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Identification of Buyer's Requirements in the Case of Exporting Leather & Leather Goods, Gap Analysis and Way Out

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Abstract

Bangladesh is an emerging economic country in South Asia with a high population density in the world. The leather industry of Bangladesh has huge potential. Despite the availability of raw skins, low-cost labor, and the fact that this sector began a few decades ago, it has not evolved to its full potential. Furthermore, this sector's performance is deteriorating. There is scarce of research on the buyer's requirements in the case leather & leather goods export, so far in knowledge. For doing research on this topic data were collected from various company of the BFLLFEA, BTA and LFMEAB. 7 data were collected from various company of BFLLFEA, 8 data were collected from various company of BTA and 10 data were collected from various company of LFMEAB. The main purpose of this study is to identify buyer's requirements in the case of exporting Leather & Leather Goods, Gap Analysis and Way Out. In analyzing and making interpretation simple tabular methods have been employed. It also identified the relation and association of the leather & leather goods export with the related characteristics. In this study chi-square test had been used for association of the leather & leather goods export with the related characteristics.

Results revealed that the exporters whose company export time is <20 years have the higher percentage distribution than the other category, whose company have not CETP/ETP have the higher percentage distribution than those who have, whose company have not LWG Certificate have the higher percentage distribution than those who have, whose company face problem without LWG Certificate have the higher percentage distribution than those who do not face problem, whose export income per year (in USD) is 6+ Million have the higher percentage distribution than the other category, whose current year export income (in USD) is both 6+ Million and <3 Million have the higher percentage distribution than the other, whose last year export income (in USD) is 6+ Million have the higher percentage distribution than the other category, whose export lowest price per SFT (in USD) is 0.50-1 have the higher percentage distribution than the other category, whose delivery time (in day) is both 20-40 and 40+ (11, 44%) have the higher percentage distribution than the other, whose company have insurance have higher percentage distribution than the exporters whose company do not have.

The core findings was that there was no significant association between Leather & Leather goods Export income per year and different independent variable (like have CETP/ETP, have LWG Certificate, Lowest price per SFT) in the case of all the study population. In the case of the exporters without LFMEAB, there was no significant association between Leather & Leather goods Export income per year and have CETP/ETP, but there was significant association between Leather & Leather goods Export income per year and have LWG Certificate. Also, in the case of all study population it is

observed that there exist significant association/relationship between “Have CETP/ETP” and “Have LWG Certificate”.
Therefore, more attention and further research for the leather & leather goods exporters needs to enhance better export in context of Bangladesh.

Keywords: Leather & Leather Goods Export; BFLLFEA; BTA; LFMEAB; CETP, LWG Certificate

1. Introduction

The leather industry is very important in Bangladesh where there is a large supply of raw hides, the main raw material for the production of matured and finished leather, and the leather and leather products produced meet the local demand as well as have great potential in the export market. In order to prevent environmental pollution and fulfil the compliance needs of foreign buyers, the government has transferred all the tanneries of Hazaribagh in Dhaka to the planned 'Leather Industrial City' located in Hemayetpur, Savar in 2017 for the development of this industry, where the government is trying to provide all kinds of facilities including Common Effluent Treatment Plan (CETP) facilities. In addition to raw hides, water and various chemicals are used in large quantities in the production of tanned and finished leather, where the solid, liquid and gaseous wastes generated at higher rates are very harmful to the environment and the human body. Therefore leather production following compliance is essential where proper management of solid, liquid and gaseous wastes generated must be in place to avoid any harm to the environment and human body. In this case, compliance is mandatory in selling leather and leather products at fair prices in competitive foreign markets. Leather sector ranks second in export sector in Bangladesh whereas tannery industry ranks first in red category according to Bangladesh's 'Environmental Conservation Regulations 2023'. In this case, in addition to complying with local laws to ensure environmental compliance, obtaining an international quality Leather Working Group (LWG) certificate is easily acceptable to foreign buyers. However, in this case, it is specially noted that the current 'Environment Protection Rules 2023' of Bangladesh must be fully followed in obtaining LWG certificate in tannery management. (LWG) is a multi-stakeholder organization that assesses and certifies environmental compliance in leather processing. Established in 2005, the group is comprised of brands, retailers, leather manufacturers, suppliers and technical experts where tanneries and traders are currently certified through an audit protocol. The objective of the group is to ensure “sustainable leather production” in an appropriate environment by following environmental and safety based compliance. In this case, various aspects of tannery such as energy and water consumption, waste management, management of prohibited substances, health, safety, emergency plan, housekeeping etc., are provided with certificates and necessary training and recommendations are arranged for the development of tannery. Total membership of LWG as on April 2023 is 1721. Its main tool is the audit protocol. In the present world, most of the raw material for the production of branded leather goods, matured and finished leather, is collected from LWG certified tanneries, which will be 100% in the next few years. So tanneries in Bangladesh must sell leather at a reasonable price to survive well in today's competitive international market where achieving LWG certification on environmental issues following compliance is a vital requirement. As a result, many waste materials can be used as profitable by-products in addition to protecting the environment [1].
The leather sector of Bangladesh has a high potential for both industrialization and exports. The most positive aspect of the leather sector is that there is a massive source of raw materials. Rahman [2]

reported that Bangladesh constitutes around 5% of the total livestock in the world. About 10% of the demand for the world's total leather markets are met by Bangladeshi leather. But, export earning of this sector is still low, around 2-3% of total export earning comes from leather in spite of having high potential.

Bangladesh economic growth in the pre COVID-19 fiscal year (FY2018-19) was 7.88%, during the COVID -19 period this growth rate declined to 3.45% in FY 2019-20, which increased to 6.94% in FY 2020-21 and 7.10% in FY 2021-22. The GDP growth stood at 6.03% in FY 2022-23 [3]. Historically, exports and remittances have been the two key growth drivers for Bangladesh. However, one industry dominates exports, i.e., ready-made garments (RMG), accounting for over 80% of the annual export receipts [4]. RMG also accounts for over 45% of gross value added in manufacturing. The overwhelming dependence on RMG as a source of export earnings leaves Bangladesh vulnerable to external shocks.

Leather is the second largest sector of Bangladesh next to RMG which is considered as highest priority sector of the government for its increasing high value addition. According to Export Promotion Bureau (EPB) the leather sector accounts for about 4% of total export earnings of Bangladesh in FY 2024-25. The principal raw materials for this sector are cowhides and goatskins. 112-115 big units have facilities for processing wet blue leather only. The remaining 91-95 small, medium and large units having reasonable facilities produce crust and finished leather. Over 50 manufacturers are producing various leather items such as footwear, travel goods, suitcases, briefcases, fashion accessories, belts, wallets, hand bags, case holders etc. for overseas export. The annual domestic supply of hides and skins is around 220 million square feet, consisting of 63.98% cowhides, 32.74% goat skins, 1.09% sheep skin and 2.219%buffalo hides. While 50% of this is consumed locally and rest 50% is exported in the form of semi-finished leather (75%), finished leather (20%), and footwear, handbags, accessories, and other leather goods (5%). The Black Bengal goat skins from Bangladesh enjoy an excellent reputation for quality worldwide.

At present leather and leather products are exported many countries of the world. The major importing countries are: Italy, Brazil, Germany, Singapore, China and the USA. EPB sources report that export earnings from this sector was US$ 1223.62 million in 2022-23, out of which, about 10.09% are from crust and finished leather, 57.52% are from footwear and 32.39% from leather goods. Endowed with a strong stream of local supply of quality hides and skins and a low-wage work force, Bangladesh has all the potentials to increase both export earnings and employment in the leather sector [5].

However, leather sector is considered the most promising one for exports. There is a vast scope for producing and exporting value-added products. Though the export of the leather sector is not getting expected momentum due to some challenges, a remarkable shift has been taking place from less processed products to high value-added products. Currently, Bangladesh exports three categories of products of leather: (i) processed leather, (ii) leather goods and (iii) leather footwear. The contribution of leather goods and leather footwear to the export basket is increasing. Rahman [2] founded that major export destinations are the EU, the US, Australia, Japan, Singapore, and South Korea etc. Export is now facing various challenges, including compliance related challenges. If these challenges can be overcome, the export of this sector has the potential to increase in many folds.

1.1 Literature Review

Bangladesh is an emerging economic country in South Asia with a high population density in the world. Bangladesh is one of the fastest-growing economies with an average GDP growth rate of around 6

percent over the past two decades [6]. The readymade garments industry of Bangladesh commonly known as the RMG sector is the top ambassador of Bangladesh as a country in the global market. Bangladesh has a long great history of undertaking leather processing business. The leather sector is a source of exports, employment, and economic growth as well as beneficial for our whole society [7]. Leather sector is the second-largest export sector of Bangladesh after ready-made garments. Bangladeshi leather is extensively known around the world for its high quality [8] and covered exports account for a mere 0.6% of the global leather [9]. Khan [10] stated that the government of Bangladesh has identified the leather sector as one with considerable growth and investment potential, ranking second in the export sector. The most promising markets for Bangladeshi leather, leather goods, and footwear products to Germany, Italy, France, Netherlands, Spain, Russia, Brazil, Japan, China, UK, Singapore, Poland, the US, Canada, and Taiwan, etc. [8,11]. Bliss [12] found that Bangladesh exports leather and leather goods around 53 countries such as China, France, the USA, Germany, Italy, South Korea, Netherlands, and Vietnam. Having a favourable environment for raising and nurturing animals. Bangladesh's leather is internationally popular for its high-quality fine grain leather, uniform fibre structure, smooth feel and natural texture. Currently, Bangladesh's leather industry is gaining the capacity to produce processed raw leather and leather products in sustainable ways [2]. Rakib [13] found from his study that though the total export earnings of Bangladesh are continuously increasing, the contribution from the leather and footwear industry is fluctuating in the recent years. According to the Export Promotion Bureau (EPB), Bangladesh's second-largest sector in terms of exports, after RMG, leather and leather products worth $1100.18 million in the FY 2022-2023. From the EPB it is found that the values of export of leather and leather products are fluctuating from FY 2018-19 to 2022-2023. This phenomenon can be expressed by the following: (Table 2.1)

Table 2.1 Export Values during FY 2018-19 to FY 2022-23.
(Value in Mn. US$)

Sub-sectors	2018-19		2019-20		2020-21		2021-22		2022-23	
	Value	% of Total	Value	% of Total	Value	% of Total	Value	% of Total	Value	% of Total
Leather	164.62	16.14	98.31	12.33	119.14	12.65	151.37	12.16	123.44	10.09
Leather Products	247.28	24.25	220.55	27.65	252.65	26.83	337.62	27.11	396.37	32.39
Leather Footwear	607.88	59.61	478.75	60.02	569.88	60.52	756.18	60.73	703.81	57.52
Total	1019.78		797.61		941.67		1245.18		1223.62	
Annual Growth	-6.06%		-21.79%		+18.06%		+32.23%		-1.72%	

***Source*: EPB, 2023, Ministry of Commerce, Dhaka, Bangladesh.**

The leather sector includes articles for producing leather (raw hides and skins), leather, articles originated from leather, and leather footwear. In terms of Harmonized System (HS) of classification, the leather sector comprises leather and leather goods under HS 41, 42, 43 and leather footwear under HS 6403. HS 41 includes raw hides and skins (other than fur-skins), wet and crust leather, while HS 42

includes articles of leathers like saddlery and harness, travel goods, handbags and similar containers and articles of animal gut. On the other hand, HS 43 includes fur-skins and artificial fur and other manufacturing products of fur. All kinds of footwear are part of HS 64 category of products. However, leather footwear is mainly considered under HS 6403. As the objective of the current study is primarily leather and leather goods, the research defines leather sector comprising HS 41, 42, 43 and 6403 following conventional practices [14]. Islam [15] presented the history of Bangladesh's leather industry as well as a performance study based on secondary data. The researcher also looked into the industry's future prospects. Paul et al. [8] used case studies to examine several essential environmental facts such as effluent treatment plants, waste management, pollution consequences, and so on. Bangladesh's leather sector was seen as promising by them due to low labor costs, local availability of hides, and a favorable economic environment. But they suggest some rigorous steps to take in developing the infrastructures. Hong [16] conducted a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis of Bangladesh's leather sector. He also mentioned the potential significance of this sector's development for Bangladesh. The industry's major challenges were also to identify the buyer's requirement in the case of export, along with policy recommendations to address them [2].

The first tannery of Bangladesh was established in 1940 by the famous entrepreneur Late Mr. Ranada Prashad Saha in Narayanganj [17, 18]. At the beginning of this industry, tanneries were mostly placed in Narayanganj, after that Hazaribagh area of Dhaka city was the main location for tanneries in Bangladesh [18], but now 105 out of the 155 tanneries have shifted from Hazaribagh to Savar industrial park though factories are not functioning properly. The leather industry has been developed in Bangladesh since the 1970s. At the end of 1990, the leather industry got importance by foreign investment [19]. Besides, some tanneries are not yet in operation as they have not yet completed the construction of building in the Savar leather industrial park that is affected the production capacity and buyers are not making orders over compliance issues, which is largely dependent on the completion of CETP [20, 21]. Besides CETP there are also concerns about solid waste management which are causing considerable pollution in the area. As of now, 105 out of the 155 tanneries have started operations in the park and the factories are not operating in full slap [22]. Patwary [23] described that tannery business in Hazaribagh got momentum and the number of tanneries had increased to around 200 before the liberation war. With the passage of time, the tannery industrial area at Hazaribagh has expanded by more than 270 of small and big tannery factories.

Hossain [21] published a statement of general secretary of Bangladesh Tanners Association (BTA), that the export earnings from the leather industry were in good shape before the inception tannery relocation, but now the tanneries are suffering a huge as the relocation hit the production of leather processing. Besides, some tanneries are not yet in operation as they have not yet completed construction of building in the Savar industrial park and it affected production capacity and buyers are not making orders over compliance issues, which is largely dependent on the completion of CETP. A study by Islam et al. [24] revealed that despite the relocation of tanneries to Savar, many facilities continue to discharge effluents without adequate treatment, resulting in moderate levels of water pollution. Khan et al. [25] demonstrated that vegetable tannins and enzymes could significantly lower the use of hazardous chemicals in tanning, making the process more sustainable. Chowdhury et al. [26] highlighted the potential of membrane bioreactors in treating tannery effluents, achieving higher removal rates of contaminants compared to traditional methods. Hasan [27] documented the challenges faced during the

relocation process, including the incomplete setup of the Central Effluent Treatment Plant (CETP) and lack of proper waste management facilities.

However, this study is trying to identify the buyer's requirements in the case of exporting Leather & Leather Goods, Gap Analysis and Way Out.

1.2 Research Questions

Grounded on the above discussion, the following research questions may be asked:

1. What are the buyer's requirements in the case of exporting leather & leather goods?
2. Is there any gap between buyer's and exporter in the leather sector?
3. Is there any strategies and way forwards to utilize the full potentials for exporting leather and leather goods?

1.3 Objective of the study

The major objectives of the study are:

1. To discover the level of buyer's requirements for exporting Leather & Leather Goods.
2. To analyze gap between buyer's and exporter's demand in the leather sector.
3. To increase awareness & understanding of the stakeholders about the challenges of LDC graduation for exporting leather and leather goods.
4. To explore the strategies and way forwards to utilize the full potentials of the leather sector in context of export.

2. Methodology

2.1 Study population

Exporters from leather and leather goods will be selected as study population.

2.1.2 Study Area

For collecting data in a comprehensive manner Jashore, Khulna, Chattogram and Dhaka will be covered.

2.1.3 Sampling Procedure

The purposive sampling technique will be used for this study.

2.1.4 Sample Size

The sample size will be determined based on the necessity of this research aims and objectives. Due to the resource constraints, Research team has chosen an indicative sample which is 25.

2.2 Sources of Data

The data were collected from various company of the Bangladesh Finished Leather, Leather goods and Footwear Exporters' Association (BFLLFEA), Bangladesh Tanners Association (BTA) and Leathergoods and Footwear Manufacturers & Exporters Association of Bangladesh (LFMEAB). 7 data were collected from various company of BFLLFEA, 8 data were collected from various company of BTA and 10 data were collected from various company of LFMEAB.

2.2.1 Method of data analysis, tools and techniques

The entire analysis of the study is done by Microsoft Word (2010), Microsoft office Excel and statistical package named IBM SPSS (Statistical Package for Social Science) for windows version 22 for processing and analysing the Quantitative data. Finally, different presentation will be used to present the data, information accordingly.

2.2.2 Dscriptive analysis of data

For fulfilling the objectives data should be analysed in applying appropriate methods. But before doing

main analyses the description of data is useful for understanding and explaining results from the main analyses. Description of data could be implemented by providing definition of variables and hence descriptive analysis of those variables.

2.2.3 Descriptive analysis of variables

Descriptirve statistics are usually used to organizing, presenting and analysing data (Argyrous, 2000). Relative frequency distribution is one of the techniques to present variables in the data used and relative frequencies express the number of cases within each value of variable as a percentage (Argyrous, 2000). Descriptive statistics may helpful to describe pattern of sample characteristics. The descriptive statistics for indicator variables used in this study are provided as sample characteristics.

2.2.4 Data Processing and Analysis:

Technically speaking, processing implies editing, coding and classification of collected data so that they are amenable to analysis. For the data processing and analysis following stages are followed:

Coding:

From the questionnaire some variables are collected. List of those variables and their coding are provided in the following:

Table 2.1 Description of the selected variables

Serial No.	Variables	Categories with codes	Scale of measurement
01	Export time of Company (in Years)	<20=1, 20-40=2, 40+=3	Ordinal
02	Have CETP/ETP	0=No, 1=Yes	Nominal
03	Have LWG Certificate	0=No, 1=Yes	Nominal
04	Face Problem without LWG Certificate	0=Yes, 1=No	Nominal
05	Export income per year (in USD)	<3Million=1, 3-6 Million=2, 6+ Million=3	Ordinal
06	Current Year Export income (in USD)	<3Million=1, 3-6 Million=2, 6+ Million=3	Ordinal
07	Last Year Export income (in USD)	<3Million=1, 3-6 Million=2, 6+ Million=3	Ordinal
08	Lowest Price per SFT (in USD)	<0.50 =1, 0.50-1=2, 1+=3	Ordinal
09	Delivery time (in days)	<20 =1, 20-40=2, 40+ =3	Ordinal
10	Have insurance	0=No, 1=Yes	Nominal
11	Association	BFLLFEA=1, BTA=2, LFMEAB=3	Ordinal

2.3 Selection of different Variables

Some variables are selected in this section. This variable describe into two groups i.e., (1) dependent variables (2) independent variables. For analysis some data has been transformed. The original codes of these variables are further coded for our own purposes.

(a) Dependent variables: Dependent variable is the most important factor in any statistical analysis. The main objective of our present study is to find out Identification of buyer's requirements in the case of exporting Leather & Leather Goods, Gap Analysis and Way Out. From our data we have selected the dependent variables named as "Leather & Leather goods export".

(b) Independent variables: There are several variables such as have CETP/ETP, have LWG Certificate, Lowest price per SFT etc. which have relationship with the exporting of leather and leather goods. So, our selected independent variables are have CETP/ETP, have LWG Certificate, Lowest price per SFT.

2.4 Statistical Analysis

Methodology is used in an applied research is equally important as the data. Every method is not suitable for analysing every set of data. Matching of an appropriate methodology for graduating and analysing a set of data is difficult task for researcher. For this reason, in most of the times, researchers use alternative methodology to graduate and analyses a set of data. Finally they compare the finding obtained from different methodology and support logical one as compared with the reality. A brief description of the methods used in this study is given. Components analysis is only a data reduction method. It is compared without regard to any underlying structure caused by latent variables; components are calculated using all of the variance of the manifest variables, and all of that variance appears in the solution (Ford et al., 1986). However, researchers rarely collect and analyse data without a priori idea about how the variables are related (Floyd and Widaman, 1995).

2.5 Measuring the relationship between Leather & Leather goods export and other variables

It would like to study whether there is any association between dependent variable (Leather & Leather goods export i. e. Export income per year (in USD)) and different independent variable (like have CETP/ETP, have LWG Certificate, Lowest price per SFT) etc. For this reason this study used Chi-square statistic for testing any association between the above variables.

It is known that the null hypothesis might be accepted at the 5% level of significance in the 2-sided asymptotic significance level, otherwise the null hypothesis might be rejected. For this particular problem it is observed that the null hypothesis might be accepted at the 5% level of significance when the chi-square test is used.

***2.5.1 Test statistic*:** The test static, $\chi^2 = \sum_{ij} O_{ij}^{\ 2} / E_{ij}$ -N

This follows chi-square distribution with (r-1)*(c-1) degree of freedom.

2.5.2 Hypothesis

The null and alternative hypothesis of this study are set in below:

H_0: There is no association between dependent and independent variables.

Vs

H_1: The H_0 is not true. That means there is association between dependent and independent variables.

3. Results

3.1 Background characteristics of the study population

The study population was selected from the Exporters from leather and leather goods of Jashore, Khulna, Chattogram and Dhaka district. Total 25 respondents of various company of the Bangladesh Finished Leather, Leather goods and Footwear Exporters' Association (BFLLFEA), Bangladesh Tanners Association (BTA) and Leathergoods and Footwear Manufacturers & Exporters Association of

Bangladesh (LFMEAB) were interviewed in the study where 7 data were collected from BFLLFEA, 8 data were collected from BTA and 10 data were collected from LFMEAB. In the Table 3.1 shows the percentage of leather and leather goods exporters according to some characteristics i.e, Export time of Company, CETP/ETP, LWG Certificate, Export income per year, Delivery time, Insurance and Association.

Table 3.1 Percentage distribution of exporting Leather & Leather Goods according to some Variables background characteristics

		Frequency (N)	Percentage (%)	Cumulative Percentage
Export time of Company (in Years)	<20 Years	14	56.00	52.00
	20-40 Years	9	36.00	92.00
	40+ Years	2	8.00	100.00
Have CETP/ETP	No	19	76.00	76.00
	Yes	6	24.00	100.00
Have LWG Certificate	No	23	92.00	92.00
	Yes	2	8.00	100.00
Face Problem without LWG Certificate	Yes	14	56.00	56.00
	No	11	44.00	100.00
Export income per year (in USD)	<3Million	9	36.00	36.00
	3-6 Million	5	20.00	56.00
	6+ Million	11	44.00	100.00
Current Year Export income (in USD)	<3Million	11	44.00	44.00
	3-6 Million	3	12.00	56.00
	6+ Million	11	44.00	100.00
Last Year Export income (in USD)	<3Million	9	36.00	36.00
	3-6 Million	5	20.00	56.00
	6+ Million	11	44.00	100.00
Lowest Price per SFT (in USD)	<0.50 USD	1	4.00	4.00
	0.50-1 USD	15	60.00	64.00
	1+ USD	9	36.00	100.00
Delivery time (in days)	<20 Days	3	12.00	12.00
	20-40 Days	11	44.00	56.00
	40+ Days	11	44.00	100.00
Have insurance	No	6	24.00	24.00
	Yes	19	76.00	100.00

		Frequency (N)	Percentage (%)	Cumulative Percentage
Association	BFLLFEA	7	28.00	28.00
	BTA	8	32.00	60.00
	LFMEAB	10	40.00	100.00

From Table 3.1 it is shown that the frequency and percentage distribution of various characteristics of the leather & leather goods exporters. Percentage distribution was higher for the exporters whose company export time is <20 years (14, 56%) and lower whose company export time is 40+ years (2, 8%) which was very low. The exporters whose company have not CETP/ETP (19, 76%) were higher than the exporters whose company have CETP/ETP. The exporters whose company have not LWG Certificate (23, 92%) were higher than the exporters whose company have LWG Certificate. The exporters whose company face problem without LWG Certificate (14, 56%) were higher than the exporters whose company do not face problem without LWG Certificate. Percentage distribution was higher for the exporters whose export income per year (in USD) is 6+ Million (11, 44%) and lower whose export income per year (in USD) is 3-6 Million (5, 20%). Percentage distribution was higher for the exporters whose current year export income (in USD) is both 6+ Million and <3 Million (11, 44%) and lower whose current year export income (in USD) is 3-6 (3, 12%). Percentage distribution was higher for the exporters whose last year export income (in USD) is 6+ Million (11, 44%) and lower whose last year export income (in USD) is 3-6 Million (5, 20%). Percentage distribution was higher for the exporters whose export lowest price per SFT (in USD) is 0.50-1 (15, 60%) and lower whose export lowest price per SFT (in USD) is <0.50 (1, 4%) which is very low. Percentage distribution was higher for the exporters whose delivery time (in day) is both 20-40 and 40+ (11, 44%) and lower whose delivery time (in day) is <20 (3, 12%). The exporters whose company have insurance (19, 76%) were higher than the exporters whose company do not have insurance. Percentage distribution was higher for the exporters whose company are LFMEAB related is 10 (40%) and lower whose company are BTA related is 7 (28%). It is noted that the exporters of LFMEAB are not directly related to LWG Certificate.

3.2 Association between Leather & Leather goods export and other variables

It would like to study whether there is any association between dependent variable (Export income per year) and different independent variable (like have CETP/ETP, have LWG Certificate, Lowest price per SFT). For this reason in this study it was used Chi-square statistic for testing any association between the above variables.

It is known that the null hypothesis might be accepted at the 5% level of significance in the 2-sided asymptotic significance level, otherwise the null hypothesis might be rejected. For this particular problem it is observed that the null hypothesis might be accepted at the 5% level of significance when the Chi-square test is used.

The association between dependent variable (Export income per year) and different independent variable (like have CETP/ETP, have LWG Certificate, Lowest price per SFT) was provided in the following: (From Table 3.2 to 3.4)

Table 3.2 Association between Export income per year (in USD) and CETP/ETP.

Have CETP/ ETP	Export income per year (in USD)				Cal χ^2, (Pearson), tab χ^2, and ρ value	Monte Carlo Sig. (2-sided) (95%CI)	Significant level of associations at 5% significance
	<3 Million	3-6 Million	6+ Million	Overall			
No (%Within CETP/ETP)	8 (42.1)	3 (15.8)	8 (42.1)	19 (100.0)	χ^2_{cal}=1.586 χ^2_{tab} =5.991 d. f=2 and p=0.452	p=0.594 (0.585-0.604)	Not Significant
Yes (%Within CETP/ETP)	1 (16.7)	2 (33.3)	3 (50.0)	6 (100.0)			
Total (%Within CETP/ETP)	9 (36.0)	5 (20.0)	11 (44.0)	25 (100.0)			

Note: d. f= Degrees of freedom and numbers within brackets indicate the percentage distribution.

Table 3.2 shows the association between "Have CETP/ETP" and "Export income per year (in USD)" with 2 degrees of freedom. The calculated value was lower than tabulated value for the same degrees of freedom at 5% level of significant. Since the calculated value was lower than the tabulated value it may accept the null hypothesis that there does not exist significant association/relationship between "Have CETP/ETP" and "Export income per year (in USD)" at 5% level of significance. Again it get p=0.452 which also indicates the insignificant association between "Have CETP/ETP" and "Export income per year (in USD)" at 5% level of significance. That means there was no association between leather & leather goods export and having CETP/ETP. It is noted that the assumption of the Pearson Chi-square test was violated, with 66.7% of expected cell counts below 5 (minimum expected count=1.20). Therefore, a Monte Carlo simulation with 10,000 iterations was conducted to obtain an accurate p-value. In this case the Fisher's Exact Test value was 1.699.

Table 3.3 Association between Export income per year (in USD) and LWG Certificate.

Have LWG Certificate	Export income per year (in USD)				Cal χ^2, (Pearson), tab χ^2, and ρ value	Monte Carlo Sig. (2-sided) (95%CI)	Significant level of associations at 5% significance
	<3 Million	3-6 Million	6+ Million	Overall			
No (%Within LWG Certificate)	9 (39.1)	5 (21.7)	9 (39.1)	23 (100.0)	χ^2_{cal}=2.767 χ^2_{tab} =5.991	p=0.671 (0.661-0.680)	Not Significant
Yes (%Within	0 (0.0)	0 (0.0)	2 (100.0)	2 (100.0)			

LWG Certificate)					d. f=2 and p=0.251		
Total (%Within LWG Certificate)	9 (36.0)	5 (20.0)	11 (44.0)	25 (100.0)			

Note: d. f= Degrees of freedom and numbers within brackets indicate the percentage distribution.

Table 3.3 shows the association between "Have LWG Certificate" and "Export income per year (in USD)" with 2 degrees of freedom. The calculated value was lower than tabulated value for the same degrees of freedom at 5% level of significant. Since the calculated value was lower than the tabulated value it may accept the null hypothesis that there does not exist significant association/relationship between "Have LWG Certificate" and "Export income per year (in USD)" at 5% level of significance. Again it get p=0.251 which also indicates the insignificant association between "Have LWG Certificate" and "Export income per year (in USD)" at 5% level of significance. That means there was no association between leather & leather goods export and having LWG Certificate. It is noted that the assumption of the Pearson Chi-square test was violated, with 66.7% of expected cell counts below 5 (minimum expected count=0.40). Therefore, a Monte Carlo simulation with 10,000 iterations was conducted to obtain an accurate p-value. In this case the Fisher's Exact Test value was 1.950.

Table 3.4 Association between Export income per year (in USD) and Lowest Price per SFT (in USD).

Lowest Price per SFT (in USD)	**Export income per year (in USD)**				**Cal χ^2, (Pearson), tab χ^2, and ρ value**	**Monte Carlo Sig. (2-sided) (95%CI)**	**Significant level of associations at 5% significance**
	<3 Million	**3-6 Million**	**6+ Million**	**Overall**			
<0.50 (%Within Price)	1 (100.0)	0 (0.0)	0 (0.0)	1 (100.0)	χ^2_{cal}=7.847 χ^2_{tab} =9.488 d. f=4 and p=0.097	p=0.058 (0.054-0.063)	**Not Significant**
0.50-1 (%Within Price)	7 (46.7)	4 (26.7)	4 (26.7)	15 (100.0)			
1+ (%Within Price)	1 (11.1)	1 (11.1)	7 (77.8)	9 (100.0)			
Total (%Within Price)	9 (36.0)	5 (20.0)	11 (44.0)	25 (100.0)			

Note: d. f= Degrees of freedom and numbers within brackets indicate the percentage distribution.

Table 3.4 shows the association between "Lowest Price per SFT (in USD)" and "Export income per year

(in USD)" with 4 degrees of freedom. The calculated value was lower than tabulated value for the same degrees of freedom at 5% level of significant. Since the calculated value was lower than the tabulated value it may accept the null hypothesis that there does not exist significant association/relationship between "Lowest Price per SFT (in USD)" and "Export income per year (in USD)" at 5% level of significance. Again it get p=0.097 which also indicates the insignificant association between "Lowest Price per SFT (in USD)" and "Export income per year (in USD)" at 5% level of significance. That means there was no association between leather & leather goods export and Lowest Price per SFT. It is noted that the assumption of the Pearson Chi-square test was violated, with 77.8% of expected cell counts below 5 (minimum expected count=0.20). Therefore, a Monte Carlo simulation with 10,000 iterations was conducted to obtain an accurate p-value. In this case the Fisher's Exact Test value was 7.414.

From the result of Table 3.2 to 3.4 it is shown that there is no association between the dependent variable and independent variables. Since the exporters of LFMEAB are not directly related to LWG Certificate. So, we can relate the independent variable (like have CETP/ETP and have LWG Certificate) to dependent variable (Export income per year) among the exporters without LFMEAB.

Table 3.5 Association between Export income per year (in USD) and CETP/ETP without LFMEAB.

Have CETP/ ETP	Export income per year (in USD)				Cal χ^2, (Pearson), tab χ^2, and ρ value	Monte Carlo Sig. (2-sided) (95%CI)	Significant level of associations at 5% significance
	<3 Million	3-6 Million	6+ Million	Overall			
No (%Within CETP/ETP)	6 (60.0)	2 (20.0)	2 (20.0)	10 (100.0)	χ^2_{cal}=2.143 χ^2_{tab} =5.991 d. f=2 and p=0.343	p=0.477 (0.467-0.487)	**Not Significant**
Yes (%Within CETP/ETP)	1 (20.0)	2 (40.0)	2 (40.0)	5 (100.0)			
Total (%Within CETP/ETP)	7 (46.7)	4 (26.7)	4 (26.7)	15 (100.0)			

Note: d. f= Degrees of freedom and numbers within brackets indicate the percentage distribution.

Table 3.5 shows the association between "Have CETP/ETP" and "Export income per year (in USD)" with 2 degrees of freedom. The calculated value was lower than tabulated value for the same degrees of freedom at 5% level of significant. Since the calculated value was lower than the tabulated value it may accept the null hypothesis that there does not exist significant association/relationship between "Have CETP/ETP" and "Export income per year (in USD)" at 5% level of significance. Again it get p=0.343 which also indicates the insignificant association between "Have CETP/ETP" and "Export income per year (in USD)" at 5% level of significance. That means there was no association between leather & leather goods export and having CETP/ETP. It is noted that the assumption of the Pearson Chi-square

test was violated, with 100% of expected cell counts below 5 (minimum expected count=1.33). Therefore, a Monte Carlo simulation with 10,000 iterations was conducted to obtain an accurate p-value. In this case the Fisher's Exact Test value was 2.278.

Table 3.6 Association between Export income per year (in USD) and LWG Certificate without LFMEAB.

Have LWG Certificate	Export income per year (in USD)				Cal χ^2, (Pearson), tab χ^2, and ρ value	Monte Carlo Sig. (2-sided) (95%CI)	Significant level of associations at 5% significance
	<3 Million	3-6 Million	6+ Million	Overall			
No (%Within LWG Certificate)	7 (53.8)	4 (30.8)	2 (15.4)	13 (100.0)	χ^2_{cal}=6.346 χ^2_{tab} =5.991 d. f=2 and p=0.042	p=0.118 (0.112-0.125)	**Significant**
Yes (%Within LWG Certificate)	0 (0.0)	0 (0.0)	2 (100.0)	2 (100.0)			
Total (%Within LWG Certificate)	7 (46.7)	4 (26.7)	4 (26.7)	15 (100.0)			

Note: d. f= Degrees of freedom and numbers within brackets indicate the percentage distribution.

Table 3.6 shows the association between "Have LWG Certificate" and "Export income per year (in USD)" with 2 degrees of freedom. The calculated value was greater than tabulated value for the same degrees of freedom at 5% level of significant. Since the calculated value was greater than the tabulated value it may reject the null hypothesis that there exist significant association/relationship between "Have LWG Certificate" and "Export income per year (in USD)" at 5% level of significance. Again it get p=0.042 which also indicates the significant association between "Have LWG Certificate" and "Export income per year (in USD)" at 5% level of significance. That means there was association between leather & leather goods export and having LWG Certificate. It is noted that the assumption of the Pearson Chi-square test was violated, with 83.3% of expected cell counts below 5 (minimum expected count=0.53). Therefore, a Monte Carlo simulation with 10,000 iterations was conducted to obtain an accurate p-value. In this case the Fisher's Exact Test value was 4.354.

Now, we can see the association/relationship between "Have CETP/ETP" and "Have LWG Certificate" among overall exporters.

Table 3.7 Association between "Have CETP/ETP" and "Have LWG Certificate".

Have CETP/ ETP	Have LWG Certificate			Cal χ^2, (Pearson), tab χ^2, and ρ value	Asymp. Sig. (2-sided)	Significant level of associations at 5% significance
	No	Yes	Overall			
No (%Within CETP/ETP)	19 (100.00)	0 (0.0)	19 (100.0)	χ^2_{cal}=6.884 χ^2_{tab} =3.841 d. f=1 and p=0.009	p=0.012	**Significant**
Yes (%Within CETP/ETP)	4 (66.7)	2 (33.3)	6 (100.0)			
Total (%Within CETP/ETP)	23 (92.0)	2 (8.0)	25 (100.0)			

Note: d. f= Degrees of freedom and numbers within brackets indicate the percentage distribution.

Table 3.7 shows the association between "Have CETP/ETP" and "Have LWG Certificate" with 1 degrees of freedom. The calculated value was greater than tabulated value for the same degrees of freedom at 5% level of significant. Since the calculated value was greater than the tabulated value it may reject the null hypothesis that there exist significant association/relationship between "Have CETP/ETP" and "Have LWG Certificate" at 5% level of significance. Again it get p=0.009 which also indicates the significant association between "Have CETP/ETP" and "Have LWG Certificate" at 5% level of significance. That means there was strong association between having CETP/ETP and having LWG Certificate. It is noted that the assumption of the Pearson Chi-square test was violated, with 50% of expected cell counts below 5 (minimum expected count=0.48). Therefore, a Monte Carlo simulation with 10,000 iterations was conducted to obtain an accurate p-value. In this case the Likelihood Ratio value was 6.30.

4. Discussion

From the above results, it can be observed that in the case of the frequency and percentage distribution of various characteristics of the leather & leather goods exporters, the exporters whose company export time is <20 years have the higher percentage distribution than the other category. The exporters whose company have not CETP/ETP have the higher percentage distribution than those who have. The exporters whose company have not LWG Certificate have the higher percentage distribution than those who have. The exporters whose company face problem without LWG Certificate have the higher percentage distribution than those who do not face problem. The exporters whose export income per year (in USD) is 6+ Million have the higher percentage distribution than the other category. The exporters whose current year export income (in USD) is both 6+ Million and <3 Million have the higher percentage distribution than the other. The exporters whose last year export income (in USD) is 6+ Million have the higher percentage distribution than the other category. The exporters whose export lowest price per SFT (in USD) is 0.50-1 have the higher percentage distribution than the other category. The exporters whose delivery time (in day) is both 20-40 and 40+ (11, 44%) have the higher percentage

distribution than the other. The exporters whose company have insurance have higher percentage distribution than the exporters whose company do not have.

On the other hand, there was no significant association between Leather & Leather goods Export income per year and different independent variable (like have CETP/ETP, have LWG Certificate, Lowest price per SFT) in the case of all the study population. Since there was no association between the dependent variable and independent variables in the case of all study population and the exporters of LFMEAB are not directly related to LWG Certificate. It was related the independent variable (like have CETP/ETP and have LWG Certificate) to dependent variable (Export income per year) in the case of the exporters without LFMEAB. Then the result show that there was no significant association between Leather & Leather goods Export income per year and have CETP/ETP, but there was significant association between Leather & Leather goods Export income per year and have LWG Certificate.

Also, in the case of all study population it is observed that there exist significant association/relationship between "Have CETP/ETP" and "Have LWG Certificate".

From the above results and discussion it is clear that in the case of the exporters without LFMEAB, there exist significant association between Leather & Leather goods Export income per year and have LWG Certificate. On other hand, in the case of all study population, there exist strong significant association/relationship between "Have CETP/ETP" and "Have LWG Certificate".

To increase awareness & understanding of the stakeholders about the challenges of LDC graduation for exporting leather and leather goods, some questionnaire related to reasons for not having ETP, LWG Certificate, benefits of those two item and competitors of the respondents were interviewed. Most of them replied that, no drainage line in BSCIC Industrial area to discharge treated water and financial capacity is also a concern for not having ETP or LWG Certificate. The benefit of ETP is to achieve LWG Certificate. The benefit of LWG Certificate is to export high quality leather with high prices to world famous branded companies in the developed countries including Europe. The main competitors of the exporters are the exporters of India, Turkey, Pakistan and other countries.

5. Strengths and Limitations

There are some limitations in this study which are following-

a) Time and cost management is main fact of a research problem as always.
b) This study based on area based regional data which could not able to generalize the results for whole country.

Without the above limitations many variables that affect on the leather & leather goods export. So, from the study it won't be right to think that only these factors are responsible for the leather & leather goods export.

Every study relies on a background beneficiary and the study is conducted for exploring a new vision or modifies the vision of a theory or practice that can lead a better result. In Bangladesh, study about the leather sector in the case of export is very few compared with ready-made garments (RMG). Identification of buyer's requirements in the case of exporting leather & leather goods is a new policy concept that can be used to see a better place for buyers and exporters. Initial step must be required for implanting any study policy. In Bangladesh, very few of journals are published on the buyer's requirements for exporting leather & leather goods. It is a new policy concept that can be used to see a better place for buyers and exporters. The significance revealed that this study will help future

researchers on the other research related to the buyer's requirements for exporting leather & leather goods and way out.

6. Conclusion

Since research is the systematic investigation into and study of materials and sources in order to established facts and research to new conclusion. It is a sincere attempt for finding possible real picture through carefully examination to expand or to verify existing knowledge regarding considered research topics. A research tried to reach its destination through proper investigation on the selected topics. Bangladesh's leather sector has enormous potential. As a Muslim country, this sector has easy access to a large number of raw skins from the animals sacrificed on Eid-Ul-Adha every year. Another advantage of this country is the availability of low-cost labour. Despite these benefits, this industry is not currently performing as much as it should. A declining tendency in this sector's performance has been observed in recent years. The purpose of this study was to identify the buyer's requirements in the case of exporting Leather & Leather Goods, Gap Analysis and Way Out. The data acquired via questionnaires from officials of 25 different companies were reviewed by the researcher in order to achieve these goals. The participants were requested to make answers of various topics.

Summary of the study

In this study an investigation has been made to get a clear conception regarding the leather & leather goods export and related variables. The study population was selected from the Exporters from leather and leather goods of Jashore, Khulna, Chattogram and Dhaka district. Total 25 respondents of various company of the Bangladesh Finished Leather, Leather goods and Footwear Exporters' Association (BFLLFEA), Bangladesh Tanners Association (BTA) and Leathergoods and Footwear Manufacturers & Exporters Association of Bangladesh (LFMEAB) were interviewed in the study where 7 data were collected from BFLLFEA, 8 data were collected from BTA and 10 data were collected from LFMEAB. Respondent's percentage of leather and leather goods exporters according to some characteristics i.e, Export time of Company, CETP/ETP, LWG Certificate, Export income per year, Delivery time, Insurance and Association were shown in this study.

First objective of this study was to know the level of buyer's requirements for exporting Leather & Leather Goods. In the above results and discussion the level of buyer's requirements for exporting Leather & Leather Goods are stated.

The second objective of this study was to analyse gap between buyer's and exporter's demand in the leather sector. To fulfil this objective, chi-square test was used to test the association between Leather & Leather goods Export income per year and different independent variable (like have CETP/ETP, have LWG Certificate, Lowest price per SFT) in the case of all the study population. It was assumed that there was no association between Leather & Leather goods Export income per year and different independent variable in the case of all the study population. Since the results show that there was no significant association between the dependent variable and independent variables in the case of all study population and the exporters of LFMEAB are not directly related to LWG Certificate. It was related the independent variable (like have CETP/ETP and have LWG Certificate) to dependent variable (Export income per year) in the case of the exporters without LFMEAB. Then the result show that there was no significant association between Leather & Leather goods Export income per year and have CETP/ETP, but there was significant association between Leather & Leather goods Export income per year and have

LWG Certificate. Also, in the case of all study population it is observed that there exist significant association/relationship between "Have CETP/ETP" and "Have LWG Certificate".

The third objective of this study was to increase awareness & understanding of the stakeholders about the challenges of LDC graduation for exporting leather and leather goods. To fulfil this objective, some questionnaire related to reasons for not having ETP, LWG Certificate, benefits of those two item and competitors of the respondents were interviewed. Most of them replied that, no drainage line in BSCIC Industrial area to discharge treated water and financial capacity is also a concern for not having ETP or LWG Certificate. The benefit of ETP is to achieve LWG Certificate. The benefit of LWG Certificate is to export high quality leather with high prices to world famous branded companies in the developed countries including Europe. The main competitors of the exporters are the exporters of India, Turkey, Pakistan and other countries.

The fourth and last objective of this study was to discuss the strategies and way forwards to utilize the full potentials of the leather sector in context of export. The way forwards are below:

Way Forwards

To increase Bangladesh's share in the global leather and leather products market and achieve export targets, the following steps can be taken to achieve international quality assurance or LWG certification:

1. Setting targets for all tanneries to achieve LWG certification.
2. Development of International Standard Tannery Industrial Park and declared as Intensive Economic Zone of BSCIC Leather City located at Hemayetpur in Savar without keeping it under BSCIC.
3. Setting up of separate Effluent Treatment Plants (ETP) for larger tanneries and clustering of common effluent treatment plants for smaller tanneries with limited space.
4. To increase awareness among tannery owners about compliance and eco-friendly production.
5. Ensuring training of workers and use of modern technology to increase efficiency and productivity of tanneries.
6. Installation of modern technology for solid waste management.
7. Stop environmental pollution by tannery solid and liquid waste and ensure protection of local rivers and water bodies.
8. Enhancing the brand image of domestic leather and leather products and targeting high value markets to expand the export market of the leather industry.

Policy Recommendation

In this study an investigation has been made to get a clear conception regarding the leather & leather goods export and related variables. Focusing on the leather & leather goods export, exporters need some policy implication to face the challenges. Several study needs to employ in context of the leather & leather goods export. The study pointed out following recommendations:

1. Taking steps to implement the decisions taken by the various committees and task forces formed to overcome the problems of the leather industry.
2. Formation of a central policy and monitoring team to achieve compliance with the LWG Certificate.
3. Initiatives taken by Bangladesh Tanners Association and Leather Goods and Footwear Manufacturers and Exporters Association of Bangladesh to verify the current status of tanneries in terms of compliance in obtaining LWG certificate.
4. Improving efficiency and regular maintenance of existing effluent treatment plants.
5. Increasing research in product design and technology development according to global market demand.

Recommendation for further study

This study (an area based study) is an initial step for the exporters of leather & leather goods in Bangladesh. In the study, it is tried to show the buyer's requirements in the case of exporting Leather & Leather Goods, Gap Analysis and Way Out by its relevant variables. In this study, there shown the buyer's requirements in the case of exporting Leather & Leather Goods, Gap Analysis and Way Out. So this study recommends to study on the identification of barriers, Challenges and way out of the leather industry in Bangladesh in a broad concept. This study may help researchers or scholars in this respect.

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