How a Business Model Canvas be Like for a Sustainable Textile Manufacturer?

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Abstract **- Green is the new trend in wearing sustainability. Textile being the second most important sector in line with the country's economy, needs to be swap along its paradigm from conventional manufacturing towards sustainable product manufacturing. Lotus stem fiber is a great option to switch to sustainable textile wearing. Fine filaments extracted from the stem are hand spun into yarns, hand woven to fabric and finally engineered into sustainable garment. This paper highlights the purpose to flip the concept into a real business idea and to check on its feasibility in doing so. The methodology used are the construction of a business model canvas and conducting of break-even analysis. It reveals the feasibility of establishing the business and a sound break-even point conferring the smooth operation of the business.**

Index Terms **- sustainable, textile manufacturer, lotus fiber, business model canvas, break- even point.**

INTRODUCTION

Textile industry is the second most growing sector contributing to the country's economy. Textile has been a necessity in serving us from cradle to grave. The industry had put forward its baby step into production with the natural raw materials-cotton, silk, wool, linen, jute, etc. Growing and expanding with time, the industry indulged in the manufacturing of man-made fibers, which resulted in relatively cheaper cost of production, but hampering the ecosystem in its way. Today the industry is recorded as the second largest polluting industry due to its massive use of harmful and toxic chemicals or dyes. It is a high time now to respond to this alarming situation, which is into questioning of the industry ethics. The key to the solution lies in sustainable fashion, referring to fashion that is mindful of the environment. Sustainable textile manufacturing has now become the cup of tea of many foreign textile manufacturers, who are soaring much high.

Lotus stem can play a significant role in this aspect as it has bounties of properties and hence a super-fiber. The paper clearly states the need and the future scope involved.

NEED OF THE STUDY

- To resolve the matter that figures out the industry's ethical behavior.
- To gear up the Indian Textile Industry into a next level, leading towards green and sustainability.
- To preserve and secure the ecology without causing any further hazard.
- To create awareness among the mass about sustainable clothing and fashion.
- With the use of natural fiber, employment can be provided to the weaker sections as well as to empower women.
- The use of natural fiber (lotus) will help to restore and retain the handicraft skills using the traditional means of production.

OBJECTIVES OF THE STUDY

- To get a glimpse of the process flow of lotus stem fiber.
- To construct a business model canvas for a potential textile manufacturer dealing with sustainable textile.
- To check the manufacturer's capability and sustainability in the longer run by doing Break-Even Analysis.

SCOPE OF THE RESEARCH

The study utilizes lotus stem as the raw material, which is of immense use and known as the super-fibre. The manufacturing of lotus fibre results in a premium range of apparel, which are highly demanded by the premium apparel brands like- H&M, Mango, Zara, Van Heusen, etc. Apart from its premium nature, it has medicinal properties, self-cleaning properties, crease and wrinkle resistant properties, for which they are highly recommended to be used for R&D in technical textile industry. For a textile manufacturer it is of immense scope to expand.

LITERATURE REVIEW

Oksana Mont (2006) "the paper discovers an interesting new product group from the product-service system perspective – baby prams. It shows a new business model based on how the service is being sold by the baby prams provided through leasing prams. It identifies the potential barriers and changes required in product design and the supply chain to execute it."

Rudrajeet Pal (2017) "This paper highlights the problem associated with the Textile, Clothing and Fashion industry, for it being the most unsuitable industry. Hence, a study is carried out to contextualize the eight existing sustainable business model archetypes in the (TCF) industry and to further identify the five key design elements and underlying strategies rooting them."

Katja Schneider & Marlen Gabriele Arnold (2019) "This study proposes a reorientation towards stronger holistic and inclusive approaches for sustainability and reflects on the socio- cultural aspects linked to sustainable textile business models."

RESEARCH GAP

Researches were carried out to construct business model canvas for specific textile industry or apparel brand or about how they can achieve sustainability in their process goals. Business models that are sustainable to be followed in the longer run are well mentioned as a part of research. But a gap exists about how the same would be in case of a company or manufacturer dealing with sustainable textile in the form of their product.

REASEARCH METHODOLOGY

It outlines the methodology followed to realize the research purpose of this study. The methodologies used are:

- Identifying the process flow of lotus stem fiber.
- Constructing a business model canvass for a potential textile manufacturer.
- Conducting break-even analysis to keep a check on the operating margin.

PROCESS FLOW OF LOTUS STEM FIBER

Lotus harvesting → fiber extraction → yarn preparation → weaving → dyeing

CONSTRUCTING A BUSINESS MODEL CANVAS

The business model is considered as the preliminary stage before entering into a business, as this would guide towards the path of achieving the successful business goal. The model emphasizes on the following:

- Target market and customer segment.
- Key resources and partners required for the efficient movement of the business.
- Outlines the value that is being provided to the customer.
- Sorts out the possible means of channels & distribution.
- Most importantly helps in the proposition of the cost structure, including all the fixed & variable costs to be incurred by the business.

ELEMENTS OF BUSINESS MODEL CANVAS

VALUE PROPOSITION

It describes about what value the manufacturer is going to provide to its customers in terms of the product quality, uniqueness, properties, etc.

- Eco-friendly, Organic, Sustainable.
- Self-cleaning and Biodegradable textile product.
- Comes with a traditional touch of: hand-spun & hand-woven fabric.
- Crease & wrinkle resistant.
- UV resistant.

- Breathable fabric with good moisture absorbency & air permeability.
- Soft-hand.
- In a way helps in building immunity, inhibits fat production and has healing property.
- Radiates calmness & peace of mind.

CUSTOMER SEGMENT

Identifies the range of customers/consumers to whom they can provide the value.

CONSUMER

- Higher middle class & upper class (domestic market).
- Targets the religious saints, meditators, yogis, & health & fitness concerned people.

BUSINESS

- Premium apparel brands and foreign buyers.
- Global retailing.
- Technical Textile Industry.

CHANNELS

It refers to the both means of physical distribution and the product awareness through advertising.

- Distribution through the supply chain.
- Social media advertisement through- Instagram, Facebook, Whatsapp.
- Business website- for more information & direct purchasing of products.
- Product availability on various online shopping websites for mass purchasing.
- Retail outlets.

CUSTOMER RELATIOSHIP

It refers to what uniqueness, facility does the brand gives to its range of customers.

- Brand loyalty.
- In-person &/or digital experience (in-store & smartphone-app).
- Timely delivery- for the business segment.
- Quick & friendly service for the customer segment.
- Referral discounts, loyalty discounts.

REVENUE STREAMS

It refers to the sources from where the manufacturer, generates its revenue or sales.

- Apparel/garments sold to the domestic customers through- offline (in-store, multi retail outlets purchasing), online (store-app/store website, other online shopping website).
- Garments/ apparels as per order for the international buying houses.
- Textile supplied to the Technical Textile Industry.

KEY ACTIVITIES

For the establishment of the manufacturing industry & supplying its product, what all activities are required to be done for the successful production.

- Raw material sourcing
- Manufacturing/Production.
- Research & Development.
- Quality Control & Quality Assurance.
- Marketing & Advertising.
- Sales & Distribution.
- Supply Chain Management.
- Financial Control.
- Product Value Chain.
- Customer Service.
- Product Innovation.

KEY RESOURCES

For the business to operate the resources, materials, manpower, that are required determines the key resources.

- Skilled labor, machineries and raw materials.
- Place for harvesting and operating.
- Supply Chain (transportation), Retailing- B2B, C2C.
- Funds (govt schemes, investors)
- Software & Analytics.

KEY PARTNERS

The individuals, companies, agencies, group of people connected to the manufacturer are the key partners.

- International & National Supply Chain Partners, Retailers.
- Buying houses& Premium apparel brands- H&M, Allen Solly, Van Heusen, etc.
- Technical Textile Industry.
- Stakeholders & our business partners.
- Suppliers of raw materials & Distributors.
- Collaborators (lotus farmers, boat drivers or stem collectors).

COST STRUCTURES

The above discussed eight elements bear individual cost, which are categorized as per fixed cost and variable cost in this ninth element of the model. The cost components are discussed later in tabular form, ref. table-2, 3 & 6.

CONDUCTING A BREAK-EVEN ANALYSIS

Table for Cost-Structures

TABLE-1 Set-Up Cost

SET-UP COST	
PARTICULARS	AMOUNT (in Rs)
LEGAL FORMALITIES	50,000
INDUSTRY LAND	50,00,000
CONSTRUCTION	70,00,000
MACHINERIES	10,00,000
ELECTRIC COST	2,00,000
GENERATOR & MOTORS	3,00,000
WATER COST	1,00,000
WEBSITE BUILDING	50,000
PAYMENT GATEWAY	30,000
WORKING CAPITAL	2,00,00,000
TOTAL	2,92,30,000

TABLE-2 Fixed Cost

FIXED COST (per month)	
PARTICULARS	AMOUNT (in Rs)
INDIRECT LABOUR (ADMINISTRATIVE & EMPLOYEESALARY	10,00,000
SALES & MARKETING COST	50,000
INSURANCE FEES & TAXES	1,50,000
INDIRECT MATERIAL	50,000
DEPRECIATION EXPENSES	10,000
REPAIR & MAINTENANCE	15,000
UTILITY EXPENSES	30,000
TOTAL	13,05,000

TABLE-3 Variable Cost

VARIABLE COST INCURRED IN FABRIC MANUFACTURING	
PARTICULARS	AMOUNT (in Rs/unit)
DIRECT LABOUR	250/day/labor
DIRECT MATERIAL	AMOUNT/kg
RM SOURCING (IN-HOUSE)	500/kg
RM SOURCING (OUTSIDE)	750/kg
SPINNING COST	328/kg
WEAVING COST	716/kg
PROCESSING COST	818/m
DYEING COST	320/m
PRINTING COST	510/m
TOTAL VARIABLE COST INCURRED PER UNIT OF FABRIC PRODUCTION	Rs 2364

For the ease of conducting break-even analysis and finding out the break-even point, a garment style is taken as an example to depict the various cost associated with its manufacturing and that is needed to consider while determining the operating margin of production for the business. As the potential manufacturer is going to produce units of a particular garment style, hence it is important to consider this as an example for precise calculation.

TABLE-4 Specification of ladies' shirt

SPECIFICATION FOR LADIES' SHIRT	
STYLE NAME	DESIGNER TOP
CATEGORY	TOP
FABRIC	100% LOTUS
SELLING PRICE/UNIT	Rs 11500

TABLE-5 Trims & Accessories Cost for ladies' shirt

TRIMS & ACCESORIES REQUIRED FOR A SINGLE SHIRT	QUANTITY/one shirt	UNIT PRICE (in Rs)
FABRIC	3 metre	2370/metre
COLLAR FUSING	0.1 metre	2.99/metre
BUTTON	(6+1) pcs	0.25/pc
LABELS (BRAND, WASH CARE LABEL, SIZE LABEL)	1 pc	4/pc

TABLE-6 Variable Cost for one unit of ladies' shirt

TRIMS & ACCESORIES REQUIRED FOR THE MANUFACTURING OF SINGLE PIECE OF LADIES' SHIRT	AMOUNT/UNIT SHIRT PRODUCED (Rs/unit)
FABRIC	7110
COLLAR FUSING	0.3
BUTTON	1.75
LABELS (BRAND, WASH CARE LABEL, SIZE LABEL)	4
CUT&SEW	22
WASHING	0.75
PACKING COST	4

LOGISTIC COST	19
TOTAL VARIABLE COST/UNIT OF PRODUCTION	7161.8/unit = 7162/unit

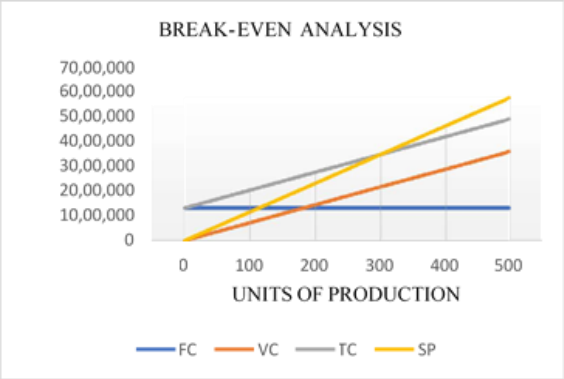
TABLE-7 Break-Even Analysis Chart

TABLE-7 Break-Even Analysis Chart

UNIT	FIXED COST	VARIABLE COST	TOTAL COST	SALES PRICE
0	13,05,000	0	13,05,000	0
100	13,05,000	716200	20,21,200	1150000
200	13,05,000	1432400	27,37,400	2300000
300	13,05,000	2148600	34,53,600	3450000
400	13,05,000	2864800	41,69,800	4600000
500	13,05,000	3581000	48,86,000	5750000

VARIABLE COST/UNIT	7162
SALES PRICE/UNIT	11500
FIXED COST	13,05,000

BREAK-EVEN POINT	300.8299



Break-even point (in unit) = Fixed Cost/ (Sales per unit shirt – Variable Cost per unit of production)

The break-even point where the cost of production (fixed & variable), equals the revenue, also it is the point of no profit, or no loss. Operating above the obtained BEP would fetch profit & vice-versa.

Break-Even Point= fixed cost/ (sales per unit of shirt-variable cost per unit of shirt)

= 13,05,000/ (11500-7162) = 300.82 = 300 (approx.)

RESULTS & DISCUSSIONS

All the possible cost components that could be incurred by the manufacturer are given above in a tabular form, giving the estimates of the set-up cost, fixed cost and variable cost.

For the ease of conducting break-even analysis a particular product style is taken as an example to get the optimum number of units the manufacturer should produce. The trims and accessories related to that product style and the cost associated are also considered (table-5).

The break-even analysis chart is shown in table-7, where at different units of production the costs and the revenue are shown and a graph has been plotted to depict the point where the total cost (fixed + variable) intersects the revenue, giving the optimum unit of production or the operating margin. From the graph it is seen that 300 is the operating margin or the break-even point, which fetching neither profit nor loss to the manufacturer. To make profit the manufacturer needs to operate beyond 300 units.

CONCLUSION

For the establishment of a textile manufacturing company a research study as well as an analysis is carried out, checking out the feasibility to establish a business in the highly competitive textile market. The study keeps an eye over the manufacturer's capability to meet profit and its sustainability in the longer run. The business model canvas constructed gives an overview of the manufacturing firm of how it would operate considering all the basic elements. Moreover, all the important cost components to be incurred are studied and the corresponding estimated amount is established. Finally, a break-even analysis is conducted to know the operating margin at which the manufacturer should produce. A break-even point of 300 is achieved, which is the margin of operating leading the company to neither loss nor profit. Being a textile and garment manufacturer, production of 300 units is a mere less number, as orders received by textile manufacturers are far more than 300.

Hence, for a manufacturer it is worth to invest in a sustainable textile manufacturing unit, as it would generate enough profit for the company to sustain in the longer run.

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