

Complete Garment Costing with Major Cost Breakdown

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Abstract

Apparel business is one of the oldest global businesses. Emergence of different apparel manufacturing nations, rapid development of global supply chains and increasingly higher demand for fast fashion items are exposing the apparel manufacturers to competitive product prices. Alongside, the persistent global depression has also forced the apparel business to curtail the prices to remain sustainable in the industry. Garment costing is the systematic process of meticulously calculating the total cost of a certain quantity of garments from raw material purchase to converting them to the final products, plus other terms and conditions stated by the customers. The sum of these costs adding the profit margin is the selling price. This research outlines the process of preparing cost sheets for basic garment products. The research proposes a clear method of generating easily understandable, complete garment cost sheets for the apparel industry.

Keywords

Apparel, Costing, Shirt, Trousers, T-Shirt

1. Introduction

Cost is typically defined as the economic value placed upon the resources consumed to make a product. Costing incorporates estimating and then determining the total cost of producing a garment, including the cost of materials, labor and transportation as well as the general expenses of operating the business. The technique and methods to be used for ascertaining the cost vary from unit to unit depending upon the nature of the industry, type of the product, method of production and the meaning or the sense in which the term cost is used. In Ready-made garment industry, cost sheets are generally prepared by a merchant-

diser. If the manufacturer sells the garments directly to the end consumers, it's very important to estimate the cost very accurately. Pricing of the garment can be done by adding manufacturing cost with estimated markup or profit percentage to it. If the manufacturer exports the garment, the cost is the base of the business. Cost of manufacturing includes wages, salaries, utility charges, overhead and other operating expenses of the company. With this cost, merchandiser negotiates with the buyer and decides whether to accept the order or not. In order to do perfect garment costing, one must know about all the activities including purchase of fabrics, sewing, packing, transport, overheads, etc. and also about their costs, procedures, advantages and risk factors. Merchandisers must be aware that there are always fluctuations in the costs of raw materials and accessories, knitting charges, processing, finishing, sewing and packing charges, transport and conveyance. The method of making costing will vary from style to style, as there are many different styles of garments. Cost is estimated freshly that is what would be the cost for the particular activity for a style which is going to be carried out. The main purpose of costing is to determine the selling price.

Elements of Costing

The main components of costing consist of several issues:

- Fabric cost
- Trim cost
- Accessories cost
- CM (Cost of Making)
- Washing charge (If any)
- Embellishment costs (If any)
- Test charge
- Commercial cost
- Transportation cost
- Overheads
- Buying house commission
- Factory profit
- Other costs etc.

2. Literature Review

The volatile nature and rigorous competition in the garment industry drive all the companies to minimize their cost by controlling inventory, accurate forecasting and low mark-downs [1]. Garment costing is the most important part of the apparel business as the apparel industry has expanded globally [2]. The cost should not be under-costing and over-costing to ensure continuous orders over the years [3]. Getting an order depends on the quality of garments, compliance and the price [4]. Apparel product development is an important stage in the life cycle of a product. Shortening this stage will help to reduce the costs of a garment [5]. Garment industry is looking for a sustainable cost analysis solution that can provide actual costs for finished goods and identify whether the indus-

try gained profit out of a particular style or not [6]. In order to do perfect garment costing, one must know about all the activities including purchase of fabrics, sewing, packing, transport, overheads, etc. and also about their costs, procedures, advantages and risk factors [7]. The costing is done keeping in mind the cost of the various raw materials, operating cost of the company, competition, and the expected profit of the organization [8]. FOB & landed costs must be analyzed for sourcing decisions, but they must be complemented by information on the effects of supplier lead times and consumer retail interactions, which are critical to overall supply chain performance [9]. The development of sustainable business practices lends itself to an efficient operation that streamlines effort and conserves resources, which enhances employee productivity and reduces cost [10].

But there are no visible works proposing the actual method of calculating product cost, although the apparel industry is following excellent methods of costing. So, this article exhibits some complete cost sheets that can give people a clear idea of preparing garment costing accurately.

3. Method

Four garment factories specialized in producing these four items, namely shirt, woven trousers, t-shirt and polo shirt were selected for taking the final costing. All orders were taken on Free on Board (FOB) basis. So, in this study, all cost sheets are prepared for FOB orders. Each factory, specialized for particular product, was found working with various types of the same product. But only the basic products were taken since most of the garment factories work with the basic items.

Limitations

Since costing is considered as a confidential issue for the factories, initially all of them were reluctant to provide the actual cost sheets. Later on, we were able to convince them stating that this research will help the complete industry to have a consolidated idea on the bulk of the garments exported from Bangladesh. Only then, they came forward to helping us with the relevant information.

4. Results and Discussion

Tables 1-4 show the complete cost sheets for four major apparel items, namely-woven shirt, woven trousers, t-shirt and polo shirt. These cost sheets exhibit the minutest breakdown of cost components required for doing a garment costing.

It is clear from **Table 5** and **Table 6** that, for all four products, namely shirt, woven trousers, t-shirt and polo shirt fabric cost constitutes the major portion of the total cost. For shirt, it is nearly half of the FOB price. Fabric cost exceeds half of the FOB price for polo shirt. Trim costs are nearly the same for all products and remain in the range of 3.2% to 4.7%. But, accessories costs are varying for different products. Polo shirt has the less accessories cost at 2.9% only, whereas t-shirt constitutes the maximum 8.5%.

Table 1. Cost sheet of a dozen of woven shirt.

Price Quotation (Woven Shirt)						
Request Date:						
Buyer:						
Style No:						
Age/Gender:						
Estimated Qty:						
Fabric:						
SL	Description	Consumption/ Dozen	Consumption Unit	Price	Price In	Total Price
A. FABRIC						
1	Body Fabric - 100% Cotton Poplin	20.59	Yds	\$2.10	Yards	\$43.24
2	Interlining - T/C Fusible Interlining	1.5	Yds	\$0.45	Yards	\$0.68
Total Fabric Cost (Wastage is included during consumption)						\$43.91
B. TRIMS						
3	18L Poly Button	144	Pcs	\$1.80	Gross	\$1.80
4	14L Poly Button	36	Pcs	\$1.60	Gross	\$0.40
5	Sewing Thread - 40/2 Spun Poly	1800	Meter	\$0.75	Cone (4000 m)	\$0.34
6	Main Label	12	Pcs	\$0.24	Dozen	\$0.24
7	Size Label	12	Pcs	\$0.08	Dozen	\$0.08
8	Care Label	12	Pcs	\$0.08	Dozen	\$0.08
Total Trims Cost						\$2.94
Total Trims Cost (With 3% Wastage)						\$3.03
C. ACCESSORIES						
9	Collar Bone	24	Pcs	\$0.15	Dozen	\$0.30
10	Collar Insert	12	Pcs	\$0.25	Dozen	\$0.25
11	Neck Board	12	PCs	\$0.09	Dozen	\$0.09
12	Butterfly	12	Pcs	\$0.09	Dozen	\$0.09
13	Back Board	12	Pcs	\$0.46	Dozen	\$0.46
14	Metal Pin	12	Pcs	\$0.10	Dozen	\$0.10
15	Plastic Clip	60	Pcs	\$3.00	Box (5000 pcs)	\$0.04
16	Tissue Paper	12	Pcs	\$0.24	Dozen	\$0.24
17	Hang Tag	12	Pcs	\$0.30	Dozen	\$0.30
18	Tag Pin	24	Pcs	\$2.80	Box (5000 pcs)	\$0.01
19	Price Sticker	12	Pcs	\$0.05	Dozen	\$0.05
20	Poly	12	Pcs	\$0.72	Dozen	\$0.72
21	Button Poly	12	Pcs	\$0.20	Dozen	\$0.20

Continued

22	Carton			\$0.60		\$0.60
23	Carton Sticker			\$0.07		\$0.07
24	Gum Tape			\$0.10		\$0.10
Total Accessories Cost						\$3.62
Total Accessories Cost (With 2% Wastage)						\$3.69
D. WASH						
25	Silicone Wash	12	Pcs	\$1.80	Dozen	\$1.80
Total Washing Cost						\$1.80
E. PRINT/EMBROIDERY						
26	Embroidery	2	Units	\$0.35	Unit	\$0.70
Total Embroidery Cost						\$0.70
F. CM						
27	CM	12	Pcs	\$21.00	Dozen	\$21.00
Total CM						\$21.00
G. TEST						
28	Test	12	Pcs	\$0.05	Pcs	\$0.60
Total Test Cost						\$0.60
Sub Total Cost						\$74.73
H. OTHER COSTS						
29	Commercial Cost (5% of CM)					\$1.05
30	Transportation Cost (3% of CM)					\$0.63
Total Cost						\$76.41
31	Buying House Commission (7% of total cost)					\$5.35
32	Profit (10% of total cost)					\$7.64
Total FOB Cost						\$89.40
Total FOB Cost/PC						\$7.45

Table 2. Cost sheet of a dozen of woven trousers.

Price Quotation (Woven Trousers)						
Request Date:						
Buyer:						
Style No:						
Age/Gender:						
Estimated Qty:						
Fabric:						
SL	Description	Consumption/ Dozen	Consumption Unit	Price	Price In	Total Price
A. FABRIC						
1	Body Fabric - 100% Cotton Denim	18.42	Yds	\$2.30	Yards	\$42.37

Continued

2	Pocketing - T/C Pocket Sheeting	1.7	Yds	\$0.60	Yards	\$1.02
3	Paper Dot Interlining	5	Yds	\$0.15	Yards	\$0.75
Total Fabric Cost (Wastage is included during consumption)						\$44.14
B. TRIMS						
4	32L Shank Button - Waist	12	Pcs	\$4.30	Gross	\$0.36
5	24L Shank Button - Fly	36	Pcs	\$3.60	Gross	\$0.90
6	14L Rivets	60	Pcs	\$1.40	Gross	\$0.58
7	Leather Patch	12	Pcs	\$0.10	Pcs	\$1.20
8	Sewing Thread	3600	Meter	\$0.85	Cone (2000 m)	\$1.53
9	Main Label	12	Pcs	\$0.48	Dozen	\$0.48
10	Size Label	12	Pcs	\$0.08	Dozen	\$0.08
11	Care Label	12	Pcs	\$0.18	Dozen	\$0.18
Total Trims Cost						\$5.31
Total Trims Cost (With 3% Wastage)						\$5.47
C. ACCESSORIES						
12	Hang Tag	12	Pcs	\$0.50	Dozen	\$0.50
13	Waist Tag	12	Pcs	\$0.30	Dozen	\$0.30
14	Leg Sticker	12	Pcs	\$0.05	Pcs	\$0.60
15	Lock Pin	12	Pcs	\$8.00	Box (5000 pcs)	\$0.02
16	Price Sticker	12	Pcs	\$0.05	Dozen	\$0.05
17	Hanger With Sizer	12	Pcs	\$118.00	1000 Pcs	\$1.42
18	Poly	12	Pcs	\$0.72	Dozen	\$0.72
19	Label Poly	12	Pcs	\$0.20	Dozen	\$0.20
20	Carton					\$0.80
21	Carton Sticker					\$0.10
22	Gum Tape					\$0.10
Total Accessories Cost						\$4.81
Total Accessories Cost (With 2% Wastage)						\$4.90
D. WASH						
23	Enzyme Wash + Sand Blast + Tagging + Grinding	12	Pcs	\$15.00	Dozen	\$15.00
Total Washing Cost						\$15.00
E. PRINT/EMBROIDERY						
24	Embroidery	3	Units	\$0.35	Unit	\$1.05
Total Embroidery Cost						\$1.05

Continued

F. CM						
25	CM	12	Pcs	\$26.00	Dozen	\$26.00
Total CM						\$26.00
G. TEST						
26	Test	12	Pcs	\$0.05	Pcs	\$0.60
Total Test Cost						\$0.60
Sub Total Cost						\$97.16
H. OTHER COSTS						
27	Commercial Cost (5% of CM)					\$1.30
28	Transportation Cost (3% of CM)					\$0.78
Total Cost						\$99.24
29	Buying House Commission (7% of total cost)					\$6.95
30	Profit (10% of total cost)					\$9.92
Total FOB Cost						\$116.11
Total FOB Cost/PC						\$9.68

Table 3. Cost sheet of a dozen of T-shirt.

Price Quotation (T-shirt)						
Request Date:						
Buyer:						
Style No:						
Age/Gender:						
Estimated Qty:						
Fabric:						
SL	Description	Consumption/ Dozen	Consumption Unit	Price	Price In	Total Price
A. FABRIC						
1	Body Fabric - 100% Cotton S/J - 160 GSM	3.14	Kg	\$5.08	Kgs	\$15.95
2	Neck Binding - 95/5 Cot/Spa 1 X 1 Rib 220 GSM	0.15	Kg	\$5.53	Kgs	\$0.83
Total Fabric Cost (Wastage percentage is included)						\$16.78
B. TRIMS						
3	Sewing Thread - 40/2	3000	Meter	\$0.70	Cone (3000 m)	\$0.70
4	Main Label	12	Pcs	\$0.48	Dozen	\$0.48
5	Size Label	12	Pcs	\$0.08	Dozen	\$0.08

Continued

6	Care Label	12	Pcs	\$0.18	Dozen	\$0.18
Total Trims Cost						\$1.44
Total Trims Cost (With 3% Wastage)						\$1.48
C. ACCESSORIES						
7	Hang Tag	12	Pcs	\$0.36	Dozen	\$0.36
8	Lock Pin	12	Pcs	\$8.00	Box (5000 pcs)	\$0.02
9	Price Sticker	12	Pcs	\$0.05	Dozen	\$0.05
10	Size Strip	12	Pcs	\$0.24	Dozen	\$0.24
11	Hanger With Sizer	12	Pcs	\$120	1000 Pcs	\$1.44
12	Wax Paper	12	Pcs	\$0.20	Dozen	\$0.20
13	Poly	12	Pcs	\$0.36	Dozen	\$0.36
14	Carton					\$0.40
15	Carton Sticker					\$0.10
16	Gum Tape					\$0.10
Total Accessories Cost						\$3.27
Total Accessories Cost (With 2% Wastage)						\$3.33
D. WASH						
17	Garment Wash with Silicone	12	Pcs	\$2.50	Dozen	\$2.50
Total Washing Cost						\$2.50
E. PRINT/EMBROIDERY						
18	Screen Print (Chest)	12	Pcs	\$2.50	Dozen	\$2.50
Total Print Cost						\$2.50
F. CM						
19	CM	12	Pcs	\$6.00	Dozen	\$6.00
Total CM						\$6.00
G. TEST						
20	Test	12	Pcs	\$0.05	Pcs	\$0.60
Total Test Cost						\$0.60
Sub Total Cost						\$33.20
H. OTHER COSTS						
29	Commercial Cost (5% of CM)					\$0.30
30	Transportation Cost (3% of CM)					\$0.18
Total Cost						\$33.68
31	Buying House Commission (7% of total cost)					\$2.36
32	Profit (10% of total cost)					\$3.37
Total FOB Cost						\$39.40
Total FOB Cost/PC						\$3.28

Table 4. Cost sheet of a dozen of polo shirt.

Price Quotation (Polo shirt)						
Request Date:						
Buyer:						
Style No:						
Age/Gender:						
Estimated Qty:						
Fabric:						
SL	Description	Consumption /Dozen	Consumption Unit	Price	Price In	Total Price
A. FABRIC						
1	Body Fabric - 100% Cotton Pique - 200 GSM	3.93	Kg	\$5.20	Kgs	\$20.44
2	100% Cotton 1X1 Rib Collar & Cuff (Flat Knit)	12	Set	\$7.00	Dozen Sets	\$7.00
3	Non-Woven Interlining	1.5	Yard	\$0.15	Yards	\$0.23
Total Fabric Cost (Wastage percentage is included)						\$27.66
B. TRIMS						
4	22L Poly Button	36	Pcs	\$2.00	Gross	\$0.50
5	Sewing Thread - 40/2	3000	Meter	\$0.70	Cone (3000 m)	\$0.70
6	Main Label	12	Pcs	\$0.25	Dozen	\$0.25
7	Size Label	12	Pcs	\$0.08	Dozen	\$0.08
8	Care Label	12	Pcs	\$0.10	Dozen	\$0.10
Total Trims Cost						\$1.63
Total Trims Cost (With 3% Wastage)						\$1.68
C. ACCESSORIES						
9	Hang Tag	12	Pcs	\$0.36	Dozen	\$0.36
10	Lock Pin	12	Pcs	\$8.00	Box (5000 pcs)	\$0.02
11	Price Sticker	12	Pcs	\$0.05	Dozen	\$0.05
13	Poly	12	Pcs	\$0.36	Dozen	\$0.36
14	Carton					\$0.50
15	Carton Sticker					\$0.10
16	Gum Tape					\$0.10
Total Accessories Cost						\$1.49
Total Accessories Cost (With 2% Wastage)						\$1.52
D. WASH						
17	Enzyme Wash	12	Pcs	\$3.00	Dozen	\$3.00
Total Washing Cost						\$3.00

Continued

E. PRINT/EMBROIDERY						
18	Embroidery	3	Units	\$0.35	Unit	\$1.05
Total Print Cost						\$1.05
F. CM						
19	CM	12	Pcs	\$9.00	Dozen	\$9.00
Total CM						\$9.00
G. TEST						
20	Test	12	Pcs	\$0.05	Pcs	\$0.60
Total Test Cost						\$0.60
Sub Total Cost						\$44.51
H. OTHER COSTS						
21	Commercial Cost (5% of CM)					\$0.45
22	Transportation Cost (3% of CM)					\$0.27
Total Cost						\$45.23
23	Buying House Commission (7% of total cost)					\$3.17
24	Profit (10% of total cost)					\$4.52
Total FOB Cost						\$52.92
Total FOB Cost/PC						\$4.41

Table 5. Breakdown of cost components.

Item	Fabric Cost	Trims Cost	Accessories Cost	Cost of Manufacture (CM)	Other Costs	Total Cost Per Dozen	Total Cost Per Piece
Shirt	\$43.91	\$3.03	\$3.69	\$21.00	17.71	\$89.40	\$7.45
Woven Trousers	\$44.14	\$5.47	\$4.90	\$26.00	35.6	\$116.11	\$9.68
T-Shirt	\$16.78	\$1.48	\$3.33	\$6.00	11.81	\$39.40	\$3.28
Polo Shirt	\$27.66	\$1.68	\$1.52	\$9.00	13.06	\$52.92	\$4.41

Table 6. Breakdown of cost percentages.

Item	Fabric Cost	Trims Cost	Accessories Cost	Cost of Manufacture (CM)	Other Costs	Total Cost Per Dozen
Shirt	49.1%	3.4%	4.1%	23.5%	19.8%	100.0%
Woven Trousers	38.0%	4.7%	4.2%	22.4%	30.7%	100.0%
T-Shirt	42.6%	3.8%	8.5%	15.2%	30.0%	100.0%
Polo Shirt	52.3%	3.2%	2.9%	17.0%	24.7%	100.0%

Shirt incorporates the maximum cost of manufacture (CM), 23.5%, due to having higher number of components and more than forty operations in its sewing process. Woven trousers also exhibit the same scenario. This incurs only 1% less CM when compared to a shirt. Because it also needs similar number of

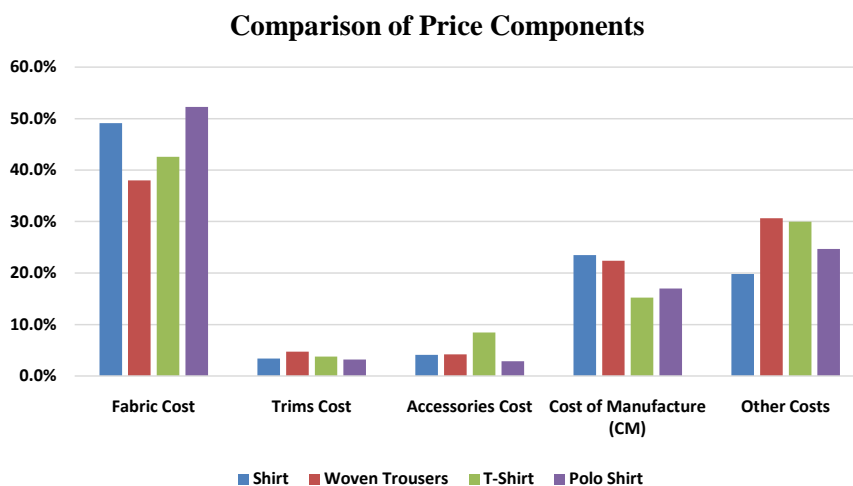


Figure 1. Comparison of price components.

operations that of a shirt. T-shirt requires only 12 operations whereas polo shirt requires 16. These are reflected at their CM with 15.2% and 17% respectively.

The segment, other costs, has different pictures. This is more for woven trousers and t-shirt, around 30% for both. This is because both have higher washing charges. Shirt and polo shirt have relatively lower washing charges that finally contributed to their lower other costs. We can illustrate the comparison of major components of costing, like fabric, trims, accessories etc. in the below graph (Figure 1).

5. Conclusion

Bangladesh is still producing basic items, although some factories are moving towards value-added, fancy products. For manufacturing any types of apparels, it is important to consider every cost component carefully. This ensures continuous orders from the buyer's end of the year because all RMG producers are moving towards cost curtailing principles. Thus, minute and careful investigation of costing and continual improvement is vital.

Future Scope

More detailed experiments considering simple to complex types of products can give a more accurate picture of cost analysis for apparels. But for this, a longer time period is needed. Alongside, factories should come forward to provide the researchers with the actual price quotations.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

- [1] Singh, A. and Nijhar, K. (2015) Garment Costing. In: Nayak, R. and Padhye, R., Eds.,

- Garment Manufacturing Technology*, Woodhead Publishing, Cambridge, 447-467.
<https://doi.org/10.1016/B978-1-78242-232-7.00018-7>
- [2] Takebira, U.M. (2016) Proficient Costing Procedure of a Garment from Yarn to Consumer. *American Academic Scientific Research Journal for Engineering, Technology, and Sciences*, **19**, 85-102.
- [3] Kumari, K.P. and Abinesh, A. (2018) Development of Garment Costing Application for Knitted Garments. *EPR International Journal of Research & Development*, **3**, 208-211.
- [4] Pathirana, S. and Heenkenda, N. (2011) Pricing Strategies in the Garment Manufacturing Industry in Sri Lanka. *Annual Research Journal of SLSAJ*, **11**, 84-91.
- [5] Bulgun, E. and Vuruskan, A. (2007) Development of a Software about Calculating the Production Parameters in Knitted Garment Plants. *International Journal of Computer and Systems Engineering*, **1**, 461-467.
- [6] Poonkuzhali, S. (2015) Effective Cost Analysis Model for Apparel Industry. *International Journal of Applied Engineering Research*, **10**, 20263-20276.
- [7] Momotaz, F., Hasan, M.R. and Islam, M.B. (2016) Analyzing the Cost Structure of Garments from Fiber to Fashion. *International Journal of Innovative Science and Modern Engineering*, **4**, 19-21.
- [8] Raihan, M.R., Nizam, M.E.H. and Siddique, A.B. (2021) Develop a Fashion-Based Sustainable Business Strategy to Protect the Latest Threat of Minimum Wages in Bangladesh Garments Industry. *Journal of Textile Engineering & Fashion Technology*, **7**, 24-30. <https://doi.org/10.15406/jteft.2021.07.00264>
- [9] Anner, M. (2022) Power Relations in Global Supply Chains and the Unequal Distribution of Costs during Crises: Abandoning Garment Suppliers and Workers during the COVID-19 Pandemic. *International Labour Review*, **161**, 59-82.
<https://doi.org/10.1111/ilr.12337>
- [10] Bristi, U., Rajib, M.I. and Shoukat, S. (2020) Implementation of Corporate Social Responsibility in the Ready-Made Garment Industry of Bangladesh in Order to Achieve Sustainable Development Goals: A Study on Bangladeshi Garment Manufacturers. *Journal of Textile Science and Technology*, **6**, 232-246.
<https://doi.org/10.4236/jtst.2020.64019>