
INDUSTRY PROFILE #4

MEN'S
WASH AND WEAR PANTS

Prepared By
Edward Hochberg

Reviewed By
George J. Coury
Robert W. Rugenstein

VITA

Published By
VOLUNTEERS IN TECHNICAL ASSISTANCE
1600 Wilson Boulevard, Suite 500, Arlington, Virginia 22209 USA
Telephone: (703) 276-1800, Fax: (703) 243-1865
Telex: 440192 VITAUI, Cable: VITAINC
Internet: vita@gmuvax.gmu.edu, Bitnet: vita@gmuvax

Men's Wash and Wear Pants

ISBN: 0-86619-291-3

INDUSTRY PROFILES

Introduction

This Industry Profile is one of a series briefly describing small or medium-sized industries. The Profiles provide basic information for starting manufacturing plants in developing nations. Specifically, they provide general plant descriptions, financial, and technical factors for their operation, and sources of information and expertise. The series is intended to be useful in determining whether the industries described warrant further inquiry either to rule out or to decide upon investment. The underlying assumption of these Profiles is that the individual making use of them already has some knowledge and experience in industrial development.

Dollar values are listed only for machinery and equipment costs, and are primarily based on equipment in the United States. The price does not include shipping costs or import-export taxes, which must be considered and will vary greatly from country to country. No other investment costs are included (such as land value, building rental, labor, etc.) as those

prices also vary.
These items are mentioned to provide the investor with a general checklist of considerations for
setting up a business.

IMPORTANT

These profiles should not be substituted for feasibility studies. Before an investment is made in
a plant, a feasibility study should be conducted. This may require skilled economic and
engineering expertise. The following illustrates the range of questions to which answers must
be obtained:

*** What is the extent of the present demand for the product, and how is it now being**
satisfied?

*** Will the estimated price and quality of the product make it competitive?**

*** What is the marketing and distribution plan and to whom will the product be sold?**

*** How will the plant be financed?**

*** Has a realistic time schedule for construction, equipment, delivery, obtaining materials and supplies, training of personnel, and the start-up time for the plant**

been developed?

*** How are needed materials and supplies to be procured and machinery and equipment to be maintained and repaired?**

*** Are trained personnel available?**

*** Do adequate transportation, storage, power, communication, fuel, water, and other facilities exist?**

*** What management controls for design, production, quality control, and other factors have been included?**

*** Will the industry complement or interfere with development plans for the area?**

*** What social, cultural, environmental, and technological considerations must be addressed regarding manufacture and use of this product?**

Fully documented information responding to these and many other questions should be
determined before proceeding with implementation of an industrial project.

Equipment Suppliers, Engineering Companies

The services of professional engineers are desirable in the design of industrial plants even though
the proposed plant may be small. A correct design is one that provides the greatest economy in
the investment of funds and establishes the basis of operation that will be most

**profitable in the
beginning and will also be capable of expansion without expensive alteration.**

**Professional engineers who specialize in industrial design can be found be referring to the
published cards in various engineering magazines. They may also be reached through their
national organizations.**

**Manufacturers of industrial equipment employ engineers familiar with the design and installation
of their specialized products. These manufacturers are usually willing to give prospective
customers the benefit of technical advice by those engineers in determining the suitability of their
equipment in any proposed project.**

VITA

**Volunteers in Technical Assistance (VITA) is a private, non-profit, volunteer organization
engaged in international development. Through its varied activities and services, VITA fosters
self-sufficiency by promoting increased economic productivity. Supported by a volunteer roster
of over 5,000 experts in a wide variety of fields, VITA is able to provide high quality technical
information to requesters. This information is increasingly conveyed through low-cost advanced**

communication technologies, including terrestrial packet radio and low-earth-orbiting satellite.
VITA also implements both long- and short-term projects to promote enterprise development and
transfer technology.

MEN'S WASH AND WEAR PANTS

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PRODUCT DESCRIPTION

1. The Product

Men's pants are made from wash and wear material. They come in waist sizes ranging from 28 to 44, and lengths from 30 to 36 inches. Shorts, boys' pants, uniform trousers, and work pants other than jeans can also be made from the same material.

2. The Facility

This Profile describes one plant operating with one shift and producing 15,000 dozens pairs of pants a year, and another that produces 22,000 dozens a year.

It is important for a small factory to be able to produce varied styles. Therefore, it is imperative to have a designer/pattern-maker

available to quickly produce properly fitted items as may be requested by the customer.

GENERAL EVALUATION

Wash and wear pants are readily marketable because they are low-priced compared with slacks. The investment needed to establish this plant is small when compared with the number of people employed. The gross profit estimate is favorable.

1. Outlook

A. Economic

Depends on the conditions in country.

B. Technical

Good reconditioned sewing machines can perform just as well as some of the items listed on page 4. They may cost half the price of new machines.

2. Manufacturing Equipment Flexibility

The machinery and equipment used to produce men's pants are similar to the kind used in the apparel industry to manufacture other types of clothing. Therefore, it is possible and strongly recommended that other kinds of clothing or other fabric items be made at this plant. In other words, it should not be confined to

manufacturing a single item.

3. Knowledge Base

A good business plan is necessary. A two to three-year projection should be prepared and caution taken against overextension. Other considerations of management should include:

a) Business experience
b) Knowledge of field
c) Sources of capital
d) Knowledge of market
e) Knowledge of procurement of material and equipment
f) Capability to find government support

4. Quality Control

Quality control is very important, and specifications vary from company to company and from garment to garment. For example, an entire order may be rejected for as little an error as the number of stitches per inch or the tension of the thread.

5. Constraints and Limitations

There may be a shortage of skilled designers, pattern-makers, cutters, and mechanics.

--No special transportation requirements, but good highways would be helpful.

--Manager and supervisors should be fully experienced.
--Some operators will be operating more than one machine.
--After break-in period, production workers should go on piece work rates.
--A reliable electric power system is needed.

MARKET ASPECTS

1. Users

Men and teenagers.

2. Suppliers

In most urban centers there are sales representatives of equipment manufacturers and jobbers of fabrics. It may be too expensive to go to the United States or other western nations to look for design, fabrics, and machines. Hong Kong and Tokyo are also good sources for these items.

3. Sales Channels and Methods

Sales will be made directly to large stores and to wholesalers for resale to small retailers. The domestic rate of consumption of men's wash and wear pants will depend primarily upon wage levels and clothing habits of the population. The product should be well packaged in cardboard boxes that can be transported easily anywhere within the country.

One path to explore is contracting with U.S. garment manufacturers to supply a steady source of work for the plant. Large investments in plant and equipment for exports should not be undertaken unless there is a written commitment from the manufacturer or contractor who can guarantee an outlet for the garments.

4. Geographic Extent of Market

Domestic - The product is easy to ship and transport costs are normally low in relation to product value. Market may be nationwide.

Export - Some export sales to neighboring nations not having such factories might be possible.

5. Competition

Domestic Market - Very small makers and imports may provide competition.

Export Market - The plant is relatively small and might have great difficulty in competing with mass producers or with exports from areas where labor is plentiful and cheap.

6. Market Capacity

Under average conditions a population of about a million would probably be large enough to support production for a plant of this size.

PRODUCTION AND PLANT REQUIREMENTS

Requirements Annual Output:
15,000 dozen 22,000 dozen

1. Infrastructure, Utilities Small Plant Medium Plant
Land 1/2 acre 1/3 acre
Building one story 6,000 s.f. 10,000
Power connected load 100 hp 120 hp
Fuel (for steam, heat)
Water (processing, sanitation, fire)
Other

2. Major Equipment & Machinery Small Plant Medium Plant
Units Units
Tools & Machines
cloth spreader (1) (1)
cloth unwinder (1) (1)
cutting tables (2) (2)
cutting machine (heavy duty) (3) (4)
cloth drill (1) (1)
buttonhole machine (2) (1)
buttonsewer machine (1) (1)
safety stitch (10) (10)
single needle (9) (9)
overlock (2) (2)
double needle flatbead (1) (1)
double needle machine for
waistband & belt loops (3) (3)

bartack (1) (2)
pocket press (1) (1) (1)

Support Equipment & Parts
furniture & fixtures
hand trucks (3) (3)
20 hp boiler (1) (1)
pressing machine (1) (2)
racks (6) (10)
chairs & workbenches (36)
work tables
storage shelves
spare parts & tools
truck/van (3) (1)
work baskets
***TOTAL ESTIMATED COST**
of equipment & machinery only $103,000 $116,000

***Based on $US 1987 prices. The costs provided are estimates and are given only to provide a general idea for machinery costs; they are not intended to be used as absolute prices. Costs still need to be determined on a case by case basis.**

3. Materials & Supplies* Small Plant Medium Plant

Raw Materials
fabric 360,000 yards 540,000 yards
lining (for waistband &
pockets) 40,000 yards 60,000 yards

thread (12,000 yd. cones) 3,600 cones 5,000 cones
zippers 15,000 dozen 23,000 dozen
buttons 4,000 gross 5,700 gross
hang tags 15,000 dozen 23,000 dozen
labels 15,000 dozen 23,000 dozen
metal fasteners 15,000 dozen 23,000 dozen

Supplies
lubricants $ 3,000 $ 4,000
office & factory supplies
gas, oil & truck maintenance 2,000 2,000

Packaging
shipping cartons
hangers

4. Labor Small Plant Medium Plant

Skilled
designer/pattern maker 1 1
cutters 2 3
operators 26 36
pressers 4 6
floor help 6 8

Semi-skilled
Unskilled 4 5

Administration

manager 1 1
office 1 1
supervisor 1 2
mechanic/chauffeur 1 1

5. Distribution/Supply flow Small Plant Medium Plant

Amount in/out per day 60 dozen 80-95 dozen

6. Market Requirements Small Plant Medium Plant

Population 1 million

***This includes an approximate amount of materials used over a period of a year. It does not mean that a year's supply must be stored on the premises.**

PROCESS DIAGRAM <see plant layout and work flow>

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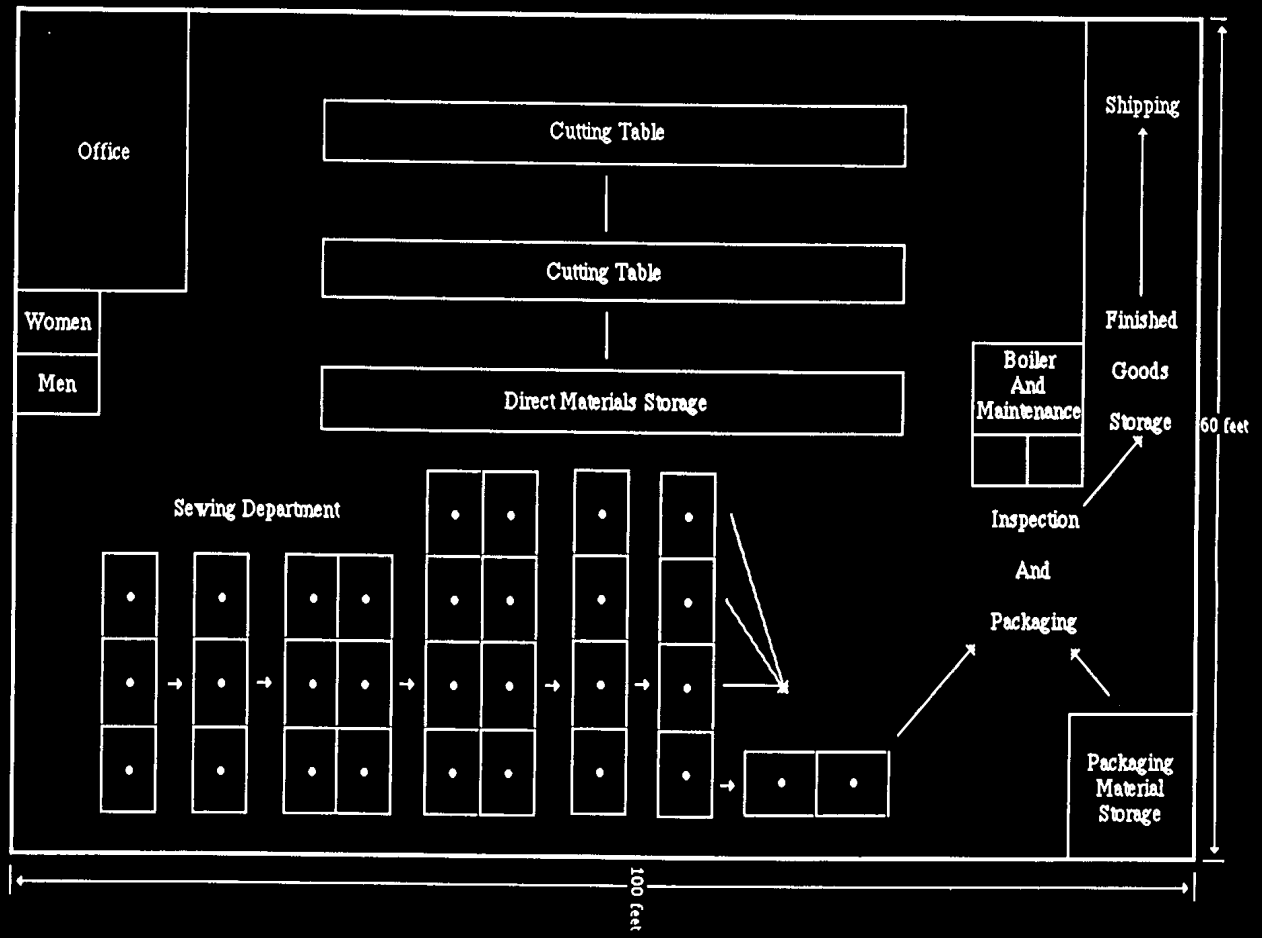
MEN'S WASH AND WEAR PANTS

PLANT LAYOUT AND WORK FLOW

Plant kayout should be well-planned. It should follow an orderly flow of work from cutting to finished goods, including an area for design and pattern-making.



REFERENCES

Unless otherwise stated, these addresses are in the United States.

1. Technical Manuals & Textbooks

Fashion Institute of Technology 7 Ave. & 27 St.
New York, New York 10001
Library and bookstore with full listing of books on design, pattern-making, marketing.

Model Garment Factory for Men's Shirts and Trousers. United Nations Industrial Development Organization. December, 1974. 31 pages.

2. Periodicals

Women's Wear Daily & Daily News Record
Fairchild Publications
7 E 12 Street
New York, New York 10003

Bobbin Magazine
Bobbin International
PO Box 1986
1110 Shop Road
Columbia, South Carolina 29202

Apparel Industries Magazine
180 Allen Street

Atlanta, Georgia 30328

Apparel World
366 Park Avenue, South
New York, NY 10016

3. Trade Associations

American Apparel Manufacturing Association
2500 Wilson Blvd.
Arlington, Virginia 22201
(703) 524-1864

National Knitwear & Sportswear Association
366 Park Ave., South
New York, New York 10016

4. Equipment Suppliers, Engineering Companies

Hudson Sewing Machine Co.
109 Johnston St.
Newburgh, New York 12550
(dealer in all types of equipment)

Singer Corporation
135 Raritan Center Parkway
Edison, New Jersey 08837
(sewing room equipment, cutting room equipment)

Kurt Salmon Associates
350 Fifth Avenue
New York, New York 10118
(management consultants, consulting services)

5. Directories

Buyers Guide:

A Sourcing Guide for the Apparel Industry
produced by
The Associate Membership Congress
American Apparel Manufacturers Association
2500 Wilson Boulevard
Arlington, Virginia 22201

6. VITA Resources

VITA has a number of documents on file dealing with the textile and clothing industry. For example:

Selected Information Resources on Textiles. Compiled by J.A. Feulner, National Referral Center, Library of Congress, May, 1980. 17 pp. XII-E-1, P. 1, 022470, 12.

7. VITA Venture Services

VITA Venture Services, a subsidiary of VITA, provides commercial services for industrial development. This fee-for-service

includes technology and financial information, technical assistance, marketing, and joint ventures. For further information, contact, VITA.

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