by "Appropriate Price".
(20) Total Number of Respondents Classified by "Business Sock Length".

Table 4.20. Table of Respondents Classified by "Business Sock Length".
Business Sock Length

|  |  |  |  | Cumulative <br> Percent |  |
| :--- | :--- | ---: | ---: | ---: | ---: |
| Valid | angle | 40 | 10.0 | 11.8 | 11.8 |
|  | quarter of leg | 257 | 64.3 | 75.8 | 87.6 |
|  | half of leg | 42 | 10.5 | 12.4 | 100.0 |
|  | Total | 339 | 84.8 | 100.0 |  |
| Missing | 9.00 | 61 | 15.3 |  |  |
| Total |  | 400 | 100.0 |  |  |

It is noticeable that the appropriate length of business sock is quarter leg, with $76 \%$. The angle length and half leg length is nearly $11.8 \%$ and $12.4 \%$ respectively.


Figure 4.20. Respondents Classified by "Business Sock Length".
(21) Total Number of Respondents Classified by "Business Sock Thickness".

Table 4.21. Table of Respondents Classified by "Business Sock Thickness".
Business Sock Thickness

|  |  |  |  |  | Cumulative <br> Percent |
| :--- | :--- | ---: | ---: | ---: | ---: |
| Valid | thick | 15 | 3.8 | 4.4 | 4.4 |
|  | thin | 324 | 81.0 | 95.6 | 100.0 |
|  | Total | 339 | 84.8 | 100.0 |  |
| Missing | 9.00 | 61 | 15.3 |  |  |
| Total |  | 400 | 100.0 |  |  |

$95.6 \%$ of the people use thin socks for business and only $4.4 \%$ use thick ones. The big difference can be seen in the table above.


Figure 4.21. Respondents Classified by "Business Sock Thickness".
(22) Total Number of Respondents Classified by "Business Sock Price".

Table 4.22. Table of Respondents Classified by "Business Sock Price".
Business Sock Price

|  |  | Frequency | Percent | Valid Percent | Cumulative Percent |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Valid | below 50 | 25 | 6.3 | 7.4 | 7.4 |
|  | 51-58 | 53 | 13.3 | 15.6 | 23.0 |
|  | 81-110 | 74 | 18.5 | 21.8 | 44.8 |
|  | 111-140 | 86 | 21.5 | 25.4 | 70.2 |
|  | 141-170 | 77 | 19.3 | 22.7 | 92.9 |
|  | above 170 | 24 | 6.0 | 7.1 | 100.0 |
|  | Total | 339 | 84.8 | 100.0 |  |
| Missing | 9.00 | 61 | 15.3 |  |  |
| Total |  | 400 | 100.0 |  |  |

From this table, we can see that the rage of price is quite wide. The significant one is the price of $111-140$ that is $25.4 \%, 141-170$ is $22.7 \%$ and $81-110$ is $21.8 \%$. Other
prices are quite different from this price. Mostly people buy business socks for 81-170 baht.

business sock price

Figure 4.22. Respondents Classified by "Business Sock Price".
(23) Total Number of Respondents Classified by "Fashion Sock Length".

Table 4.23. Table of Respondents Classified by "Fashion Sock Length".

## Fashion Sock Length

|  |  |  |  | Cumulative <br> Percent |  |
| :--- | :--- | ---: | ---: | ---: | ---: |
| Valid | angle | 228 | 57.0 | 67.3 | 67.3 |
|  | quarter of leg | 85 | 21.3 | 25.1 | 92.3 |
|  | knee | 26 | 6.5 | 7.7 | 100.0 |
|  | Total | 339 | 84.8 | 100.0 |  |
| Missing | 9.00 | 61 | 15.3 |  |  |
| Total | 400 | 100.0 |  |  |  |

The survey shows that $67 \%$ of people prefer angle length, $25 \%$ quarter length and only $7.7 \%$ knee length.


Figure 4.23. Respondents Classified by "Fashion Sock Length".
(24) Total Number of Respondents Classified by "Fashion Sock Thickness".

Table 4.24. Table of Respondents Classified by "Fashion Sock Thickness".
Fashion Sock Thickness

|  |  |  |  | Cumulative <br> Prequency | Percent |
| :--- | :--- | ---: | ---: | ---: | ---: | Valid Percent | Percent |
| :---: |

This table shows that about $78.2 \%$ of the people use thin socks for fashion and only $21.8 \%$ use thick ones.


Figure 4.24. Respondents Classified by "Fashion Sock Thickness".
(25) Total Number of Respondents Classified by "Fashion Sock Colour".

Table 4.25. Table of Respondents Classified by "Fashion Sock Colour".
Fashion Sock Colour

|  |  | Frequency | Percent | Valid Percent | Cumulative Percent |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Valid | plain with colourful | 36 | 9.0 | 10.6 | 10.6 |
|  | plain color with desigh | 180 | 45.0 | 53.1 | 63.7 |
|  | colourful with desigh | 60 | 15.0 | 17.7 | 81.4 |
|  | colourful with strip | 63 | 15.8 | 18.6 | 100.0 |
|  | Total | 339 | 84.8 | 100.0 |  |
| Missing | 9.00 | 61 | 15.3 |  |  |
| Total |  | 400 | 100.0 |  |  |

For fashion sock design, $53 \%$ of the people like coloured socks with plain designs. It is a significant group because it is more than half of the total number of the
respondents. $17 \%$ of the respondents like colourful designs, $18 \%$ coloured socks with stripes and $10 \%$ coloured socks with plain designs respectively.


Figure 4.25. Respondents Classified by "Fashion Sock Colour".
(26) Total Number of Respondents Classified by "Fashion Sock Price".

Table 4.26. Table of Respondents Classified by "Fashion Sock Price".
Fashion Sock Price

|  |  |  |  |  |  |
| :--- | :--- | ---: | ---: | ---: | ---: |
|  | Frequency | Percent | Valid Percent | Cumulative <br> Percent |  |
| Valid | below 50 | 45 | 11.3 | 13.3 | 13.3 |
|  | $51-58$ | 127 | 31.8 | 37.5 | 50.7 |
|  | $81-110$ | 93 | 23.3 | 27.4 | 78.2 |
|  | $111-140$ | 26 | 6.5 | 7.7 | 85.8 |
|  | $141-170$ | 28 | 7.0 | 8.3 | 94.1 |
|  | above 170 | 20 | 5.0 | 5.9 | 100.0 |
|  | Total | 339 | 84.8 | 100.0 |  |
| Missing | 9.00 | 61 | 15.3 |  |  |
| Total |  | 400 | 100.0 |  |  |

The table shows that the price of fashion socks is not very high. The price that $37.5 \%$ of the respondents like is $51-58$ baht. The price that $27 \%$ and $18.3 \%$ of the respondents prefer are $81-110$ baht and under 50 baht respectively.


Figure 4.26. Respondents Classified by "Fashion Sock Price".
(27) Total Number of Respondents Classified by "Buying Quantity".

Table 4.27. Table of Respondents Classified by "Buying Quantity".
Buying Quantity

|  |  | Frequency | Percent | Valid Percent | Cumulative <br> Percent |
| :--- | :--- | ---: | ---: | ---: | ---: |
| Valid | 1 | 39 | 9.8 | 11.5 | 11.5 |
|  | 2 | 26 | 6.5 | 7.7 | 19.2 |
|  | 3 | 174 | 43.5 | 51.3 | 70.5 |
|  | 4 | 49 | 12.3 | 14.5 | 85.0 |
|  | 5 | 51 | 12.8 | 15.0 | 100.0 |
|  | Total | 339 | 84.8 | 100.0 |  |
| Missing | 9.00 | 61 | 15.3 |  |  |
| Total |  | 400 | 100.0 |  |  |

The research shows that $51.3 \%$ of the people buy 3 pairs at a time, that is quite different from others. This may be because of the fact that sellers sell 3 pairs in one pack at a lower price. 14-15\% of the respondents buy 4-5 pairs.


Figure 4.27. Respondents Classified by "Buying Quantity".
(28) Total Number of Respondents Classified by "Do Not Use Reason".

Table 4.28. Table of Respondents Classified by "Do Not Use Reason".
Do Not Use Reason

|  |  |  |  |  |  |
| :--- | :--- | ---: | ---: | ---: | ---: |
|  | Frequency | Percent | Valid Percent | Cumulative <br> Percent |  |
| Valid | Feel hot | 7 | 1.8 | 13.2 | 13.2 |
|  | Unneccessary to use | 39 | 9.8 | 73.6 | 86.8 |
|  | Feel Luxurious | 5 | 1.3 | 9.4 | 96.2 |
|  | Never meet | 2 | .5 | 3.8 | 100.0 |
|  | interesting sock | 53 | 13.3 | 100.0 |  |
|  | Total | 347 | 86.8 |  |  |
| Missing | 9.00 | 400 | 100.0 |  |  |
| Total |  |  |  |  |  |

According to the research, it can be seen that $73.6 \%$ of the respondents do not think socks are necessary, $13 \%$ of the respondents do not feel comfortable with socks and the rest feel at ease with socks.


Figure 4.28. Respondents Classified by "Do Not Use Reason".
(29) Total Number of Respondents Classified by "Use Reason".

Table 4.29. Table of Respondents Classified by "Use Reason".
Use reason

|  |  |  |  |  | Cumulative <br> Percent |
| :--- | :--- | ---: | ---: | ---: | ---: |
| Valid | School/work | 5 | 1.3 | 9.4 | 9.4 |
|  | sport | 36 | 9.0 | 67.9 | 77.4 |
|  | fashion | 6 | 1.5 | 11.3 | 88.7 |
|  | get warm | 3 | .8 | 5.7 | 94.3 |
|  | odour protection | 3 | .8 | 5.7 | 100.0 |
|  | Total | 53 | 13.3 | 100.0 |  |
| Missing | 9.00 | 347 | 86.8 |  |  |
| Total |  | 400 | 100.0 |  |  |

We can clearly see that about $68 \%$ of the people think of socks for sports, $11 \%$ for fashion and the rest for school, warmth and odour protection.


Figure 4.29. Respondents Classified by "Use Reason".
(30) Total Number of Respondents Classified by "Buying Decision".

Table 4.30. Table of Respondents Classified by "Buying Decision".

## Buying Decision

|  |  |  |  | Cumulative <br> Percent |  |
| :--- | :--- | ---: | ---: | ---: | ---: |
| Valid | convenient store | 1 | Frequency | Percent | Valid Percent |

The research shows that if non-users want to buy socks, more than $50 \%$ of the respondents go to sport stores and $30 \%$ go to sock shops which means $80 \%$ of the people buy socks at the places mentioned above.


Figure 4.30. Respondents Classified by "Buying Decision".

### 4.4 The Analysis of the Demographic Characteristics

(31) Total Number of Respondents Classified by Gender.

Table 4.31. Table of Respondents Classified by Gender.
Gender

|  |  |  |  |  | Cumulative <br> Percent |
| :--- | :--- | ---: | ---: | ---: | ---: |
| Valid | male | 250 | 62.5 | 62.5 | 62.5 |
|  | female | 150 | 37.5 | 37.5 | 100.0 |
|  | Total | 400 | 100.0 | 100.0 |  |

In this research, there were 400 respondents in total. The result showed that the majority of the respondents were male, with the number of 250 persons representing $62.5 \%$. The rest of the respondents were female, with the number of 150 persons representing $37.5 \%$.
female

Figure 4.31. Respondents Classified by Gender.
(32) Total Number of Respondents Classified by Age.

Table 4.32. Table of Respondents Classified by Age.
Age

|  |  |  |  | Cumulative <br> Percent |
| :--- | ---: | ---: | ---: | ---: |
| Valid | below 20 | 8 | 2.0 | 2.0 |
|  | $20-29$ | 255 | 63.8 | 63.8 |
| $30-39$ | 124 | 31.0 | 31.0 | 65.8 |
| $40-49$ | 9 | 2.3 | 2.3 | 99.8 |
|  | 4 | 1.0 | 1.0 | 100.0 |
|  | Total | 400 | 100.0 | 100.0 |

Among the total of 400 respondents, the age group between 20-29 years is in the majority, with $63.8 \%$. The second biggest age group was between $30-39$ years, representing $31 \%$. Third ranking group was between $40-49$ years, $2.3 \%$. Fourth and fifth group were below $20,2 \%$, and $50-59$ years, $1 \%$, respectively.


Figure 4.32. Respondents Classified by Age.
(33) Total Number of Respondents Classified by Education.

Table 4.33. Table of Respondents Classified by Education.
Education

|  |  |  |  | Cumulative <br> Percent |
| :--- | ---: | ---: | ---: | ---: |
| Valid | below high school | 2 | .5 | .5 |
|  | high school | 6 | 1.5 | 1.5 |
|  | diploma | 14 | 3.5 | 3.5 |
|  | bachelor degree | 250 | 62.5 | 62.5 |
|  | 128 | 32.0 | 32.0 | 68.5 |
|  | master degree | 400 | 100.0 | 100.0 |

The majority of the respondents were educated with Bachelor's Degree (62.5\%). The second ranking was the respondents who were educated with Master's Degree (32\%). The third ranking of the respondents had diplomas, representing 3.5\%. Fourth and fifth ranking of the respondents were with high school education $1.5 \%$ and under high school level $0.5 \%$ respectively.

education

Figure 4.33. Respondents Classified by Education.
(34) Total Number of Respondents Classified by Occupation.

Table 4.34. Table of Respondents Classified by Occupation.
Occupation

|  |  |  |  | Cumulative |
| :--- | ---: | ---: | ---: | ---: |
|  | Frequency | Percent | Valid Percent | Percent |
| Valid | student | 6 | 1.5 | 1.5 |
|  | private employee | 278 | 69.5 | 69.5 |

The majority of the respondents were private employees, representing $69.5 \%$. The second ranking group were government employees and business owners, representing the same percentage, $14.5 \%$. The rest, $1.5 \%$ of the respondents were students.

occupation

Figure 4.34. Respondents Classified by Occupation.
(35) Total Number of Respondents Classified by Income.

Table 4.35. Table of Respondents Classified by Income.
Income

|  |  |  |  |  | Cumulative <br> Percent |
| :--- | :--- | ---: | ---: | ---: | ---: |
| Valid | below 10,000 baht | 8 | 2.0 | 2.0 | 2.0 |
|  | Frequency | Percent | Valid Percent | 17.5 |  |
|  | $15,001-15,000$ baht | 62 | 15.5 | 15.5 | 44.5 |
|  | 108 | 27.0 | 27.0 | 56.5 |  |
|  | 48 | 12.0 | 12.0 | 77.5 |  |
|  | $25,001-25,000$ baht | 84 | 21.0 | 21.0 | 100.0 |
|  | upper 30,000 baht | 90 | 22.5 | 22.5 |  |

From the research, the majority of the respondents had monthly income with the range of $15,001-20,000$ baht, representing $27 \%$. The second ranking group had monthly income of above 30,000 baht $(22.5 \%)$. The third ranking group had income of $25,001-30,000$ baht, representing $21 \%$. The income of the fourth and fifth ranking group was between $10,001-15,000$ baht ( $15.5 \%$ ), and below 10,000 baht ( $2 \%$ ) respectively.


Figure 4.35. Respondents Classified by Income.
(36) Total Number of Respondents Classified by Marital Status.

Table 4.36. Table of Respondents Classified by Marital Status.
Marital Status

|  |  |  |  |  | Cumulative <br> Percent |
| :--- | :--- | ---: | ---: | ---: | ---: |
| Valid | Frequency | Percent | Valid Percent | 58.5 | 58.5 |
|  | married | 234 | 58.5 | 41.5 | 100.0 |
|  | Total | 400 | 41.5 | 100.0 | 100.0 |

In the research, we can see that the majority of the respondents were single, representing $58.5 \%$. The rest, $41.5 \%$ of the total respondents were married.


Figure 4.36. Respondents Classified by Marital Status.
(37) Total Number of Respondents Classified by Hobby.

Table 4.37. Table of Respondents Classified by Hobby.
Hobby

|  |  |  |  | Cumulative |  |
| :--- | :--- | ---: | ---: | ---: | ---: |
|  | Frequency | Percent | Valid Percent | Percent |  |
| Valid | play sport | 225 | 56.3 | 56.3 | 56.3 |
|  | listen to radio | 34 | 8.5 | 8.5 | 64.8 |
|  | read book | 73 | 18.3 | 18.3 | 83.0 |
|  | take photo | 20 | 5.0 | 5.0 | 88.0 |
|  | shopping | 48 | 12.0 | 12.0 | 100.0 |
|  | Total | 400 | 100.0 | 100.0 |  |

From the research, it can be seen that the majority of the respondents, that is $56.3 \%$ selected "sport" as a hobby. $18.3 \%$ of the respondents selected "reading books". The third ranking group, $12 \%$ selected shopping. The fourth and fifth ranking selected listening to the radio ( $8.5 \%$ ) and taking photos (5\%) respectively.


Figure 4.37. Respondents Classified by Hobby.

## V. FEASIBILITY ANALYSIS

Feasibility analysis is essential to establish a sock shop. It helps predict the possible outcome of the project whether it would be the business in which we should invest. Information, both primary and secondary data, has to be taken into consideration thoroughly. The investors must have knowledge, at least knowledge of sock products. Furthermore, they also have to know the situation outside socks market and financial situation.

Feasibility Analysis covers 2 main parts - Marketing Analysis and Financial Analysis.

### 5.1 Marketing Analysis

We must be able to analyze the overall market of the products we are going to sell. Since we are going to establish a sock shop in Bangkok, we have to know the situation of the sock market in Bangkok.

Fortunately, for socks business in Bangkok, the Thai government is trying to help Bangkok to be a "fashion center" of the world. As a result, sock business can gain many advantages from this opportunity once the government launches an advertising campaign to encourage foreigners to come and do their shopping in Bangkok.

Socks are getting more popular these days as people get more interested in socks to match with their clothes and shoes for particular occasions. Therefore, it has a very high turnover rate.

The projected sock shop will be located in Siam Square area, since there are a lot of teenagers and in-trend type of persons shopping around there. The location is a place where people come to meet, eat, shop and spend their money. Different types of people come here since it is a major shopping and entertainment center of Bangkok.

## St. Gabriel's Librays, Au

People usually do not go out to buy only socks. The decision to purchase socks is mostly caused by impulsive buying due to the fact that it is an inexpensive but useful accessory. As a result, the best location for a sock shop is an area where a lot of people do their shopping.

According to the research, the marketing strategy for the project can be classified into 4Ps as below:

## Product

The product of the project is sock. The shop will have 3 main types of socks which are Business Socks, Sport Socks, and Fashion Socks. Each type can be categorized by its pattern, needle count, material used, and thickness.

A type of sock depends on its usage. Therefore, the characteristic of each type is different. For example, sport sock is designed for sport purposes. It must be fit and thick in order to absorb the force and prevent the feet from being bruised.

Based on the questionnaire's result, the type that the target market most interested is Sport socks. Not only teenagers but middle-aged group are also interested in sport. This will set a good trend for sport socks.

## Price

The price of socks depends on many factors: materials, types, and market. Our shop sells high quality socks with good materials in order to catch medium to high-end market especially for working people and businessmen. Prices will be a little high in order to maintain the high quality and good image.

Price is not always the main concern for buyers when making a purchase decision. Many people consider patterns and colour first when buying socks. Once the socks match their clothing style, price may not be of a concern. However, we still have to take this sensitive factor into consideration since it may help boost the sales volume.

According to the findings, we find out that price is the third factor considered by the customers. The price for Sport socks is not a big concern because people interested in sport can definitely afford the price. The price of sock is quite cheap when compared to other sport accessories and equipment.

## Place

Siam Square is the best location since the place is always crowded with people walking around and shopping. Most of the people shopping there have purchasing power. They can afford high prices and high quality products. Moreover, this is the center of fashion where people come to find nice dresses, nice clothes and products in vogue.

Since there are not many sock shops in Siam Square, we have ample opportunity to sell and be successful.

## Promotion

The findings shows that the nature of sock purchasing is that they are usually sold in packets due to cheaper price per unit, for example, 30 baht for 1 pair but 100 baht for 4 pairs. This is a way to arouse passer-bys' interest and encourage them to come in the shop even though they do not intend to buy socks. And once they come in, they can see many types of socks with a wide variety of patterns and colours. This may arouse their buying spirit.

### 5.2 Financial Analysis

The financial analysis for a sock shop includes revenue analysis from selling, expenditure analysis including fixed asset payment, pre-operation payment, costs of goods sold, and other expenditures in order to prepare income statement, balance sheet, as well as cash flow statement. Apart from the analysis of the benefit for the project, the
internal rate of return (IRR), the net present value (NPV), and the payback period are to be considered.

### 5.2.1 The Assumption in Preparing a Financial Statement

(a) Revenue Analysis

The revenue of sock shop comes from units selling which are forecasted from market potential analysis. We expect that the sales revenue will increase by $10 \%$ per year according to the growth rate for this industry. Therefore, revenues can be illustrated as shown in Table 5.1.

Table 5.1. Total Sales Assumption.

| Types of Socks | Sales <br> per <br> unit | Quantities <br> for <br> year 2004 | Total Sales |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2004 | 2005 | 2006 | 2007 | 2008 |  |  |  |
| Business Socks | 110.00 | $10,800.00$ | $1,188,000.00$ | $1,306,800.00$ | $1,437,480,00$ | $1,581,228.00$ | $1,739,350.80$ |  |  |
| Sport Socks | 85.00 | $12,000.00$ | $1,020,000.00$ | $1,122,000.00$ | $1,234,200.00$ | $1,357,620.00$ | $1,493,382.00$ |  |  |
| Fashion Socks | 45.00 | $21,600.00$ | $972,000.00$ | $1,069,200.00$ | $1,176,120.00$ | $1,293,732.00$ | $1,423,105.20$ |  |  |
| Total <br> Quantities <br> and Sales | 240.00 | $44,400.00$ | $3,180,000.00$ | $3,498,000.00$ | $3,847,800.00$ | $4,232,580.00$ | $4,655,838.00$ |  |  |

## (b) Accounts Receivable

We estimated that the accounts receivable of our shop would be $15 \%$ of the sales revenue in the first operating year, $10 \%$ for the second year, and $5 \%$ for after the second year. We will offer the 30 day-credit term to our customers who make a huge purchase.
(c) Shop Decoration Expenses

Shop decoration expenses include one set of computer, one telephone/fax machine, one air conditioner, fixtures and furniture for decoration, and other equipment. All of these cost 186,500 baht.
(d) Depreciation Expenses

The straight-line method is applied to calculate depreciation expenses which turned out to be about 37,300 baht per year. Although this method is not useful for postponing a tax payment at the beginning of the equipment's life, it will totally depreciate the cost assets. Therefore, there is no loss in tax saving at the end of the useful life. The calculation of depreciation expenses applies a 5-year life.
(e) Rental Charges

The rental charge includes rental fee of 75,000 baht per month and a deposit of 225,000 baht in advance.
(f) Salary Expenses

Our shop employs one manager with a salary of 10,000 baht and one sales staff with a salary of 6,000 baht per month. Therefore, total salary per month is 16,000 baht. Furthermore, the manager and the staff will be paid 1 month bonus each year, and their salaries will be increased with the rate of $5 \%$ per year.
(g) Utility Expenses

Utility expenses are electricity bills and telephone bills which are estimated to be 46,800 baht in the first year and they will increase by $5 \%$ per year.
(h) Advertising Expenses

Advertising Expenses are expected to be 4,000 baht per month and will be increased by $5 \%$ every year in order to increase sales volume. These include the front shop billboard, handbills, and highlighting special promotion.
(i) Other Operation Expenses (Unforeseen Expenses)

Approximately 1,500 baht per month is set aside and it is expected to be increased by $5 \%$ every year to cover unforeseen expenses that may occur each year. Maintenance expenses, expenses relating to all cleaning tasks are considered as unforeseen expenses.
(j) Accrued Expenses

Only utility expenses will accrue. We have our policy to pay salaries at the end of each month and the rental is paid within a month, so there is no accrued expense for the salary and the rental. The anmual utility expenses are 46,800 baht. Therefore, a rough estimation of the accrued expenses is 46,800 baht per year and estimated to increase $5 \%$ every year.
(k) Accounts Payable

We expect to pay the suppliers $30 \%$ of total purchasing in cash for the fist year and $50 \%, 70 \%, 80 \%$ and $85 \%$ respectively for the following years. We also expect to get a 30 day-credit term from our suppliers for the rest.
(1) Costs of Goods Sold

The total cost is estimated from the raw materials purchased to sell. Therefore, Costs of Goods Sold and Accounts Payable can be illustrated as shown in Table 5.2.

Table 5.2. Total Costs Assumption.

| Types of Socks | Cost <br> per <br> unit | Quantities <br> for <br> year 2004 | Total Costs |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2004 | 2005 | 2006 | 2007 | 2008 |  |  |
| Business Socks | 70.00 | $10,800.00$ | $756,000.00$ | $831,600.00$ | $914,760.00$ | $1,006,236.00$ | $1,106,859.60$ |  |
| Sport Socks | 42.00 | $12,000.00$ | $504,000.00$ | $554,400.00$ | $609,840.00$ | $670,824.00$ | $737,906.40$ |  |
| Fashion Socks | 26.00 | $21,600.00$ | $561,600.00$ | $617,760.00$ | $679,536.00$ | $747,489.60$ | $822,238.56$ |  |
| Total <br> Quantities <br> and Costs | 138.00 | $44,400.00$ | $1,821,600.00$ | $2,003,760.00$ | $2,204,136.00$ | $2,424,549.60$ | $2,667,004.56$ |  |

(m) Source of fund

We will set 550,000 baht as the capital for our store. This amount will be derived from the shareholder's equity of 350,000 baht and a loan of 200,000 baht borrowed from the bank at $9.00 \%$ interest rate per year. The loan will be repaid annually with equal amounts for 5 years.
(n) Dividends and Retained Earnings Policy

For the first five years, all profits which we expect to earn from the business will be retained and reinvested in the company. Such amount will be deposited in the company's saving account in order to maintain the liquidity and stabilize the cash balance. Currently the company has no dividend policy.
(o) Corporate Income Tax

The roughly estimated corporate income tax is $30 \%$ of the net profit for the year after deductible loss is carried forward from accounting deficits.
(p) Pre-operation Expenditures

The pre-operation expenditures include the cost for the study of the project, selecting the site, company registration, capital raise, personnel
recruitment and training, advance deposit for rental and other expenses which we estimated to be 300,000 baht.

### 5.2.2 Proforma Financial Statements

With the above financial assumptions, the projected financial statements are made for 5 years and are shown in the following tables.
Table 5.3. Income Statement.

| INCOME | 2004 | 2005 | 2006 | 2007 | 2008 |
| :---: | ---: | ---: | ---: | ---: | ---: |
| Sales | $3,180,000.00$ | $3,498,000.00$ | $3,847,800.00$ | $4,232,580.00$ | $4,655,838.00$ |
| Deduct - Cost of Goods sold | $1,821,600.00$ | $2,003,760.00$ | $2,204,136.00$ | $2,424,549.60$ | $2,667,004.56$ |
| Gross Profit Margin | $1,358,400.00$ | $1,494,240.00$ | $1,643,664.00$ | $1,808,030.40$ | $1,988,833.44$ |
| Administrative Expense |  |  |  |  |  |
| Advertising Expense | $48,000.00$ | $50,400.00$ | $52,920.00$ | $55,566.00$ | $58,344.30$ |
| Rental | $900,000.00$ | $900,000.00$ | $900,000.00$ | $900,000.00$ | $900,000.00$ |
| Salary Expense | $208,000.00$ | $218,400.00$ | $229,320.00$ | $240,786.00$ | $252,825.30$ |
| Depreciation Expense | $37,300.00$ | $37,300.00$ | $37,300.00$ | $37,300.00$ | $37,300.00$ |
| Utilities Expense | $46,800.00$ | $49,140.00$ | $51,597.00$ | $54,176.85$ | $56,885.69$ |
| Other Expenses | $18,000.00$ | $18,900.00$ | $19,845.00$ | $20,837.25$ | $21,879.11$ |
| Total Administrative Expenses | $1,258,100.00$ | $1,274,140.00$ | $1,290,982.00$ | $1,308,666.10$ | $1,327,234.41$ |
| Earning Before Interest and Tax (EBIT) | $100,300.00$ | $220,100.00$ | $352,682.00$ | $499,364.30$ | $661,599.04$ |
| Deduct - Interest Expense | $18,000.00$ | $14,400.00$ | $10,800.00$ | $7,200.00$ | $3,600.00$ |
| Net Income before Tax | $82,300.00$ | $205,700.00$ | $341,882.00$ | $492,164.30$ | $657,999.04$ |
| Income Tax (30\%) | $24,690.00$ | $61,710.00$ | $102,564.60$ | $147,649.29$ | $197,399.71$ |
| NET INCOME | $57,610.00$ | $143,990.00$ | $239,317.40$ | $344,515.01$ | $460,599.32$ |
| Accumulated Net Income | $57,610.00$ | $201,600.00$ | $440,917.40$ | $785,432.41$ | $1,246,031.73$ |

Table 5.4. Balance Sheet.

|  | 2004 | 2005 | 2006 | 2007 | 2008 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| ASSET: <br> Current Asset |  |  |  |  |  |
|  |  |  |  |  |  |
| Cash | 545,890.00 | 725,928.00 | 1,005,168.20 | 1,393,868.29 | 1,903,341.20 |
| Account Receivable | 159,000.00 | 174,900.00 | 192,390.00 | 211,629.00 | 232,791.90 |
| Total Current Asset | 704,890.00 | 900,828.00 | 1,197,558.20 | 1,605,497.29 | 2,136,133.10 |
| Fixed Asset |  |  |  |  |  |
| Machinery and Equipment | 186,500.00 | 186,500.00 | 186,500.00 | 186,500.00 | 186,500.00 |
| Deduct - Accumulated Depreciation | 37,300.00 | 74,600.00 | 111,900.00 | 149,200.00 | 185,500.00 |
| Total Fixed Asset | 149,200.00 | 111,900.00 | 74,600.00 | 37,300.00 | 0.00 |
| Pre-operation Expenditure | 300,000.00 | 300,000.00 | 300,000.00 | 300,000.00 | 300,000.00 |
| TOTAL ASSET | 1,154,090.00 | 1,312,728.00 | 1,572,158.20 | 1,942,797.29 | 2,436,133.10 |
| LIABILITIES AND OWNER EQUITY: |  |  |  |  |  |
| Account Payable | 546,480.00 | 601,128.00 | 661,240.80 | 727,364.88 | 800,101.37 |
| Total Current Liabilities | 546,480.00 | 601,128.00 | $661,240.80$ | 727,364.88 | 800,101.37 |
| Long-term Debts | 200,000.00 | 160,000.00 | 120,000.00 | 80,000.00 | 40,000.00 |
| Total Long-term Liabilities | 200,000.00 | 160,000.00 | 120,000.00 | 80,000.00 | 40,000.00 |
| Total Liabilities | 746,480.00 | 761,128.00 | 781,240.80 | 807,364.88 | 840,101.37 |
| Owner Equity |  |  |  |  |  |
| Common Equities | 350,000.00 | 350,000.00 | 350,000.00 | 350,000.00 | 350,000.00 |
| Retained earning | 57,610.00 | 201,600.00 | 440,917.40 | 785,432.41 | 1,246,031.73 |
| Total Owner Equity | 407,610.00 | 551,600.00 | 790,917.40 | 1,135,432.41 | 1,596,031.73 |
| TOTAL LIABILITIES AND OWNER EQUITY | 1,154,090.00 | 1,312,728.00 | 1,572,158.20 | 1,942,797.29 | 2,436,133.10 |

Table 5.5. Cash Flow Statement.

|  | Pre-Construction | 2004 | 2005 | 2006 | 2007 | 2008 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CASH INFLOW |  |  |  |  |  |  |
| Source of funds |  |  |  |  |  |  |
| Equity | 350,000.00 |  |  |  |  |  |
| Long-Term Loan | 200,000.00 | S |  |  |  |  |
| Operation Income |  |  |  |  |  |  |
| Sales Revenue |  | 3,021,000.00 | 3,482,100.00 | 3,830,310.00 | 4,213,341.00 | 4,634,675.10 |
| Deduct - Cost of Goods Sold |  | 1,275,120.00 | 1,949,112.00 | 2,144,023.20 | 2,358,425.52 | 2,594,268.07 |
| TOTAL CASH INFLOW | 550,000.00 | 1,745,880.00 | 1,532,988.00 | 1,686,286.80 | 1,854,915.48 | 2,040,407.03 |
| CASH OUTFLOW | 9 |  |  | FT |  |  |
| Fixed Costs | 186,500.00 |  |  | - |  |  |
| Pre-operation | 300,000.00 |  |  | Co |  |  |
| Advertising Expense |  | 48,000.00 | 50,400.00 | - 52,920.00 | 55,566.00 | 58,344.30 |
| Rental |  | 900,000.00 | 900,000.00 | -900,000.00 | 900,000.00 | 900,000.00 |
| Salary Expense |  | 208,000.00 | 218,400.00 | 229,320.00 | 240,786.00 | 252,825.30 |
| Utility Expense |  | 46,800.00 | 49,140.00 | 51,597.00 | 54,176.85 | 56,885.69 |
| Other Expenses |  | 18,000.00 | 18,900.00 | 19,845.00 | 20,837.25 | 21,879.11 |
| Repayment Loan |  |  | 40,000.00 | 40,000.00 | 40,000.00 | 40,000.00 |
| Interest Expense |  | 18,000.00 | 14,400.00 | 10,800.00 | 7,200.00 | 3,600.00 |
| Income Tax |  | 24,690.00 | 61,710.00 | 102,564.60 | 147,649.29 | 197,399.71 |
| TOTAL CASH OUTFLOW | 486,500.00 | 1,263,490.00 | 1,352,950.00 | 1,407,046.60 | 1,466,215.39 | 1,530,934.12 |
| NET CASH FLOW | 63,500.00 | 482,390.00 | 180,038.00 | 279,240.20 | 388,700.09 | 509,472.91 |
| Accumulated Net Cash Flow |  | 545,890.00 | 725,928.00 | 1,005,168.20 | 1,393,868.29 | 1,903,341.20 |

### 5.2.3 Capital-Budgeting Decision Criteria

In deciding whether to accept a new project, we will focus on cash flows. Cash flows represent the benefits generated from accepting a capital-budgeting proposal. In this report, we will consider the cash flow generated by a project and work on determining whether the project should be accepted or not.

We will consider three commonly used criteria for determining acceptability of investment proposals. The first is payback period. It is the least sophisticated because it does not incorporate the time value of money into its calculations; however, the other two take it into account.

## Payback Period

The payback period is the number of years needed to recover the initial cash outlay. This method measures how fast the project will regain its original investment. It deals with cash flows rather than accounting profits and it also ignores the time value of money. The accept-reject criterion is to decide whether the project's payback period should be less than or equal to the firm's maximum desired payback period.

Table 5.6. Summary of Cash Inflow and Cash Outflow.

| Year | Annual <br> Cash Ouflow | Accumulated <br> Cash Outflow | Annual <br> Cash Inflow | Accumulated <br> Cash Inflow | Accumulated Cash <br> lnflow- <br> Accumulated Cash <br> Outflow |
| :---: | ---: | ---: | ---: | ---: | ---: |
| 0 | $486,500.00$ | $486,500.00$ |  |  |  |
| 1 | $1,263,490.00$ | $1,749,990.00$ | $1,745,880.00$ | $1,745,880.00$ | 0 |
| 2 | $1,352,950.00$ | $3,102,940.00$ | $1,532,988.00$ | $3,278,868.00$ | $(4,110.00)$ |
| 3 | $1,407,046.60$ | $4,509,986.60$ | $1,686,286.80$ | $4,965,154.80$ | $175,928.00$ |
| 4 | $1,466,215.39$ | $5,976,201.99$ | $1,854,915.48$ | $6,820,070.28$ | $455,168.20$ |
| 5 | $1,530,934.12$ | $7,507,136.11$ | $2,040,407.03$ | $8,860,477.31$ | $843,868.29$ |
| Total | $7,507,136.11$ |  | $8,860,477.31$ |  | $1,353,341.20$ |

In this case, in the first yeat, the company will recapture $1,745,880.00$ Baht from the total cash outflow of $1,749,990$ Baht, leaving 4,110 Baht still to be recouped. During second year, a total of $1,352,950$ Baht will be regained from the project. Thus, the payback period for the project is in the second year. Since the desired payback period is 3 years, we should accept the project.

## Net Present Value

The net present value (NPV) of the investment proposal is equal to the present value of its annual net cash flows and less than the investment's cash outflow. The net present value can be calculated as follows:

| NPV | $=\frac{\sum A C F_{t}}{(1+\mathrm{k})^{1}}-\mathrm{O}$ |
| ---: | :--- |
| Where ACF | $=$the annual cash flow in a period of time "t" |
| K | $=$ the appropriate discount rate; that is, the required |
| O | $=$ the discounted cash outflows return or cost of capital |

Table 5.7. Summary of Discounted Cash Inflow and Discounted Cash Outflow.

| Year | Present value <br> factor <br> at 9 percent | Cash Outflow | Discounted <br> Cash Outflow | Cash Inflow | Discounted <br> Cash inflow |
| :---: | ---: | ---: | ---: | ---: | ---: |
| 0 | 1 | $486,500.00$ | $486,500.00$ | - | - |
| 1 | 0.9174 | $1,263,490.00$ | $1,159,165.14$ | $1,745,880.00$ | $1,601,724.77$ |
| 2 | 0.8417 | $1,352,950.00$ | $1,138,750.95$ | $1,532,988.00$ | $1,290,285.33$ |
| 3 | 0.7722 | $1,407,046.60$ | $1,086,498.14$ | $1,686,286.80$ | $1,302,122.81$ |
| 4 | 0.7084 | $1,466,215.39$ | $1,038,703.95$ | $1,854,915.48$ | $1,314,068.89$ |
| 5 | 0.6499 | $1,530,934.12$ | $995,002.13$ | $2,040,407.03$ | $1,326,124.57$ |
| Present Value of cash flows |  | $7,507,136.11$ | $\mathbf{5 , 9 0 4 , 6 2 0 . 3 0}$ | $8,860,477.31$ | $6,834,326.37$ |
| Net Present Value |  |  |  |  | $929,706.06$ |

The project's net present value gives a measurement of the net value of the investment proposal in terms of today baht. Because all cash flows are discounted back to the present, compared to the present value of the annual cash flows. The difference determines the acceptance of the investment proposals in terms of today baht. Whenever the project's NPV is greater than or equal to zero, we will accept the project; and whenever there is a negative value associated with the acceptance of a project, we will reject the project

In this project, we can see that the project's net present value is $929,707.06$ Baht, which is much greater than zero So we came to the conclusion that this project should be accepted.

Internal Rate of Return
The internal rate of return (IRR) attempts to answer the question of 'What rate of return does this project earn?' For computational purposes, the internal value rate of return is defined as the discount rate that equates the present value of the project's future net cash flows with the project's cash outflows. The internal rate of return is defined as the value of IRR in the following equation:

| O | $=\frac{\sum A C F_{\mathrm{t}}}{(1+\mathrm{IRR})^{1}}$ |
| ---: | :--- |
| Where ACF | $=$ the annual cash flow in a period of time " $\mathrm{t} "$ |
| IRR | $=$ the project's internal rate of return |
| O | $=$ the discounted cash outflows |

The total cash outflows of the project equals 5,904,620.30 Baht.

Table 5.8. Calculating Present Value Factor at $15 \%$.

| Year | Present value factor <br> at 15 percent | Cash Inflow | Discounted <br> Cash inflow |
| :---: | :---: | :---: | :---: |
| 0 | 1 | - | - |
| 1 | 0.8696 | $1,745,880.00$ | $1,518,156.52$ |
| 2 | 0.7561 | $1,532,988.00$ | $1,159,159.17$ |
| 3 | 0.6575 | $1,686,286.80$ | $1,108,760.94$ |
| 4 | 0.5718 | $1,854,915.48$ | $1,060,553.95$ |
| 5 | 0.4972 | $2,040,407.03$ | $1,014,442.90$ |
| Present Value of cash flows |  | $8,860,477.31$ | $5,861,073.48$ |
| Net Present Value |  |  |  |

Table 5.9. Calculating Present Value Factor at $14 \%$.

| Year | Present value factor <br> at 14 percent | Cash Inflow | Discounted <br> Cash inflow |
| :---: | :---: | :---: | :---: |
| 0 | 1 | - | - |
| 1 | 0.8772 | $1,745,880.00$ | $1,531,473.68$ |
| 2 | 0.7695 | $1,532,988.00$ | $1,179,584.49$ |
| 3 | 0.6750 | $1,686,286.80$ | $1,138,195.56$ |
| 4 | 0.5921 | $1,854,915.48$ | $1,098,258.87$ |
| 5 | 0.5194 | $2,040,407.03$ | $1,059,723.47$ |
| Present Value of cash flows |  | $8,860,477.31$ | $6,007,236.07$ |
| Net Present Value |  |  |  |

$$
\begin{aligned}
\operatorname{IRR} & =14 \%+[(6,007,236.07-5,904,620.30) /(6,007,236.07-5,861,073.48)] \\
& =14 \%+0.7020 \% \\
& =14.7020 \%
\end{aligned}
$$

The decision criterion associated with the internal rate of return is to accept the project if the internal rate of return is greater than or equal to the required rate of return. We reject the project if its internal rate of return is less than the required rate of return,
which in this case refers to the cost of capital of $9 \%$. Since the calculation shows that IRR for the project equals $14.7020 \%$ which is much greater than the cost of capital of $9 \%$, therefore, it is concluded that we should accept the project.

### 5.2.4 Financial Ratio Analysis

According to the financial plan, we can calculate the financial ratio analysis and analyze them via Liquidity Ratios, Efficiency Ratios, Asset Activity Ratios, and Debt Ratios.

Table 5.10. Liquidity Ratios.

|  | 2004 | 2005 | 2006 | 2007 | 2008 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Current Asset | $704,890.00$ | $900,828.00$ | $1,197,558.20$ | $1,605,497.29$ | $2,136,133.10$ |
| Current Liability | $546,480.00$ | $601,128.00$ | $661,240.80$ | $727,364.88$ | $800,101.37$ |
| Current Ratio | 1.29 | 1.50 | 1.81 | 2.21 | 2.67 |
| Account |  |  |  |  |  |
| Receivable | $159,000.00$ | $174,900.00$ | $192,390.00$ | $211,629.00$ | $232,791.90$ |
| Account Payable | $546,480.00$ | $601,128.00$ | $661,240.80$ | $727,304.88$ | $800,101.37$ |
| Debitor to Creditor | $29.10 \%$ | $29.10 \%$ | $29.10 \%$ | $29.10 \%$ | $29.10 \%$ |
| Net Cash Flow | $545,890.00$ | $725,928.00$ | $1,005,168.20$ | $1,393,868.29$ | $1,903,341.20$ |
| Debt Service | $18,000.00$ | $14,400.00$ | $10,800.00$ | $7,200.00$ | $3,600.00$ |
| Coverage Ratio | 30.33 | 50.41 | 93.07 | 193.59 | 528.71 |

Liquidity Ratios measure the ability of the firm to meet its short-term obligations. The liquidity ratios table shows the current ratio is greater than 1 , meaning that the current asset is higher than current liability. Therefore, this project has the ability to pay account payable. Coverage ratio can measure whether net income is higher or lower than the outcome. In this project, net income is higher than the outcome.

Table 5.11. Profitable Ratios (Efficiency Ratios).

|  | 2004 | 2005 | 2006 | 2007 | 2008 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Gross Profit | $1,358,400.00$ | $1,494,240.00$ | $1,643,664.00$ | $1,808,030.40$ | $1,988,833.44$ |
| Sales | $3,180,000.00$ | $3,498,000.00$ | $3,847,800.00$ | $4,232,580.00$ | $4,655,838.00$ |
| Gross Profit Margin | $42.72 \%$ | $42.72 \%$ | $42.72 \%$ | $42.72 \%$ | $42.72 \%$ |
| Operating Income | $100,300.00$ | $220,100.00$ | $352,682.00$ | $499,364.30$ | $661,599.04$ |
| (EBIT) |  |  |  |  |  |
| Operating Profit | $3.15 \%$ | $6.29 \%$ | $9.17 \%$ | $11.80 \%$ | $14.21 \%$ |
| Margin | $57,610.00$ | $201,600.00$ | $440,917.40$ | $785,432.41$ | $1,246,031.73$ |
| Net Income | $1.81 \%$ | $5.76 \%$ | $11.46 \%$ | $18.56 \%$ | $26.76 \%$ |
| Net Profit Margin | $350,000.00$ | $350,000.00$ | $350,000.00$ | $350,000.00$ | $350,000.00$ |
| Shareholder Equity |  | $57.60 \%$ | $125.98 \%$ | $224.41 \%$ | $356.01 \%$ |
| Net Profit to Equity | $16.46 \%$ | $512,728.00$ | $1,572,158.20$ | $1,942,797.29$ | $2,436,133.10$ |
| Ratio | $1,154,090.00$ | 1,3120 | 0.51 |  |  |
| Total Assets | 0.05 | 0.15 | 0.28 | 0.40 | 6.96 |
| Return to Asset | 3.30 | 3.75 | 4.49 | 5.55 | 6 |
| Return on Equity |  |  |  |  |  |

Efficiency Ratios measure how the company's returns are compared to its sales, asset investments and equity. The Gross Profit Margin is more than $40 \%$ that means that the gross profit is very high when it is compared to the sales revenue. Furthermore, the result of net profit to equity ratio is quite high. It means that the net profit makes high return to the shareholder when compared to equity.

Table 5.12. Asset Activity Ratios.

|  | 2004 | 2005 | 2006 | 2007 | 2008 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Sales Revenue | $3,180,000.00$ | $3,498,000.00$ | $3,847,800.00$ | $4,232,580.00$ | $4,655,838.00$ |
| Total Fixed Assets | $149,200.00$ | $111,900.00$ | $74,600.00$ | $37,300.00$ |  |
| Fixed Asset Turnover | 21.31367292 | 31.26005362 | 51.57908847 | 113.4739946 |  |
| Total Assets | $1,154,090.00$ | $1,312,728.00$ | $1,572,158.20$ | $1,942,797.29$ | $2,436,133.10$ |
| Total Assets Turnover | 2.76 | 2.66 | 2.45 | 2.18 | 1.91 |

Asset Activity ratios measure how efficiently a company uses its assets. Fixed asset turnover or the ratio between net income and fixed asset, the value of this ration increases every year. It can imply that this project income is high when compared to the fixed asset turnover or the ratio between net income and total fixed asset which the value of this ratio is positive. In other words, this project income is at the accepted range when compared to total fixed asset.

Table 5.13. Debt Ratio.

|  | 2004 | 2005 | 2006 | 2007 | 2008 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Total Debts | 200,000.00 | 160,000.00 | 120,000.00 | 80,000.00 | 40,000.00 |
| Total Assets | 1,154,090.00 | 1,312,728.00 | 1,572,158.20 | 1,942,797.29 | 2,436,133.10 |
| Debt Ratio | 0.17 | 0.12 | 0.08 | 0.04 | 0.02 |
| Common Equity | 350,000.00 | 350,000.00 | 350,000.00 | 350,000.00 | 350,000.00 |
| Debt to Equity Ratio | 57.14\% | 45.71\% | 34.29\% | 22.86\% | 11.43\% |
| Operating Income (EBIT) | 100,300.00 | 220,100.00 | 352,682.00 | 499,364.30 | 661,599.04 |
| Interest Expense | 18,000.00 | 14,400.00 | - $10,800.00$ | 7,200.00 | 3,600.00 |
| Time Interest Earn | 5.57 | 15.28 | 32.66 | 69.36 | 183.78 |
| Retain Earning | 57610.00 | 201600.00 | 440917.40 | 785432.41 | 1246031.73 |
| Net Worth | 350000.00 | 407610.00 | 609210.00 | 1050127.40 | 1835559.81 |
| Total Debt / Net Worth | 0.57 | 0.39 | 0.20 | 0.08 | 0.02 |
| Total Debt + Common Equity | 550,000.00 | 510,000.00 | 470,000.00 | 430,000.00 | 390,000.00 |
| Capitalization Ratio | 36.36\% | 31.37\% | 25.53\% | 18.60\% | 10.26\% |

Debt ratios show how much a company owes to others. Debt of equity ratio is less than 1 , which means less debt when compared to shareholder equity. It could show the ability of loan repayment of our project.

All the financial ratios of this project are very attractive due to high potential in loan repayment, high return of investors. Therefore, the above ratios are able to support this project to be invested.

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St. Gabriel's Library, Au
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## VI. CONCLUSIONS AND RECOMMENDATIONS

The purpose of this project is to study the feasibility study for establishing a sock shop in Siam Square, Bangkok. The opinions toward sock product of Bangkok people were collected via a survey of 400 respondents. Once data were collected, they were interpreted and analyzed to design a successful marketing strategy.

In this project, the data from all questionnaires have been analyzed by the frequency distribution, descriptive statistics and cross tabs tabulation. The SPSS (the Statistical Package for Social Sciences) version 11.0 for Windows was applied to analyze and deliver the survey result. The survey results were presented in the forms of tables, pie charts and bar charts.

### 6.1 Research Summary

The survey result showed that the gender of the respondents who completed the questionnaire: 150 female and 250 male respondents. The majority of the respondents were in the age range of $20-29$ years. Most of the respondents had Bachelor's degree. Most of the respondents were single and work as private officers. Moreover, most of the respondents play and are interested in sport as their hobbies. $97.7 \%$ of those who wear socks, they made their own decision to buy themselves. This research focuses on males since they usually wear socks for business purposes as well as sport purposes.

### 6.2 Conclusions

Regarding the research result, we can conclude that the major purpose of wearing socks is sport purpose. From the questionnaire, the respondent is able to select more than 1 choice and the choice they made most is sport purpose. Business purpose or official use, and fashion purpose were chosen respectively. We can come to the conclusion that sport socks are the most selected ones because sport socks can be worn
by male and female alike whereas business socks are usually worn by men. Female hardly wear socks for work.

Table 6.1. Frequency of the Purpose of Wearing Socks.

| (Frequency) | Official <br> Use | Sport Use | Fashion <br> Use | Get Warm | Smell <br> Protection |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Yes | 241 | $\mathbf{2 6 1}$ | 201 | 107 | 68 |
| No | 106 | 86 | 146 | 240 | 279 |
| Total | 347 | 347 | 347 | 347 | 347 |

Sport seems to be a trend for the new generation and they are very much health conscious. The price of socks is quite cheap when compared with other sport accessories so they can buy socks at any place and any time once they see their desired socks. This is a kind of impulsive buying.

The result of the analysis also found out that the most important factor that makes them to buy socks is not the price; it is the pattern or design of socks. Socks can be considered as a fashion product since pattern or format plays an important role.

Table 6.2. Factors of Buying Decision.

| Factor | Price |  | Packaging |  | Format |  | Quality |  | Brand |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Very important | 4.1 | 20.5 | 3.5 | 17.5 | 54.9 | 274.5 | 31.3 | 156.5 | 6.2 | 31 |
| Important | 26.0 | 104 | 7.7 | 30.8 | 29.2 | 116.8 | 28.0 | 112 | 9.4 | 37.6 |
| Neutral | 45.1 | 135.3 | 5.6 | 16.8 | 10.3 | 30.9 | 34.2 | 102.6 | 3.2 | 9.6 |
| Unimportant | 18.9 | 37.8 | 31.6 | 63.2 | 0.6 | 1.2 | 5.6 | 11.2 | 43.4 | 86.8 |
| Very <br> Unimportant | 5.9 | 5.9 | 51.6 | 51.6 | 5.0 | 5.0 | 0.9 | 0.9 | 37.8 | 37.8 |
| Total scores | 100 | 303.5 | 100 | 179.9 | 100 | 428.4 | 100 | 383.2 | 100 | 202.8 |

From the research, the important factor of buying decision is the format or design of socks. Although the purpose of wearing sock is different, pattern is still be concerned. Quality factor is another important factor considered by the respondents since it brought them comfort. The quality of sock mainly depends on the quality of yarn. Different types of yarn are used for different qualities. For example, combed cotton or mercerized cotton is used for business socks. Although the price is the third factor of buying decision, it is still considered when it is compared with other factors. All of the above 3 factors are related to each other. Not only one factor is outstanding to be considered. There are not many sock brands in sock market in Bangkok. People in Bangkok do not care about the brand. Therefore, brand is the fourth factor in making buying decision. Even though packaging is the last factor, it can make socks look better and more attractive on the shelf. Packing will be thrown away when using socks, perhaps this may be the reason why packaging is not the main concern.

Financial analysis for this project shows that IRR rate is quite high, financial ratios are good and payback period is not too long. It means that sock business will not have the risk of going bankrupt.

According to the research results and analysis of this project, the overall is favorable. Therefore, this project should be accepted and pursued to operate a sock shop in Siam Square area, Bangkok.

### 6.3 Recommendations

Nowadays, sock market in Bangkok has opportunity to grow since Bangkok people have potential to buy socks. They are getting more fashion-conscious. They are getting more interested in sport because they realize the importance of health. Bangkok is a center of business. Over $80 \%$ of businessmen wear socks and they work 5 days a
week. If a businessman plays sports twice a week, he will at least need 5-7 pairs of socks.

In the consumer's mind, they think they should buy more than 1 pair at one time. The maximum number of socks sold at a time is 3 pairs. Therefore, discount should be mentioned on 3 pairs of pack to increase the sales volume. Moreover, Bangkok people estimated the durability of the socks over 3 months so, special promotion of discount or premium should be launched quarterly or special promotion might be launched for low demand.

There are many external factors to support the growth rate of sock market such as promoting Thailand to be a "fashion center" in the world, apparel, clothes, hosiery, and other fashion products can bring success to the business.


## แบบสอบกาม

การว้ดทัศนคติของผู้มริโภคด่อการบริโภคฤงเท้า เพื่อศึกษาแนวทางในการเปิดด่าเนินกิจการ ร้านขายฤงเท้าในจังหวัดกรงเทพมหานคร

ส่วนที่ 1 คำแนะน่า: กรุณาทำเครืองหมาย $X$ ในช่อง ()

1. ปกติท่านใสถุงเท้าหรือไม่
( ) ใช่
( ) ไมใช่ (ข้ามไปสวนที่ 3)
2. ท่านใส่ถุงเท้าเพื่อจุดประสงค์ใด (ตอบไต้มากกว่า 1 ข้อ)
( ) ไปสถานศึกษา / ไปทำงาน
( ) เพื่อการกีฬา
( ) แฟชั่น
( ) เพื่อความอบอุ่น(ใส่นอน)
( ) ปౌองกันกลิ่นเท้า
( ) อื่นๆ ระบุ $\qquad$

สัวนที่ 2 ทัศนคติในการเลือกขึอฤงเท้า: กรณาทำเครืองหมาย $X$ ในช่อง ()
3. ปกติท่านใสสถงเท้ากี่คู่ต่อสัปตาห์
( ) มากกว่า 7 คู่
( ) 7 คู่
() 6 คู
( ) 5 ค่
( ) 4 ค่
( ) น้อยกว่า 4 คู่
4. อายุการใช้งานของถุงเท้าที่ท่านใช้อยู่นานเท่าใด
( ) น้อยกว่า 1 เดือน
( ) 1 เดือน
( ) 2 เดือน
( ) 3 เดือน
( ) มากกว่า 3 เดือน
5. ท่านใช้ถุงเท้าลายใดเป็นประจำ (ตอบได้มากกว่า 1 ข้อ)
( ) สีพื้น
( ) ลายเส้น
( ) ลวตลาย
( ) โลโก้ยี่ห้อ
( ) อื่นๆ ระบุ $\qquad$
6. ปกติท่านเป็นคนตัตสินใจขื้อถงเท้าเองหรือไม่
( ) ใช่
( ) ไม่ใช่ (ข้ามไปข้อมลล่วนตัว)
7. กรุณาเรียงล่าตับปัจจัยในการเลือกซื้อถุงเท้าของท่าน (เรียงล่าดับ $1=$ สาคัญมากที่สุด, $5=$ สาคัญน้อยที่สุต)
( ) ราคา
( ) บรรจุภัณर्ฑ
( ) รปแบนและสีของถุงเท้า
( ) คุณภาพ ของฤุงเท้า
( ) ยี่ห้อเป็นที่รูจัก
8. ท่านมักจะซื้อถุงเท้าจากร้านค้าประเภทใต
( ) ร้านสะดวกซื้อ
( ) ร้านขายเสื้อผ้าแฟชั่น
( ) ร้านขายอุปกรณ่การเรียน
( ) ร้านขายอุปกรณ์กีฬา
( ) รานขายถุงเท้า
( ) อื่นๆ ระบุ $\qquad$
9. ท่านคิดว่าถุงเท้ากีฬา ควรมีความยาวประมาณเท่าไรจึงจะเหมาะสม
( ) เท่าดาตุ่ม
( ) ครี่งของครึ่งแข้ง
( ) ครี่งแข้ง
( ) สงถึงเข่า
10. ท่านคิดว่าถุงเท้ากีฬา ควรมีลักษณะอย่างไร
( ) หนา
( ) บาง
11. ท่านคิดว่าราคาถุงเท้ากีฬา ควรจะเป็นเท่าไรจึงจะเหมาะสม
( ) ด่ากว่า 30 บาท
( ) 31-50 บาท
( ) 51-70 บาท
( ) 71-90 บาท
( ) 91-110 บาท
( ) 110 บาท ขื้นไป
12. ท่านคิดว่าถงเท้าเพื่อธรกิจ (ใส่ทำงาน) ควรมีความยาวประมาณเท่าไรจังจะเหมาะสม
( ) เท่าดาตุ่ม
( ) คร่งขอองครี่งแข้ง
( ) ครึ่งแข้ง
( ) สูงถึงเข่า
13. ท่านคิดว่าถุงเท้าเพือธรกิจ ควรมีลักษณะอย่างไร
( ) หนา
( ) บาง
14. ท่านคึดว่าราคาฤงเท้าเพื้อธรกิจ (ใส่ท่างาน) ควรจะเป็นเท่าไรจึงจะเหมาะสม
( ) ด่ากว่า 50 บาท
( ) $51-80$ บาท
( ) $81-110$ บาท
( ) 111-140 บาท
( ) 141-170 บาท
() 170 บาท ขึ้นไป
15. ท่านคิดว่าฤงเท้าแฟชัน ควรมีความยาวประมาณเท่าไรจึงจะเหมาะสม
( ) เท่าดาตุ่ม
() ครี่งของครี่งแข้ง
( ) ครี่งแข้ง
( ) สูงถึงเข่า
16. ท่านคิดว่าฤงเท้าแฟขัน ควรมีลักษณะอย่างไร
( ) หนา
( ) บาง
17. ท่านคิดว่าถงเท้าแฟชัน ควรมีสีสันแบบใด (ดอบได้มากกว่า 1 ข้อ)
() ไม่มีลาย แด่สสันสดใส
( ) มีลวดลายบนถุงเท้า แด่ไม่สีสันฉดฉาด
( ) มีาย และส์สันสดใส
( ) มีลวดลายบนฤุงเท้า และสีสันฉุดฉาด
18. ท่านคิดว่าราคาถุงเท้าแฟชัน ควรจะเป็นเท่าไรจึงจะเหมาะสม
( ) ด่ากว่า 50 บาท
( ) $51-80$ บาท
( ) $81-110$ บาท
( ) 111-140 บาท
( ) 141-170 บาท
( ) 170 บาท ขึ้นไป
19. ปกติท่านซื้อถงเท้าครั้งละกี่คู่
() 1 ค่
( ) 2 ค่
() 3 ค่
() 4 ค่
( ) 5 ค่
() มากกว่า 5 ด่

ส่วนที่ 3 ทัศนคติของผู้ที่ไมใช้ถงเท้า: กรุถาท่าเครืองหมาย $X$ ในช่อง ()
20.เหตุผลใดที่ท่าให้ท่านไม่ใช้ถงเท้า (ดอบได้มากกว่า 1 ข้อ)
() ใส่แล้วร้อน
() ไมมีความจำเป็นต้องใส
( ) คิดว่าเป็นสินค้าฟ่มเฟือย
() ไม่เคยพบถูงเท้าที่ถกใจ
21. ถ้าท่านจะเริ่มใช้ถุงเท้า ท่านจะใช้เพื่อจุตประสงค์ใด
() ไปสถานศึกษา / ไปท่างาน
() เพื่อการกีฬา
( ) แฟชั่น
() เพื่อความอบอุ่น(ใสนอน)
( ) ป้องกันกล์่นเท้า
() อึ่นๆ ระบ $\qquad$
22. ถ้าท่านตัดสินใจจะซื้อถงเท้า ท่านจะซื้อถุงเท้าจากร้านค้าประเภทใด
( ) ร้านสะดวกซื้อ
() ร้านขายเสื้อผ้าแฟชั่น
() ร้านขายอุปกรณ์การเรียน
() ร้านขายอปกรณ์ก์ฬา
( ) ร้านขายถุงเท้า
( ) อึ่นๆ ระบ

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