



Inspiring Excellence

BUS400: INTERNSHIP

Internship Paper On:

*“A CONCEPTUAL MODEL OF DOWNSTREAM SUPPLY CHAIN AND
THE IMPORTANCE OF IT IN BANGLADESH JUTE INDUSTRY”*

In Association With

THE GOLDEN FIBRE TRADE CENTRE (GFTCL)



Submitted to:

Md. Mamun Habib, PhD

Associate Professor

BRAC Business School

BRAC University

66 Mohakhali, Dhaka 1212

Submitted by:

Name: **Mehedi Ahsan Ashif**

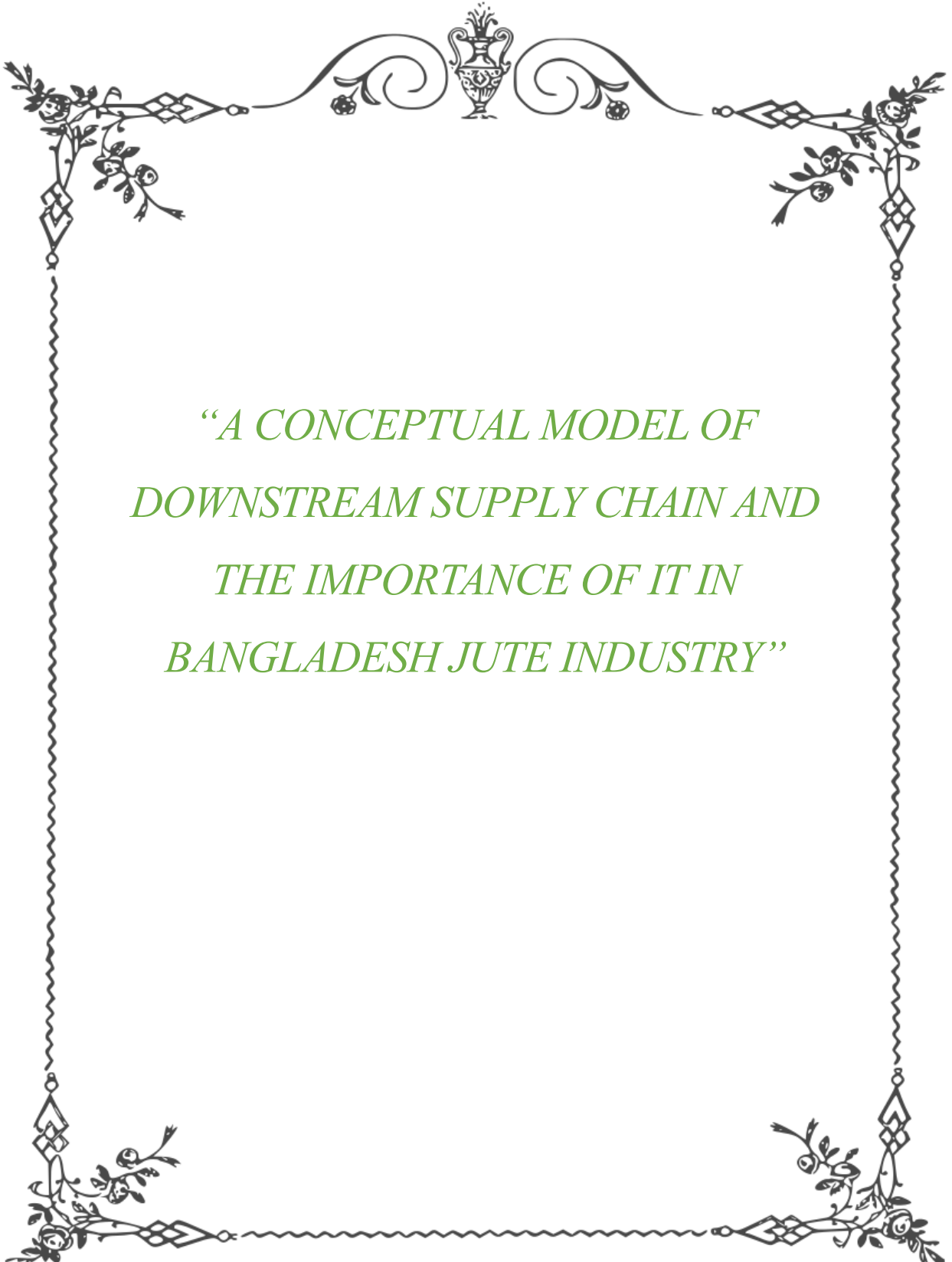
ID: 14204041

BRAC Business School

BRAC University

66 Mohakhali, Dhaka 1212

Date of Submission: 13th December, 2018



*“A CONCEPTUAL MODEL OF
DOWNSTREAM SUPPLY CHAIN AND
THE IMPORTANCE OF IT IN
BANGLADESH JUTE INDUSTRY”*

Letter of Transmittal

29th November, 2018

Md. Mamun Habib, PhD

Associate Professor

BRAC Business School

BRAC University

66 Mohakhali, Dhaka 1212, Bangladesh

Subject: Internship report submission for completing BBA Program.

Sir,

With due respect and humble submission, I am *Mehedi Ahsan Ashif*, ID – 14204041 would like to draw your kind attention to the fact that I am grateful to submit my internship report on “**A conceptual Model of Downstream Supply Chain and the Importance of It in Bangladesh Jute Industry**”, during my internship span of three months with the “Golden Fibre Trade Centre”.

In addition, my heartiest gratitude to you for providing me such a wonderful opportunity to complete this report with your visionary guidance and assistance. I have maintained the regulations stringently while doing this research work and rendered my learnings that I have managed to acquire all through my under-graduation. Furthermore, despite having several confinements I have given my utmost efforts to keep the credibility of the report.

Under the aforementioned circumstances, I fervently express my earnest anticipation that you would be gracious enough to appraise and accept my report so that it would assist me to complete my BBA program.

Obediently Yours-

Mehedi Ahsan Ashif

ID: 14204041

BRAC University



Letter of Endorsement

I hereby, to certify that one of my obedient apprentice **Mehedi Ahsan Ashif**, ID – 14204041, has completed the internship report on “A conceptual Model of Downstream Supply Chain and the Importance of It in Bangladesh Jute Industry” under my instruction and guidance; which is a partial and obligatory requirement for completing the Bachelors of Business Administration (BBA) program from the BRAC University.

In addition, he has stringently followed the rules and regulations as provided by the university authority as well as by me. Furthermore, I with my heartiest benediction; accept his effort and the internship paper that he has submitted by the deadline.

Signature-

.....

Dr. Md. Mamun Habib

Associate Professor

BRAC Business School

BRAC University



Acknowledgement

The internship paper that I have managed to submit within the deadline with the grace of almighty has been possible for the support and assistance of several benevolent and supportive individuals; who provided me with their valuable time and resourceful thoughts.

Firstly, I would like to mention my honorable adviser and ideology **Dr. Md. Mamun Habib** who whole through my internship paper submission procedure has given me insightful thoughts and visionary ideas to fulfill my report maintaining the specific guidelines and regulations.

Secondly, here I whole-heartedly would like to express my appreciation towards my immediate supervisor in “the Golden Fibre Trade Centre (GFTCL)” **Mrs. Aparajita Dhar**, who also helped me in multiple ways: regarding new tasks in the organization, knowing proper corporate etiquette and culture etc.

Last but not the least, another individual whom I should acknowledge with due respect is our General Manager of GFTCL **Md. Faridul Hassan Khan**, for providing me with all the internal data of not only the organization but also of all the jute and jute diversified product related information as well as the sources.



Executive Summary:

Jute, being an environment-friendly crop has engrossed a widespread interest globally in recent times. As a subsequent result, the jute producing countries like Bangladesh has emerged as one of the potential market to fulfill these requirements. Nonetheless, it is a remorseful fact that in Bangladesh for the jute industry; deficiency of proper and effective supply chain management in both the upstream and downstream is the chief factor for the stagnant growth of the jute industry. Therefore, this paper has concentrated on the downstream supply chain of the jute industry and thus, a “conceptual model” of the supply chain that includes all the processes and the stages of the downstream is proposed in the paper. Moreover, the complications of these supply chain stages are highlighted so that they can be scrutinized to aid the related industry. Which in return would elucidate the way to find essential solutions. Besides, the essence of the “outsourcing” in the composite jute mills are also an imperative factor that this research has focused. Most of the mills in jute industry do not possess all the obligatory facilities thus in almost all of the scenarios they need to depend on and outsource the facilities that are absent in their own factories from the small factories or mills having the efficiencies in different specific processes. For instance of this small factories: some may have only the efficiency only on spinning facility, others might have only the expertise of weaving facility and this could be the cases in other facilities as well likewise: dying, laminating, printing, sewing etc. Furthermore, few other main reasons for the interruption of the free-flowing growth of this jute industry are the low-productivity of the machines along with the workers who are engaged in the manufacturing and production processes. As a response of these, prevailing problems several ways and solutions are also discoursed in the research work: new and upgraded machineries should be installed in the jute mills, government should pave a congenial environment for the suppliers, manufacturers of these jute and jute diversified products so that all the parties can have their requisite profits in their respective areas, again the workers are also needed to be provided with up to date training so that they can cope with the current demand of the market. Above all, these research paper would give the overview of the whole downstream supply chain that starts with the composite jute mills and ends up in the customers of the jute and jute diversified products. As a result, the necessary steps to be undergone can be figured out which would eventually lead to the prosperous and stiff growth of the jute industry as a whole.



Table of Contents

OVERVIEW OF THE ORGANIZATION.....	1
Mission and Vision of the company:	1
What GFTCL do and the range of products they deal with:	2
How the company operates and what they offer to their employees:	2
Organizational Organogram.....	3
1. INTRODUCTION OF THE STUDY	4
1.1 Rationale of the study:.....	4
1.3 Objective of the report:	6
1.4 Research Questionnaires:	6
2. LITERATURE REVIEW	7
2.1 Journals:	7
3. METHODOLOGY OF THE STUDY:	8
4. ANALYSIS AND INTERPRETATION OF THE DATA:	9
4.1 Overview of the processes in the proposed conceptual model:	9
4.2 Probable Customization in the proposed model:	13
4.3 Statistics regarding the diversified jute goods:	15
5. FINDINGS OF THE STUDY:	19
6. RECOMMENDATIONS:.....	20
7. CONCLUSION:.....	21
REFERENCES	22

OVERVIEW OF THE ORGANIZATION

As one of the prominent manufacturer and traders of raw jute and jute diversified products in Bangladesh “*The Golden Fibre Trade Centre Limited (GFTCL)*” can be reminisced firmly because of their dedication to the jute and its essence in the country’s economy. “GFTCL” is the mother company of the “*SIMURA Group*” which includes several other concerns as mentioned below:

- 1) SIMURA Industrial and Mercantile Co. Ltd.
- 2) SIMURA Nonwovens Ltd.
- 3) SIMURA Construction Co. Ltd.
- 4) SIMURA Hotel & Resort.

The Golden Fibre Trade Centre Ltd. started its remarkable journey back in 1988 with far-sighted and magnificent leadership of *Mr. Mushtaq Hussain* who is the Managing Director of the company. His legendary supervision and astounding marketing, managerial and business skills has been the main driving force since the inauguration of the company with many passionate personnel around him.

Mission and Vision of the company:

The “*mission*” of the company is as follows:

“Fibre, being the core competency, we promote indigenously grown raw material based products and continuously search for areas where our country’s enormous growth opportunity awaits.”

Again, the “*vision*” of the organization is:

“In commensurate with our core corporate philosophy, we intend to pioneer in every possible prospective area that economy offers where we think Bangladesh have got unparalleled competitive edge.”



What GFTCL do and the range of products they deal with:

As the front-runner in supplying and exporting of different variety of products such as: Raw jute, Mesta (which can also be called as the “Roselle Hemp Fibres”), Kenaf, jute goods of traditional products, jute diversified products; the Golden Fibre Trade Centre has established its own adorable standard not only in Bangladesh but also internationally. As a result of startling performances in the export oriented market the company has proudly earned “*Export Trophy*” in 2014/15.

How the company operates and what they offer to their employees:

The head-quarter of the organization is established in Banani DOHS, Dhaka which is void of the usual chaos of city life and notably the office is adjacent to the Kurmitola Golf Course that enables charming view of the course, the lakes and the greenery.

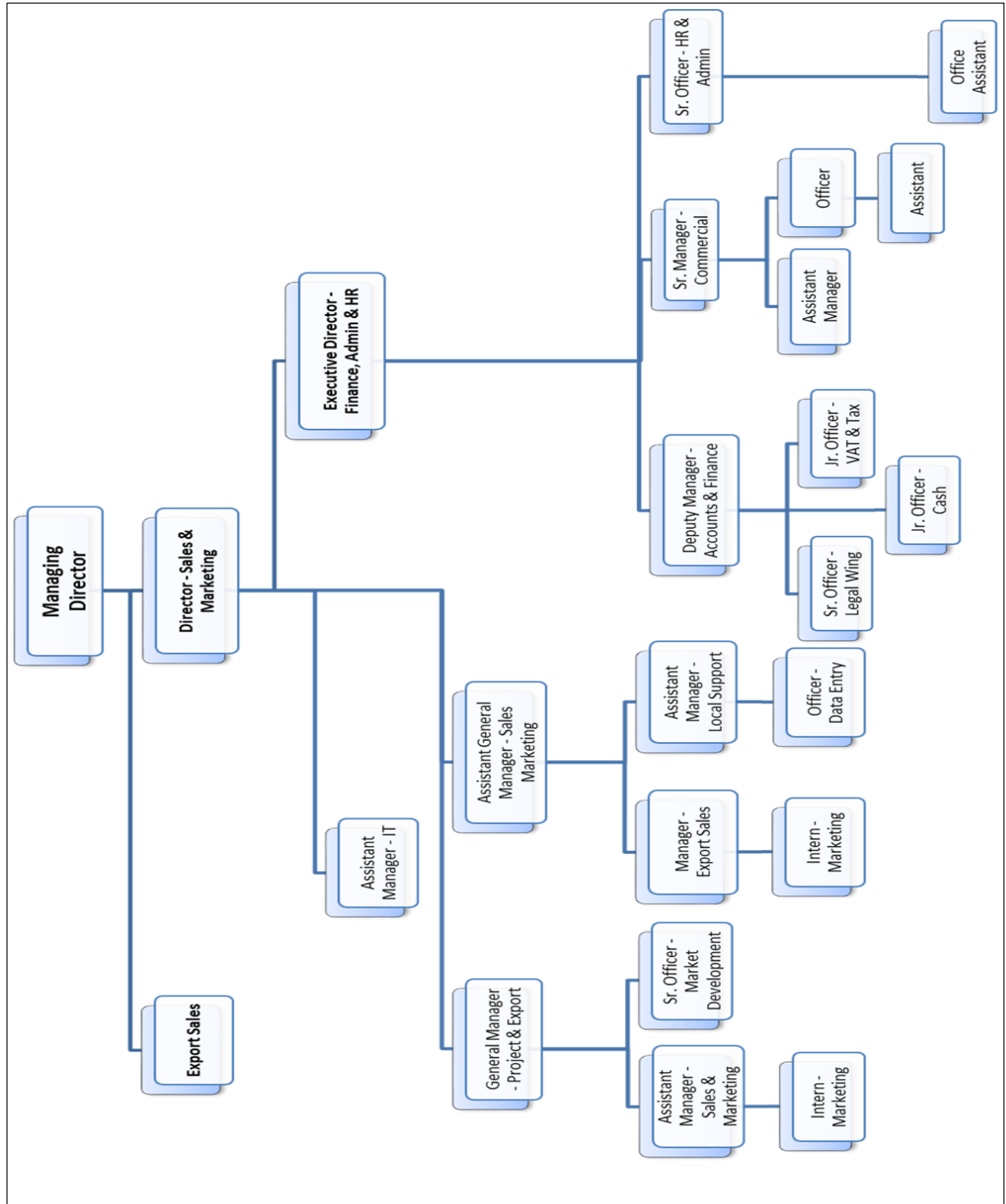
In addition to this GFTCL has its factory and warehouse in Jamalpur district at Sarishabari. Where the initial lengthy and the critical processes of raw jute: starting from the cultivation to the assortment of the raw jutes are done with sheer expertise and maintaining the utmost quality.

Having said that the organization has almost 200-300 employees and workers who with their support combining with the blueprint of the managing director **Mr. Mushtaq Hussain** is steering the wheel of the Golden Fibre Trade Centre (GFTCL) with valiant determination. Therefore, the company currently possessed registered capital of resounding US\$ 50 Million to US\$ 100 Million.

Furthermore, the employees work here with absolute freedom and agility as the company ensures all the necessary labor acts for creating a win-win situation for both the organizations and the workers.



Organizational Organogram



1. INTRODUCTION OF THE STUDY

1.1 Rationale of the study:

“**Jute**” (scientifically known as *Corchorus*) can be referred as the “**Golden Fiber**” was by far the highest exported item in Bangladesh in early 70’s as the export share was 90%. However, it lost its luster afterwards and fallen apart in second or third position as the exported item; losing its position to other items, mostly to the non-traditional items that can be defined as garments products or ready-made garments (RMGs) (Rahima, 2015). The reasons behind this are: because of the mismanagement in the production procedures and lack of visionary guidelines. Nevertheless, due to the fact that the world has welcomed the environment friendly products; jute grabbed the attention extensively again and thus globally the demand of the diversified jute goods in the world market has risen drastically from the eve of the 21st century. As a result Bangladesh was bound to respond and thus the government with more facilities and incentives urged all the related stakeholders of the jute industry to lift the production of jute and jute diversified products in order to pounce on the opportunity to exploit the demand of jute globally. On the contrary, the absence of an appropriate and effective supply chain has been a remarkable failure which always squeezed the growth of the jute industry in Bangladesh.

Traditionally, the usage of jute is of two kinds and these are in the form of *sacking* and *hessian*, which are being used as the packaging materials of the products related to the agriculture, also for the cement, insecticides & fertilizers, in manufacture oriented industries. Moreover, other traditional use of jute has been: the CBC- carpet backing cloth, jute yarn and jute twine from the past history. In addition to these, as Bangladesh is trying to focus on more items that could add further value to the jute; more value added products of jute are lining up which are known as Jute Diversified Products (JDPs). Such as: jute (shopping, ladies, official etc.) bags, different textile products- technical, geo, home textiles and also others- pulp & paper, items for decorations, handicrafts, different patterns of floor coverings & matts, jute shoes or foot wears etc. (Rahima, 2015)



On this note, supply chain model (SCM) for manufacturing (see figure 1) is essential because it ensures few major aspects in the supply chain. Starting from the suppliers, the manufacturers, the distributors, the retailers, the service providers, the customers and the consumers all of them are the part of these SCM. Besides, the SCM should be understood and maintained because this could aid the manufacturing industry in many folds; for instance: in terms of refining the operations, outsourcing with superiority, to increase the profit margins, to upsurge the satisfaction level of the customers, ensuring quality product manufacturing, working out with the stressful deals, to become more globalized, for adapting with the growing need of E-commerce and for the ever-growing complexity in the supply chain. (Shahriar, Pathik, & Habib, 2014) (Habib, 2014) (Habib, 2010)

However, progressively the supply chain management is welcomed in most of the industries where the competitions is ever-increasing; because it ensures the growth as well as profit for the organizations. (Habib, 2011)

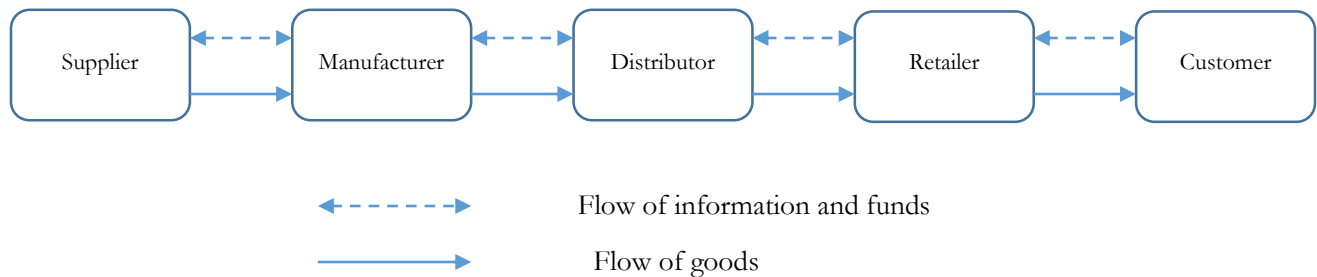


Fig. 1: The Basic Supply Chain of Manufacturing Industry.

The objective for this research or report is to establish a conceptual framework of downstream supply chain of jute and jute diversified products in Bangladesh. Furthermore, to find out the possible solutions to overcome the barriers in the downstream supply chain so that the overall supply chain of jute industry in Bangladesh becomes more efficient.



1.2 Scope and Limitation of the research:

In term of scope of the paper: as all the stages starting from the composite jute mill to the customer end are focused here; therefore all the “stakeholders” that cumulatively construct the stages of the supply chain, such as: the jute mill factories, the workers of all of these factories, related environment surrounding to all of these elements, the customers altogether can be considered as the research area or scope for this internship paper.

Whereas, for the limitations: during the research of the downstream supply chain of the jute industry, it was not possible to visit any factories to examine the processes in the factories. All the processes are explained and presented through secondary data sources. Therefore, lack of primary data is one of the major limitations of the research. Moreover, as only the downstream SC is discussed, several aspects of upstream SC of jute industry are required to be understood by the prospective researchers to understand the paper. Which could also be considered as a limitation hence the upstream supply chain is not covered here. Another major issue is, for the sample population regarding the customers; most of the customers have limited idea about jute and jute diversified products which hampered the survey results during the research work.

1.3 Objective of the report:

This descriptive study will aid the jute mills to figure out the essence of the proper supply chain management for ensuring lucrative and proper outcome from the jute, as the downstream supply chain model of jute industry will reflect a clear picture of the processes that are included in it. Moreover, prospective researchers could find it beneficial for further research in this sector to improve the SCM further.

1.4 Research Questionnaires:

The questions that this particular research paper would try to answer are: 1) what are the problems in the processes or the stages in the downstream supply chain of the jute industry in Bangladesh that are eventually resulting the sluggish growth in this sector in the country? 2) What are the solutions for overcoming these problems?



2. LITERATURE REVIEW

2.1 Journals:

“Process Flow Chart and Factor Analysis in Production of a Jute Mills” is a research paper by the author described the process flow chart and the factors that have effect directly on the production of jute. The research work was done based on the results found in the production unit of Akij Jute Mill. According to the author, as per the demand all over the world for the jute and jute diversified products; such as: raw jute, yarn, fabrics, rope and wires and so on, Bangladesh produces wide range of these products. Unlike from the other crops’ production like cotton and others, the flow chart of the process of jute production replicated that its process is not the same as them. These processes include Selection of Jute for Batch, Piecing Up, Softening or Lubricating, Batching (Pilling), Carding, Drawing Frame, Roving for fine Yarn, Spinning Frame, Winding, Beaming, Weaving, Cutting, Folding, Sewing, Bailing, Export. Among them few important stages are: **1) Selection of Jute for Batch:** At this stage of process the raw jutes were scrutinized by the expert workers from the raw jute bales to find the imperfect and below par sections of the raw jutes. **2) Piecing Up:** With the assistance of the skillful workers the jute ropes are cut and knotted into bundles tightly. **3) Spinning Frame:** Spinning is operated on to jutes to extract yarns from raw jutes, also the purpose is to acquire the targeted linear density and strength of the yarns from jute fibers. (Shakil, Ullah, & Lutfi, 2013)

Besides, another paper *“Jute Goods Exports to Australia: An Analysis of Market Potentials for Bangladeshi Jute Products”*; where the author discussed about the flow of diversified jute products, the essence of the value chain system, production capacity and the export performance of the jute industry in Bangladesh. According to the author, being the largest exporters of diversified jute products, Bangladesh can expand the horizon of markets in which the country already exports and as a reference Australia has taken into contention. (Rahima, 2015)



3. METHODOLOGY OF THE STUDY:

As discussed earlier the most of the data gathered in this research work are based on the sources that are considered as the secondary sources such as: journal papers, conference papers. Different statistics are shown based on the previous records in tables and also in graphs.

Population: Furthermore, in this research the overall composite and other jute related mills will be in the contention for the *population*, as the paper will highlight the processes in the jute mills that will eventually relate the paper with the downstream supply chain of jute industry in Bangladesh.

Type of the research: Besides, as the research paper will try to figure out a conceptual model for the downstream SC from the theoretical models, the characteristics of the population is known. Thus, the *research type* of the paper is descriptive and qualitative.

Target population: And in terms of the *target population* for this research; the jute mills, the related employees, laborers and also the customers of the jute and the jute diversified products are taken into concern.



4. ANALYSIS AND INTERPRETATION OF THE DATA:

4.1 Overview of the processes in the proposed conceptual model:

Here in this research paper the supply chain focuses on the stages that a composite jute mill and a diversified jute mill factory perform. Basically, these mills and factories follow a similar kind of procedure to manufacture finish products such as: sacking, hessian, floor coverings, rugs and carpets, rope and wires, bags etc. that are made of jute. And these procedure includes various operations such as: spinning, weaving, dyeing, printing, cutting, laminating, and sewing. All these operations are inter-connected and responsible for an ensured quality and standardized end product of jute that are eventually reached to the customers directly or through different middlemen such as trader, shippers etc. And thus, the mills and the factories require to install and ensure dedicated units with all necessary facilities such as: workers, machineries and favorable working environment.

Henceforth, in order to perform all these steps in an ordered and organized manner, implementation of a proper and worthwhile supply chain management is essential. This would multiply the outcome of the jute mills and the overall industry by manifolds. However, it is an irony that though the jute has a widespread influence in our country's economy and lifestyles of many people; not sufficient efforts had been made in this regards till date. Thus, the basic supply chain model that the paper hereby has focused is visualized below in the **Figure 2**:



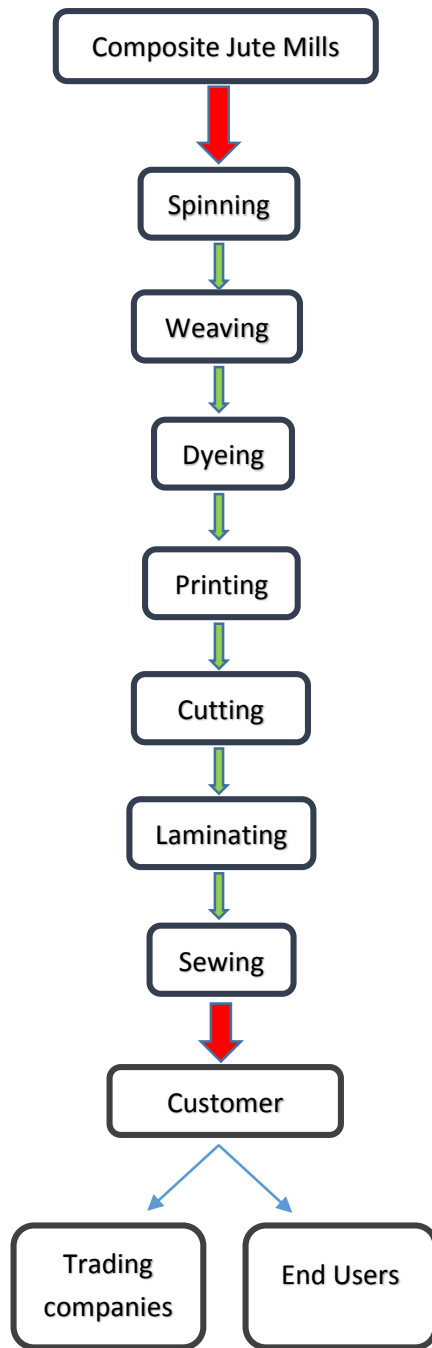


Fig. 2: Proposed Conceptual Model of Downstream Supply Chain for Jute Industry in Bangladesh.



The processes in the above figure are explained in the following segment so that it could be comprehensible for the further understanding of the paper:

- ❖ Spinning: In the steps in the supply chain that starts from the composite jute mills first comes the “spinning”. Which is basically a process to convert the raw jute into jute yarns through a sequence of other individual operations such as: batching or grading the jutes, softening, piling and carding.
- ❖ Weaving: After spinning it is turn for the “weaving” process and with the assistance of this the jute yarns are converted into jute fabric. Here two basic terms are “*warp*” and “*weft*” which can be defined respectively as: the thread that operates on the length and the other on the width in the weaving machines. Adding that, the weaving machines are known as looms; in order to produce hessian and sacking two separate kinds of looms are used. Moreover, operations included in the weaving process are: Shedding, Picking, and Beating. (Shakil, Ullah, & Lutfi, 2013)
- ❖ Dyeing: This is the process which is done to give various colors to the jute fabrics. In the jute mills there are different machines and step by step processes to dye the jute fabrics. For dyeing there are two kinds of procedures: using synthetic dyes and another one is using natural dyes. (Chattopdhyay, Pan, & Khan, 2018)
- ❖ Printing: For customizing the jute fabrics with different artworks and designs the process of printing is important for the composite jute mills. Moreover, this printing is performed according to the needs and demand of the customers.
- ❖ Laminating: Another important stage in the supply chain of the composite jute mills is the lamination of the dyed and the printed fabric. A special kind of gum is used to laminate this jute fabrics and also this lamination gum varies in term of the quality.
- ❖ Cutting: When these jute fabrics are processed through different other facilities and operations as mentioned above then they are cut in accordance with the specifications that the customers provide to the jute mills.



- ❖ Sewing: Sequentially, after all of the required procedures of these jute mills when the jute are manufactured following all the instruction of the customers; then the sewing process is operated. This process can be described as: joining various parts with the sewing threads which includes three types of operations such as mechanical (stapling and sewing), physical (welding) and chemical in order to give shape and desired outlooks to the different diversified products of jute; such as: sacking, hessian, bags etc.

Afterwards, when these inter-related steps and operating procedures in the jute mills are completed; the products that are produced from these processes are then sent to the quality check department where different inspecting companies may scrutinize the products. When this department gives approval the products are ready to distribute to the customers; who can be of numerous kinds as follows:

- ❖ Trading companies: After all the processes in the composite jute mills that constitute a major part in the jute supply chain the end products of the diversified jute are distributed to the customers through different companies who act as the middlemen. These companies can be defined as the “Trading companies” who work as bridge between the buyers of the suppliers or the manufacturing companies of these jute diversified products.
- ❖ End users: Furthermore, the customers can directly buy or order from the jute mills and in that kind of scenario these customers can be referred as the end users. Likewise, different organizations may contact the mills to provide them a certain amount of jute diversified products for various occasions.

In this research work, the basic model that is presented includes these above mentioned elements; even though there could be specific modifications in several occasions as the jute mills may not have all the facilities in their grasp. Thus, the possible adaptations that the jute mills required to undergo are described in the subsequent segment.



4.2 Probable Customization in the proposed model:

The basic model that the research paper has emphasized here can be customized due to this. And these differences are because, all the composite mills do not consist of all the facilities required to process the raw jute to diversified jute goods. In this regard, the role of the outsourcing is an important aspect. Therefore, the stages in the supply chain model can vary in different circumstances, as a result changes in the supply chain model could be as follows:

Firstly, few composite jute mills might have all the facilities except the “**Spinning**” and “**Weaving**” facility which they need to outsource. In that case the difference in the supply chain model is presented in “*Figure 3*”.

Secondly, some of the mills in their factories may need other facilities to be done by the help of outsourcing. Like this one; where the jute mill possesses all the facilities other than the “**Dyeing**” and “**Laminating**” facilities and thus required these two facilities to be outsourced from the other factories having those facilities. For which the basic supply chain can be changed as shown in “*Figure 4*”.

Besides, the supply chain model can also have different shapes other than the two that is highlighted in this research. But the importance of outsourcing is vivid as the jute mills might not have all the facilities under the same roof. And this actually unleashes opportunities to the jute mills to become competitive in the market; such as: the mills that have more connections and networks with the small factories and mills to get their job outsourced would certainly have edge over other jute mills with less options or connections to outsource. Then again comes the question of efficiency and integrity of the processes that a jute mill possesses to achieve competitive advantages from the other mills. But overall these supply chain models of jute industry will indeed showcase the gradual steps included while producing jute products and also will aid to understand the obstacles in each stage that are hampering the progress in this sector.



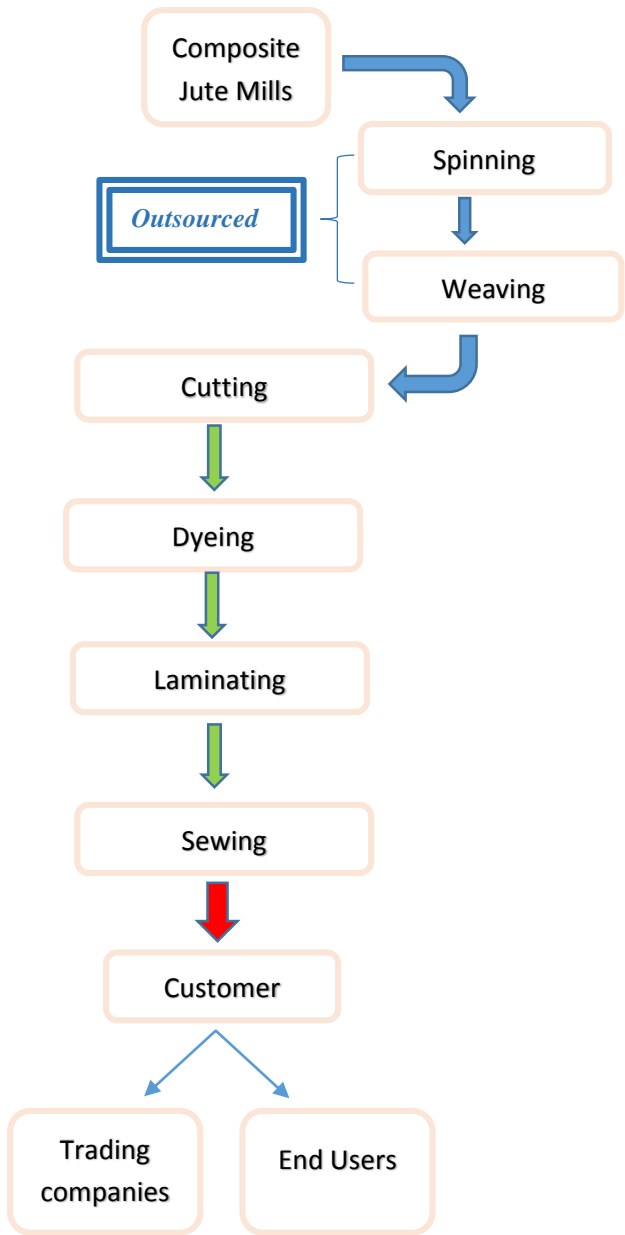


Fig. 3: Outsourcing of Spinning and Weaving

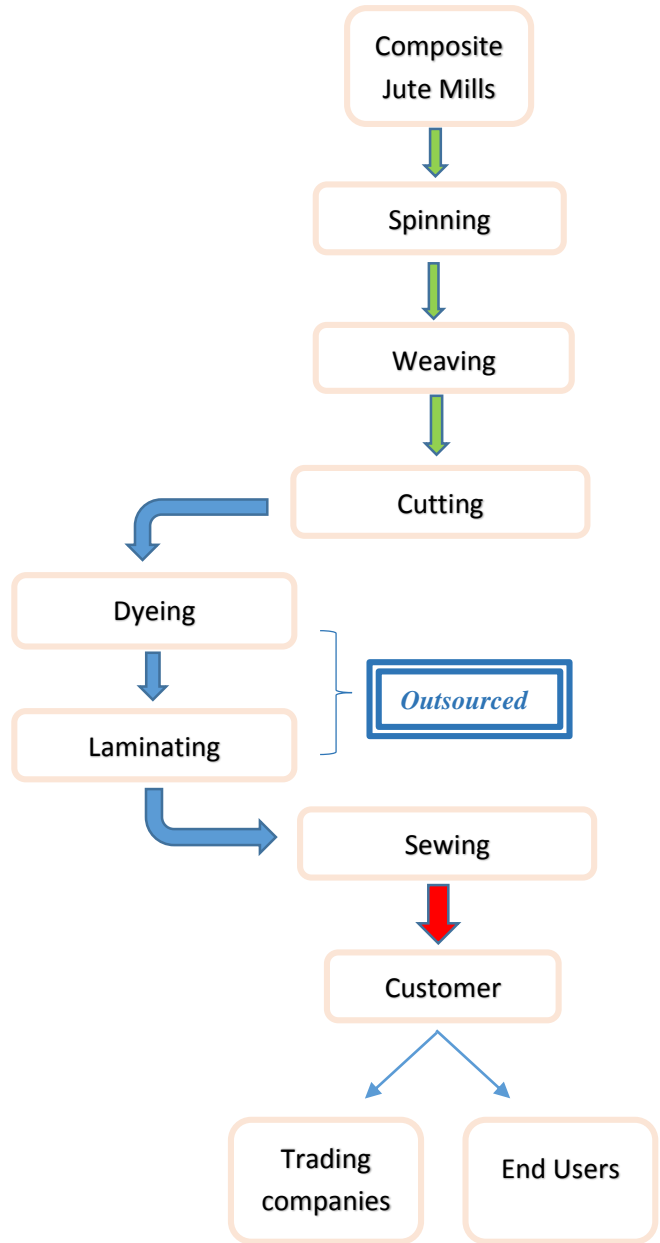


Fig. 4: Outsourcing of Dyeing and Laminating



4.3 Statistics regarding the diversified jute goods:

There are numerous statistical evidences that determine that the jute diversified products have indeed a bright prospect in Bangladesh for both local and international implications. Recent data exhibit that the consumption of these value added jute products in the whole world is increasing drastically. Therefore, this data give the clue that the jute diversified products can grab attention environmentally, economically and thus need to give concentration to make this products as more local earning as well as foreign currency earning products through exporting. The following table highlights the quantity of the amount of jute goods (Value in '000' US\$) exported to various countries whole through the world during the period of July-June, 2015-16:

Sl.	Countries	Jute Goods (Value in '000' US\$)	Sl.	Countries	Jute Goods (Value in '000' US\$)
1	Afghanistan	113	23	Denmark	113
2	Algeria	3445	24	Dominican Rep.	46
3	Argentina	337	25	Ecuador	438
4	Australia	4052	26	Egypt	28878
5	Austria	164	27	EL-Salvador	128
6	Azerbaijan	14	28	Estonia	75
7	Belarus	2084	29	Ethiopia	923
8	Belgium	24016	30	Faeroe Iceland	47
9	Benin	524	31	Finland	34
10	Brazil	5582	32	France	1199
11	Brunei	26	33	Gambia	67
12	Bulgaria	297	34	Germany	3202
13	Canada	557	35	Ghana	39
14	Chile	1214	36	Greece	1254
15	China	89548	37	Grenada	44
16	Colombia	20	38	Guatemala	386
17	Comoros Isl.	58	39	Guinea	591
18	Congo	327	40	Guinea Bissau	1104
19	Costa Rica	730	41	Honduras	796
20	Croatia	56	42	Hong Kong	15
21	Cyprus	31	43	Hungary	95
22	Czech Rep.	103	44	Iceland	594



Sl.	Countries	Jute Goods (Value in '000' US\$)	Sl.	Countries	Jute Goods (Value in '000' US\$)
45	India	164059	81	Paraguay	25
46	Indonesia	24835	82	Peru	833
47	Iran	39768	83	Philippines	150
48	Italy	1111	84	PNG	1459
49	Ivory cost	9868	85	Poland	1519
50	Japan	6190	86	Portugal	363
51	Jordan	4475	87	Qatar	167
52	Kazakhstan	528	88	Romania	1413
53	Kenya	3249	89	Russia	12590
54	Kiribati	56	90	Rwanda	91
55	Korea Rep.	4994	91	Sao Tome Principe	27
56	Laos	111	92	Saudi Arabia	6365
57	Lebanon	897	93	Senegal	42
58	Liberia	117	94	Serbia	29
59	Libya	1102	95	Sierra Leone	246
60	Lithuania	381	96	Singapore	30
61	Local Sale	6177	97	Slovenia	114
62	Madagascar	610	98	Solomon Isl.	155
63	Malawi	23	99	Somalia	15
64	Malaysia	1157	100	South Africa	685
65	Malta	10	101	Spain	5972
66	Marshal Island	38	102	Sri Lanka	1830
67	Mexico	1526	103	Sudan	5596
68	Moldova Rep.	382	104	Sweden	2
69	Mongolia	165	105	Switzerland	22
70	Morocco	3508	106	Syria	57
71	Mozambique	98	107	Taiwan	475
72	Myanmar	322	108	Tajikistan	711
73	Netherlands	12589	109	Tanzania	1878
74	New Zealand	2017	110	Thailand	875
75	Nicaragua	200	111	Togo	21
76	Nigeria	1557	112	Tunisia	1874
77	Norway	81	113	Turkey	175620
78	Oman	26	114	U.A.E	7368
79	Pakistan	3895	115	U.K	3185
80	Panama	23	116	U.S.A	18315



Sl.	Countries	Jute Goods (Value in '000' US\$)	Grand Total = 746410 (Value in '000' US\$)
117	Uganda	2219	
118	Ukraine	354	
119	Uzbekistan	12338	
120	Vanuatu	212	
121	Venezuela	35	
122	Vietnam	6225	
123	Yemen	23	
124	Zimbabwe	10	
125	Other Countries	5364	



High volume of export

Source: Export Promotion Bureau, Bangladesh



The following graph highlights the major countries to which the jute diversified goods are exported during 2015 July to 2016 June. Moreover, the following data also reflects countries like Egypt, Belgium, China, India, Indonesia, Iran and Turkey are the main markets that are grabbed attention from the Bangladeshi jute diversified products manufacturers and traders in recent years. In addition the graph has been made from the previous statistics table's high volume of jute diversified products exported countries (highlighted as *green* shade):

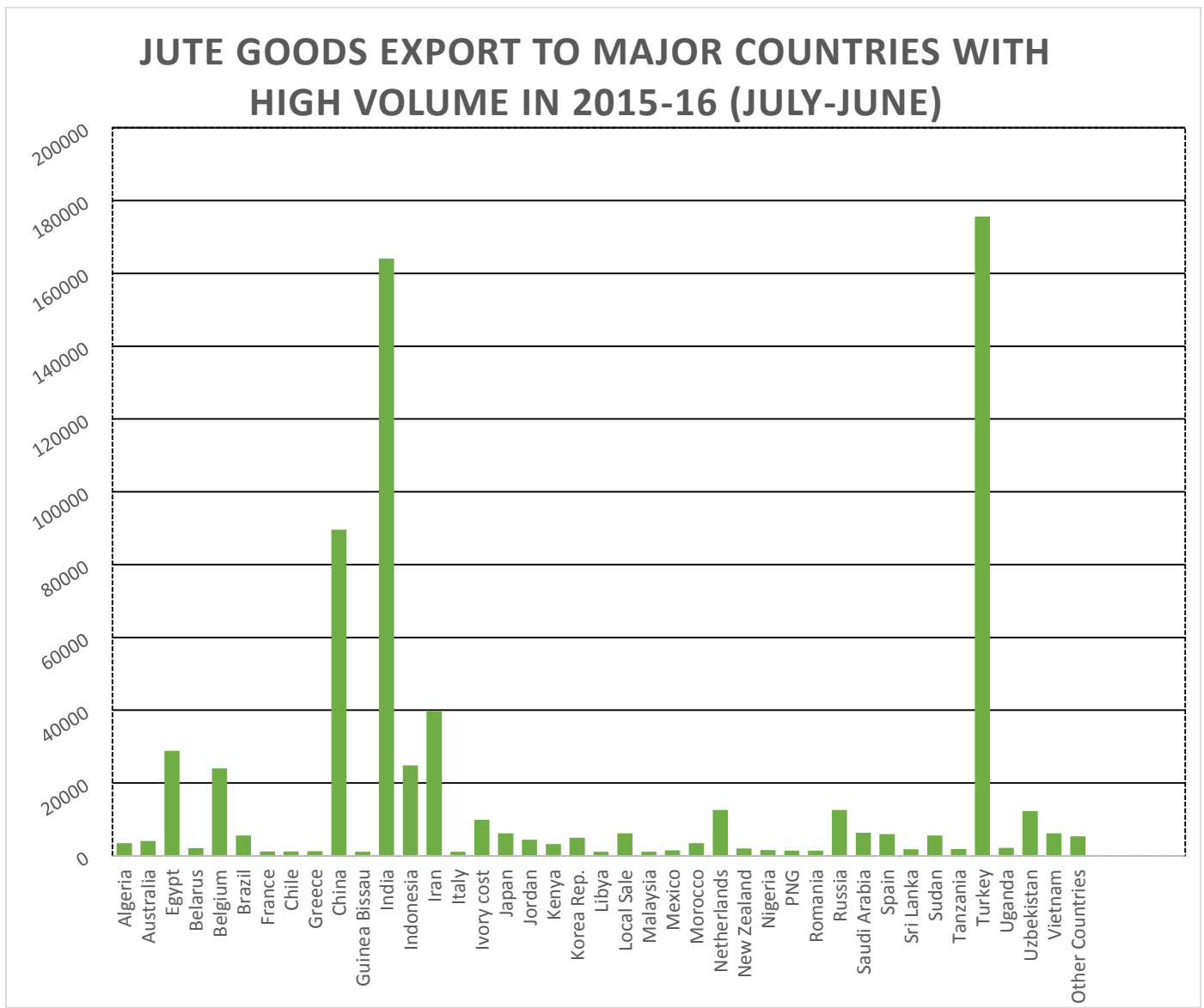


Fig. 5: Major Jute Diversified Products Export Countries in 2015-16 (July-June)



5. FINDINGS OF THE STUDY:

After all the drawbacks that could be made from this study on the downstream supply chain there are numerous findings that can be drawn:

If the jute mills in our country need to start working properly then for all the processes; they need collaborations with their supplier sources of the raw jutes, yarns, fabrics etc. But most of the occasions the jute mills and the supplier sources do not have this linkage that can be defined as forward and the backward linkage.

Moreover, the production units of these facilities are not always up to the standard because of the machineries that the jute mills use in Bangladesh are not well equipped in most of the cases. Which ultimately hampers the production of the diversified jute products.

Another, essential point that needs also to be addressed as one of the findings of this study is, the workers and the labors work in this composite jute mills are lacking of efficiencies. This is because during the research it has been found that, the workers in Bangladesh compared to the workers in China and India are less productive and efficient: if a worker's productivity is 3 units per minute then this is almost double in case of the workers in China.



6. RECOMMENDATIONS:

In regard to the, findings that are figured out based on the outcomes of the research paper the recommendations and further study that can be suggested are pinpointed below:

Governmental assistance to collaborate among the suppliers and the mills: In order to create a smooth and cooperative relation between the raw jute suppliers and the jute mills in Bangladesh effective steps, rules and friendly atmosphere need to be ensured and implemented by the direct assistance of the government through the local influential figures. This could ultimately give security for both the supplier end and the jute mills.

Effective auditing units should be a ensured: Regarding the performances of the machineries that the jute mills are using, proper auditing units need to be assigned to assess the performances of these machines such as: the spinning machines, weaving machines that are known as weaving looms, printing presses, sewing machines and so on.

Keep up-to-date with the technology: Another essential recommendation is, in order to attain more efficiency the jute mills that are using machineries of old models should be equipped with up to date machines and equipment which could indeed increase the performance of their production.

Providing with necessary training: With the improved machineries that are needed for the composite jute mills also the labors, workers and the technicians who operate these; require proper training and understanding of them. As a result they could know the capacity of these machines as well as how efficiently they need to perform in order to get the coveted production results. Therefore, whether the government or the jute mills or in combination of both; the workers and the labors who work in these jute mills should be provided with new training and expertise knowledge.



7. CONCLUSION:

The paper has immersed to establish a downstream supply chain model of the jute diversified products that encompasses with various stages, processes and steps. Adding to that, the model signifies the quintessence of the supply chain in the jute diversified industry as the related problems are identified and the respective solutions are also drawn in the paper. As a matter of fact all the composite factories, the equipment in this factories, the workers, the working conditions and surroundings are highlighted to specify all the understanding regarding the supply chain stages of the industry. Henceforth, the paper and the proposed model would assist the concerned group such as: the owners of the composite jute mills, the government, the workers and so on to apprehend the potential of an integrated supply chain model at the lower end or the downstream supply chain. Thus the aforementioned factors that are being pinpointed in this research paper would increase the overall production of the jute diversified products if the proper urgency is shown in solving the problems in each of the segments of the proposed supply chain model.



REFERENCES

- Chattopdhyay, S. N., Pan, N. C., & Khan, A. (2018). Printing Of jute fabric with natural dyes extracted from manjistha, annatto and ratanjot. *Indian Journal of Fibre & Textile Research*, 43, 352-356.
- Habib, M. (2010). Supply Chain Management: Theory and its Future Perspectives. *International Journal of Business, Management and Social Sciences (IJBMS)*, 1(1).
- Habib, M. (2011, September). Supply Chain Management (SCM): Theory and Evolution. (D. M. Habib, Ed.)
- Habib, M. (2014). Supply Chain Management (SCM): Its Future Implications. *Open Journal of Social Sciences*, 2(9), 238-246.
- Rahima, A. (2015). Jute Goods Exports to Australia: An Analysis of Market. *International Journal of Management & Business Studies*, 5(2), 21-30.
- Shahriar, M. F., Pathik, B. B., & Habib, M. M. (2014, December). A Research Framework of Supply Chain Management in Ready Made Garments Industry of Bangladesh. *International Journal of Business and Economics Research*, 3(6-1), 38-44.
doi:10.11648/j.ijber.s.2014030601.12
- Shakil, M., Ullah, M. R., & Lutfi, M. (2013, December). Process Flow Chart and Factor Analysis in Production of a Jute Mills. *Journal of Industrial and Intelligent Information*, 1(4), 247-254. doi:10.12720/jiii.1.4

