CASE STUDY

March-April 2024

Total marks: 100 Time allowed: 4:30 hours

Instructions:

- 1. Check that your question paper contains all the exhibits as mentioned in page 3. The consecutive page numbering may be found under the base line at the foot of each page.
- 2. Use the answer script provided by the Institute. Write your name, roll no., registration no. and name of the subject on the upper portion of the cover page of the answer script.
- 3. Candidates are asked not to write any particulars of identification in any other place of the answer script and additional pages if taken.
- 4. Questions must be answered in English.
- 5. The answer should be referenced to the relevant workings.
- 6. Answer script and additional page(s) taken to write answer, used or unused, must not be removed or taken away from the Examination Hall.

Requirements & Marks Allocation:

You are Sharmin Akhter working as Senior Manager of advisory department at Elius Parvez Iftekhar & Co., Chartered Accountants (EPIC), a partnership firm of chartered accountants registered under Institute of Chartered Accountants of Bangladesh (ICAB) and Financial Reporting Council (FRC). Your report to Mr. Elius Ahmed FCA, Senior Partner of EPIC. Mr. Ahmed have forwarded you an email (Exhibit-1) from Mr. Lutfor Rahman, Managing Director of Splash Drinking Water Limited (Splash). Mr. Rahman on his email requested advice on several matters and shared some information. Mr. Elius Ahmed have assigned you the advisory engagement with Splash and asked you to prepare a draft report for Splash covering all the requirements stated in Mr. Lutfor Rahman's email. In addition to email from Splash, Mr. Elius Ahmed also some business reports and news clips (Exhibit 7 and Exhibi-8) which he believes is relevant for preparing the report.

Requirements:

You are required to prepare a draft report for Mr. Elius Ahmed FCA which should comprise the following elements:

- ❖ An executive summary
- ❖ Your responses to the detailed requirements (a), (b) and (c) set out in Exhibit-1.
- State clearly of any assumptions used in preparing the report.

Marks Allocation:

All of the marks in the Case Study are awarded for the demonstration of professional skills, allocated broadly as follows:

	Professional Skills						
Requirements	Assimilating	Structuring	Applying	Conclusions and	Integrative &	Total	
Requirements	and using	problems and	judgment	making	multidisciplinary	Total	
	information	solutions		recommendations	skills		
Executive Summary	4	4	2	3	2	15	
Requirement (a) (i)	3	4	3	3	2	15	
(ii)	4	2	2	2	0	10	
Requirement (b) (i)	2	2	2	2	0	8	
(ii)	3	4	2	2	2	13	
(iii)	3	3	3	2	2	13	
(iv)	2	2	2	2	0	8	
Requirement (c) (i)	2	2	2	2	2	10	
(ii)	2	2	2	2	0	8	
Total	25	25	20	20	10	100	

In planning your report, you should be aware that not attempting one of the requirements, including an executive summary, will have a significantly detrimental effect on your chances of success. In addition, as indicated above, all skills areas will be assessed under each element of your report.

You should be clear that marks are awarded for demonstrating your professional skills, not for reproducing facts from the case. To be successful, you will need to:

- Demonstrate your knowledge of the case material and make use of your analysis.
- Carryout relevant analysis of the problems and structure your proposed solutions.
- Apply your judgment based on the analysis that you have carried out
- Draw conclusions from your analysis and judgment in developing practical commercial recommendations.
- Ethical issues may cover the following topic-
 - Lack of professional independence or objectivity
 - Conflict of interest among stakeholders
 - Doubtful accounting or commercial practice or market competition or Market proximity
 - Inappropriate pressure to achieve a reported result.
 - Compliance of local laws and regulations
- Integrative & multidisciplinary skills may cover the following areas-
 - Depletion and wastage of natural resources and its impact on environment and climate change.
 - Impact on pollution, on the public health and productivity and on the national health budget.
 - Social impacts, e.g., social unrest for allowing use of alcohol, bar, etc.
 - Economic impacts, e.g., on employment generation and improvement in connectivity using ICT.

LIST OF EXHIBITS

Exhibit	Description	Page reference
1	E-mail from Mr. Lutfor Rahman, Managing Director, Splash Drinking Water Limited to Mr. Elius Ahmed FCA, Partner of EPIC, requesting a report to the Splash Board on matters under advisory engagement.	4
2	A brief note on Splash Drinking Water Limited and its operation.	5 - 7
3	Summary and Extracts of Financial Statements of the Splash Drinking Water Limited	8 - 9
4	A brief note on Bottled Water Industry in Bangladesh.	10 - 12
5	E-mail from Finance & Accounts Director on reporting & compliance issues.	13
6	E-mail from Operations Director regarding strategic investment options and financing alternatives.	14 – 15
7	Article on "Environmental, Health and Ethical Issues of Bottled Water Industry"	16
8	News clips about Splash and Bangladesh Bottled Water industry	17

List of persons in the Case and their Roles

SL.	Names	Roles
1	Sharmin Akhter (You)	Senior Manager at EPIC
2	Elius Ahmed FCA	Senior Partner at EPIC
3	Lutfor Rahman	Managing Director, Splash
4	Tajul Islam	Chairman of Splash & DGL board
5	Mehedi Hasan	Director of Administration & HR
6	Nazmul Huda	Director of Operations
7	Arpita Biswas FCA	Director of Finance & Accounts

E-MAIL

From: Mr. Lutfor Rahman, Managing Director, Splash Drinking Water Limited

To : Mr. Elius Ahmed FCA, Senior Partner, EPIC

Subject : Renewal of advisory agreement and advisory report on several matters.

Date : 16 March 2023

Dear Mr. Rahman,

It is my pleasure to inform you that board has renewed your advisory service agreement and approved your request for fee increase. Your scope of work will remain same as earlier years. This includes among others:

- Assessing and analyzing business operations for formulating business strategies.
- Evaluating strategic options and viability of financing for investment opportunities considering past performances & prospects of the company and related business issues.
- Assisting us in raising funds through initial public offering (IPO) of shares, issuance of Bond and perform necessary evaluation of investment options, Risk Management, Governance, Due Diligence, Restructuring, etc.
- Reviewing and advising on various Accounting, Tax, financial and internal control related issues of the company.
- Supporting on various regulatory and secretarial matters as and when solicited.

This is also a good time to inform you that board of Splash Drinking Water Limited (Splash) is currently reviewing its financial and business positions and discussing several strategic options available at hand where your input is requested. We have a board meeting coming up and we need your analysis and advice on our financial positions and strategic alternatives that will be helpful to the board. In connection to this, I am sharing a brief background of Splash and about its operations & plans (Exhibit 2). I am also sharing the extracts of financial statements for the year ended 31 December 2023 (Exhibit 3). I am also sharing a recent article published in a business magazine regarding Bangladesh's bottled water industry (Exhibit 4). You will receive emails from our Finance Director (Exhibit 5) and Operations Director (Exhibit 6) regarding accounting & compliance issues and prospective investment options. In addition, we expect you to consider other relevant information available (Exhibits 7 & 8) while drawing your conclusion and sharing recommendations for the requirements stated below.

We expect a *draft report* along with your workings (where applicable) addressing to the board. Your report should include an *Executive Summary* and cover:

- (a) (i) Evaluation of financial and non-financial performances of Splash and its current financial position after making the required adjustments for reporting and compliance issues stated in **Exhibit-5**.
 - (ii) Perform a SWOT analysis on Splash's business and operations.
- (b) (i) Assessment on whether the investment options are compatible with the Splash's missions and vision.
 - (ii) Recommendation to the board with justification(s), the best investment option to be executed based on your analysis and assessment.
 - (iii) Justification of share premium rate for getting BSEC approval and the maximum premium can be charged if Board expected premium is not approved. Determine the number of shares to be issued in IPO considering the issue cost and maximum share premium permissible.
 - (iv) Comment on the suitability of financing the recommended investment option through bank loan in case IPO process is not approved.
- (c) (i) Comment on the ethical issues of Splash's existing business and prospective investment options; and
 - (ii) Assess Sustainability of Splash's operations considering Human, Social, Economic and Environmental factors.

I look forward to receiving your draft report on or before 24 March 2024.

Yours sincerely,
Lutfor Rahman
Managing Director, Splash Drinking Water Limited

A brief note on Splash Drinking Water Limited and its business operations.

About Splash Drinking Water Limited

Splash Drinking Water Limited (Splash) is a subsidiary of Dynamic Group Limited (DGL), a large local conglomerate of Bangladesh. Splash was incorporated in 2010 as a Strategic Business Unit (SBU) of DGL under a horizontal expansion of business. It is engaged in manufacturing and selling of bottled drinking water under the brand name 'Splash'. Water contained in the bottled water is either extracted from underground or treated from supply water. Water bottles comes in various size and shapes from 100ml to 20 Litters.

Even though Splash belongs to Dynamic group, it always had separate management who runs the business independently. This helped the business to flourish in very short time. Since the beginning, management intended to make Splash the most preferred brand for drinking water and to ensure availability nationwide creating trust and convenience to the consumer. Management packaged Splash's water bottles very articulately with logo of DGL above Splash Brand name. This helped consumer to create brand association with Splash as they were able to identify easily that Splash is product of Dynamic group. Because of brand association with DGL, consumers' trust and preference on DGL has been transferred to Splash.

After incorporation, Splash set up a factory at Dhaka. The factory is used for treating water supplied from WASA, bottling the treated water and packaging of bottled waters. The plant in Splash factory has capacity of treating and bottling 15,000-litres of water a day. This capacity was not sufficient to produce bottled water for national coverage. As the popularity and demand for Splash drinking water increased, management needed to expand its bottling operation. As a result, Splash management set up its second factory at Tangail with bottling capacity of 60,000 Litre per day.

In addition to its own plants, Splash made arrangement with other licensed water bottling plants to use their facility for treating or extracting water and bottling under Splash brand name. These small license water bottling plants do not sell bottled water themselves but conduct their business by producing bottled water for large brands in exchange of a fixed price based on the size of the bottle and the sales price to the distributors. At present, Splash have arrangements with 5 such licensed water bottling plant. Including these outsourced bottling plants, Splash have a capacity of producing 145,000 litre water a day.

Mission & Vision

Splash has set its mission "to deliver pure, refreshing hydration while championing sustainability and community well-being." Its vision is 'to become the leading provider of premium bottled drinking water, renowned for our commitment to purity, sustainability, and enriching lives worldwide'. Splash's brand slogan is "Purity in every drop" which it used in marketing communication and on the bottled packaging.

Board of Directors and Key Management Personnel

As fully owned subsidiary of DGL, the board is made with representatives of DGL. The board is chaired by Mr. Tajul Islam who is also the chairman and majority shareholder of DGL. Mr. Tajul himself also holds 1% shares of Splash. Other directors are nominee of DGL and actively participates in daily business operations. Splash's Key Management Personnel (KMP) including the board members are:

Persons	Ownership %	Position
Dynamic Group Limited	99%	Parent Company
Tajul Islam	1%	Chairman of Splash & DGL board
Lutfor Rahman	0%	Managing Director
Mehedi Hasan	0%	Director of Administration & HR
Nazmul Huda	0%	Director of Operations
Arpita Biswas FCA	0%	Director of Finance & Accounts

Business Model

Splash's business model is very simple which involves filling bottles with filtered water and selling them through distributors. It also has arrangement of producing private labeled water bottles for high end restaurants. Primary activities of the value chain include sourcing and treatment of water, Bottling and packaging, Distribution, Marketing & sales. These activities are supported by procurement, Research and Development, Accounting & Finance, Human Resources, and Administration. Directors are responsible for managing these activities.

Primary Activities:

Sourcing and Treatment of Water:

One of the key functions of the business is to identify and acquire a clean and reliable source of water. These could be from natural springs, underground wells, or water supplied by WASA. Once a clean and reliable source is identified, water treatment processes such as filtration, purification, and sterilization are implemented to ensure the water meets quality standards and is safe for consumption.

Splash has identified 2 sources of water for bottling. In its first bottling plant, splash uses supply water as water source whereas in the second plant uses underground water for water source. These waters are then treated and go through the of filtration, purification, and sterilization process to meet the BDS standard for drinking water.

BDS is the standard set by Bangladesh Standards and Testing Institution (BSTI) which is a government agency under the Ministry of Industries of Bangladesh constituted for the purpose of controlling the standard of service and quality of the goods. According to BDS (Bangladesh Standards) 1240:2001, the acceptable limit of pH for drinking water is 6.4-7.4. All the water bottles produced under Splash brand name are ensured to meet the pH requirement. This includes the water bottles produced in the outsourced plants.

Bottling and Packaging:

Once the water completes all filtration, purification, and sterilization process, the treated water is bottled using automated bottling equipment. Size of the bottles are determined based on intended use and market demand. Splash produce bottled water in size of 100 ml, 250 ml, 500 ml, 1 liter, 1.5-liter, 2-liter, 2.5-liter, 5-liter, 8-liter. It also makes water jar of 20 liters which are used in water dispenser. Its most popular size is 500 ml for individual consumption. Other sizes like 100 ml and 250 ml bottles are commonly used in seminars, workshops, meeting, and travels. 1 liter to 2.5-liter bottles are mostly demanded by the restaurants. But they are also consumed frequently in parties and social gatherings.

These bottled waters are packed with plastic label which includes brand name, logo, standard certification, nutritional information, and safety warnings. The bottles are also marked with retailed price, production date and batch number. These bottles are then wrapped with plastic to make case of different size. Case size varies based on bottle size and demands. For example, 5-liter and 8-liter bottles are wrapped in two make a case. Whereas 100ml and 250ml are packaged in 24 bottle case. 500 ml bottles are packaged in half dozen, one dozen and two dozen. Other sizes are also packaged in half dozen and one dozen plastic case. This plastic wrapped case helps in transportation and inventory management.

Distribution:

Bottled are sent for distribution center once the water is bottled and packed. These bottled waters are transport from the production facility to distribution centers or warehouses. Splash do not have its own distribution channel. Rather it distributes through Dynamic Distribution Limited (DDL) which is a subsidiary of DGL. According to DGL group policy, all subsidiaries of DGL are required to use DDL as distributor. DDL has a distribution network spread across the country. Splash sells its bottled waters to DDL which in turn delivers the bottled water to retailers, wholesalers, supermarkets, convenience stores, and other sales outlets. Splash coordinates with DDL for timely delivery and efficient inventory management.

Marketing and Sales:

Final primary activity of Splash is marketing and selling activities. Even though it does not sell directly to the retailers, Splash is responsible for promoting the brand and creating marketing demand. It has developed marketing strategies to promote the bottled water brand and differentiate it from competitors. It conducts advertising campaigns, sponsorships, and promotional events to increase brand visibility and attract consumers. Furthermore, it establishes relationships with retailers and negotiate contracts for product placement and shelf space. Apart from sell through DDL, it also engages in direct sales efforts to reach institutional customers such as offices, schools, and hospitals.

Support Activities:

Splash's primary activities are supported by departments including procurement, R&D, Administration & HR, and Accounting & Finance.

Procurement:

Procurement is a part of operations department and overseen by operations director. Primary responsibility of this department is to source raw materials and packaging supplies required for bottling water production. This department negotiates contracts with suppliers to ensure cost-effective procurement and reliable supply chains.

Research and Development (R&D):

Research and development department is also headed by operations director. This department is responsible for monitoring water quality and filtration, purification, and sterilization process. It also undertakes initiatives to improve the water treatment processes, packaging technology, and product innovation. This department is also responsible for conducting market research to identify consumer preferences, trends, and emerging opportunities.

Administration and HR:

Administration department maintains production facilities, warehouses, and distribution centers to ensure operational efficiency and compliance with regulatory standards. It invests in technology and infrastructure upgrades to support business growth and expansion. In addition, this department ensures legal compliance including income tax, VAT, company law, and labor law. Administration also maintains the assets acquired by the procurement department. Another important function of this department is to recruit and train skilled personnel for various roles within the company, including production, quality control, sales, marketing, and logistics. It ensures availability of sufficient human resource and implements various employee development programs to enhance skills, productivity, diversity, and job satisfaction.

Accounting & Finance:

Finance and Accounts department ensures proper accounting of transactions, maintain finances, determine the source and use of funds, develops investment and finance strategy. This department deploys various software and IT systems for inventory management, order processing, and supply chain coordination. It has also implemented data analytics tools to monitor sales performance, consumer behavior, and market trends. These data are used by R&D department to develop sales and marketing strategy. Accounting and finance department also prepares the financial statements and arranges for statutory audit procedures. It also ensures timely submission of regulatory returns and payments to authorities and creditors.

Financial reporting

Splash maintains a financial year from January to December. Its financial statement is prepared in accordance with International Financial Reporting Standards (IFRSs). Its financial year has recently ended, and accounting department has prepared its draft financial statements for the year ended 31 December 2023 (**EXHIBIT** – **3**) which will be shared with Auditor A. Chowdhury & Co., Chartered Accountants. (ACC). Splash has changed its auditor recently and appointed ACC as the new auditor for the year ended 31 December 2023. Splash board changed the auditor to align its auditor with DGL auditor where ACC has been auditing for several years. Furthermore, audit fee proposed by ACC is lower than previous auditor.

Investing & financing strategy

Splash has plan to expand its business and introduce new line of drinking water. Currently it is performing market research on electrolyte water and alkaline water. Splash is also having plan to set up a bottle recycling plant. Splash maintains a good mix of debt and equity in its capital structure. Splash is open to any financing options but intends to maintain the debt-equity balance,

Health & Safety policy

Splash ensures that bottles and the water are safe for human to consume. Bottled water products goes through security systems that include controlled access to the plant and critical production areas, gating, motion sensors, electronic contact security alarms, and tamper-evident locks. It is ensured that water intake systems remain sanitary and sealed. Water used to produce bottled water is tested before production, during production, and as finished product. Multiple tests and regular screening are performed by trained quality control technicians to evaluate microbial, physical and chemical quality. Such screening can be used to detect the presence of agents that may be indicators of product contamination. Splash ensues use of PET bottles which has no known effect on human health.

Summary and Extracts of Draft Financial Statements of the Splash Drinking Water Limited

Statement of Financial Position

As of 31 December 2023

	2023	2022
Assets		
Non-current assets		
Property, plant and equipment	238,494,498	227,618,158
Intangible Assets	19,477,584	21,466,428
Right-of-use assets	193,338,984	206,607,900
Other financial assets	216,288,553	156,304,260
Deferred tax asset	42,853,988	60,799,164
	710,453,607	672,795,910
Current assets		
Inventories	10,126,848	6,246,972
Trade and other receivables	8,711,606	4,144,812
Advances, deposits and prepayments	19,878,180	9,199,572
Cash and bank equivalents	16,455,672	9,276,864
•	55,172,306	28,868,220
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Total assets	765,625,913	701,664,130
EQUITY AND LIABILITIES		
Capital and reserves		
Share capital (Per share face value @ 10)	194,415,000	194,415,000
Retained earnings	269,599,200	142,701,175
· ·	464,014,200	337,116,175
Non-current Liability		
Long term borrowings	55,847,147	112,940,969
Lease Liabilities	80,077,020	114,509,010
Post-employment benefit obligations	14,747,496	10,525,247
	150,671,663	237,975,226
Current liabilities		
Lease Liabilities-current portion	34,441,224	34,441,224
Short term borrowings	26,399,410	26,950,968
Trade and other payables	38,827,488	36,016,590
Income tax provision	51,271,928	29,163,947
	150,940,050	126,572,729
Total liabilities	301,611,713	364,547,955
I otal naumues	301,011,/13	307,377,733
Total equity and liabilities	765,625,913	701,664,130

Statement of Changes in Equity As of 31 December 2023

Particulars	Share Capital	Retained Earnings	Total Equity
Balance as on 01 January 2022	194,415,000	81,248,570	275,663,570
Profit for the year 2022	-	61,452,605	61,452,605
Balance as on 31 December 2022	194,415,000	142,701,175	337,116,175
Profit for the year 2023		126,898,025	126,898,025
Balance as on 31 December 2023	194,415,000	269,599,200	464,014,200

Splash Drinking Water Limited Statement of Profit or Loss and Other Comprehensive Income For the year ended 31 December 2023

	Notes	2023	2022
Revenue	1	963,116,460	690,703,200
Cost of Revenue	2	(386,232,000)	(319, 128, 750)
Gross profit		576,884,460	371,574,450
Administrative expenses		(350,805,360)	(222,945,695)
Selling & Advertisement expenses		(53,952,495)	(44,588,934)
Finance costs		(27,905,148)	(29,004,564)
Income from operation		144,221,457	75,035,257
Non-operating income		16,003,320	8,290,308
Profit before tax		160,224,777	83,325,565
Current tax (expense)/income		(51,271,928)	(29,163,947)
Deferred tax (expense)/income		17,945,176	7,290,987
Profit for the year		126,898,025	61,452,605
Other comprehensive income		-	-
Total Comprehensive Income		126,898,025	61,452,605

Notes to the financial statements

		2023	2022
Note-01	Revenue		
	Sell to DDL	780,124,333	597,458,268
	Direct sells to corporates	144,467,469	75,977,352
	Private level sales	38,524,658	17,267,580
		963,116,460	690,703,200
Note-02	Cost of Revenue		
	Prime cost	146,768,160	130,842,788
	Indirect cost	239,463,840	188,285,962
		386,232,000	319,128,750

5 Year Financial Highlights

Figures in BDT

Financial highlights	2023	2022	2021	2020	2019
Revenue	963,116,460	690,703,200	518,027,400	124,326,576	284,915,070
Gross Profit	576,884,460	371,574,450	274,965,093	63,241,970	148,481,150
Profit Before Tax	160,224,777	83,325,565	54,161,617	(30,872,121)	26,539,191
Profit After Tax	126,898,025	61,452,605	45,474,093	(22,227,928)	19,334,135
Shareholder's Equity	464,014,200	337,116,175	275,663,570	230,189,393	252,417,321
Total Assets	765,625,913	701,664,130	632,490,354	553,317,525	565,495,005
Total Current Assets	55,172,306	28,868,220	32,257,007	25,452,606	24,881,780
Total Current Liabilities	150,940,050	126,572,729	167,708,545	187,414,315	162,800,396
Total Non-Current Liabilities	150,671,663	237,975,226	189,118,239	135,713,817	150,277,288

A brief note on Bottled Water industry in Bangladesh.

Ancient civilizations developed vessels to contain water and move it from the source to their homes. They were able to collect rainwater and save it for use in cooking. Smaller water vessels were used to carry a personal supply of water longer distances. It was probably the value of water combined with the ability to bottle it that started the commercial bottled water industry. Water from natural springs was bottled and sold for medicinal purposes, and then drinking bottled water became a status symbol. People who could afford it, were willing to pay for bottled water to drink and bathe in when they were sick.

Commercial bottling of water can be traced back to 1622 when the Holy Well bottling plant started bottling water in the United Kingdom. The demand for bottled water was fueled in large part by the resurgence in spa-going and water therapy among Europeans and American colonists in the 17th and 18th centuries. According to industry insiders, the bottled water business started in Bangladesh in the 1990s. At that time the use of bottled water was popular among affluent people, but the situation changed gradually as bottled water became popular among the public. Currently, people are drinking bottled water regularly when they go to hotels, restaurants, offices, ceremonies, and travel.

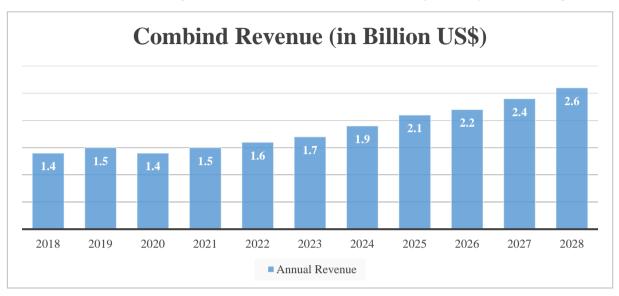
When bottled water was introduced to Bangladesh market, success of this business was doubtful. As natural water is available everywhere in Bangladesh. Till now, more than 97% of Bangladesh population relies on groundwater for its drinking water supply. In Dhaka, 82% of the water supply is extracted from groundwater that is free of arsenic, while three surface water treatment plants provide the remaining 18%. Despite the growth of public and private tube wells, achieving drinking water security remains a challenge due to naturally occurring arsenic and salts in groundwater.

Historically, people were not aware of the importance of drinking safe water. They would drink any water that looked clear but may have contained arsenic and bacteria. This would lead lots of water-borne diseases. Government and Non-Profit Organization eventually came forward and created awareness of water-borne diseases and importance of drinking safe water. As a result, people started to drink filtered water or boiled water at home. But when they are outside, there was no source of safe water readily available. Although few people carry their own water when they are outside, majority feels the need for safe water to drink. This had created a demand for bottled water. People realized the importance of bottled water when they are travelling, participating is social programs, seminars, workshops, dining at restaurants and or even hanging out with friends, family, colleagues, or community members.

At present there are more than 200 licensed water bottlers in Bangladesh. However, more than 30 brands of bottled water are sold across the country, including multinational companies. These brands sell various types of water including Alkaline water, Fluoridated water, Groundwater, Mineral water, Purified water, Sparkling water, Spring water etc. Widespread availability of bottled water has made it a very common phenomenon in Bangladesh market. Because of cheap price and easy availability of safe water, bottled water have become very popular across the country and its demand have been increasing continuously. Demand for bottled water is growing at a rate of 15-20% every year in Bangladesh.

The Bottled Water market consists of both carbonated and non-carbonated water which is sold in bottles or via water dispensers. Various regulations at European and national levels define mineral water as natural ground water. Its composition and other characteristics must remain constant between certain tolerance levels. According to the people involved in the business, about 350-400 million liters of bottled water are sold in a year across the country. The market for bottled water is estimated to be 9.5 billion Taka. The market for bottled water can be classified as 'at-home' market and 'out-of-home' market. The at-home market covers retail sales to individual customers via supermarkets, eCommerce, convenience stores, or similar sales channels. Whereas the out-of-home market encompasses sales to hotels, restaurants, catering, cafés, bars, and similar hospitality service establishments.

Water sold in 'at-home' market and 'out-of-home' market, comes in various shapes and sizes including, 100ml, 250ml, 500ml, 1 Litter, 1.5 Litter, 2 Litter, 5 Litter, 8 Litter, 10 Litter, 20 Litter etc. Larger water bottled are used in water dispenser in office, restaurants, coffee machine etc. The market size for 'at-home' product is estimated to be US\$1.8bn in 2024 which is expected to grow annually by 8.10% till 2028. It is forecasted that bottled water sale volume in at-home market will reach to 7.5 billion litter by 2028. On the other hand, "out-of-home' market is expected to earn US\$165.2 million in 2024 and raise of US\$ 212.4 million within 2028. Forecasted growth of total combined revenue for year-on-year basis is given below:



Currently, there are more than 30 water brands in the country including Partex Group's water brand Mum, Meghna Group's "Fresh," Pran-RFL Group's "Pran," Dhaka WASA's "Shanti," Citi Group's "Jibon," and Acme Group's "Acme Premium Drinking Water." Investors too see Bangladesh as a good market for bottled water business. Multinational companies like PepsiCo joined the bottled water business here with its brand "Aquafina" in 2014 and Coca-Cola with "Kinley" in 2016. Apart from these, bottled water of foreign brands like Evian, Perrier, and Bisleri etc. are also sold in Bangladesh market in limited scale.

The Bottled Water market is experiencing growth due to changing customer preferences, emerging trends, and local special circumstances.

Local special circumstances:

In certain regions, the Bottled Water market is influenced by local special circumstances. For example, in areas with poor water quality or unreliable water infrastructure, consumers rely heavily on bottled water as a safe and convenient source of drinking water. This is particularly evident in developing countries where access to clean drinking water is limited. In some countries, cultural preferences also play a role in driving the demand for bottled water. For instance, in countries with a strong tea or coffee culture, bottled water is often consumed alongside these beverages as a means to cleanse the palate or enhance the overall drinking experience.

Underlying macroeconomic factors:

The growth of the Bottled Water market is also influenced by underlying macroeconomic factors. Rising disposable incomes, urbanization, and changing lifestyles are driving the demand for bottled water in many countries. As more people move to cities and adopt busier lifestyles, the need for convenient and portable hydration solutions increases, leading to a higher demand for bottled water. Additionally, the increasing prevalence of waterborne diseases in certain regions has also contributed to the growth of the Bottled Water market.

Customer preferences:

Customers are increasingly choosing bottled water over other beverages due to its perceived health benefits and convenience. With growing health consciousness, consumers are opting for bottled water as a healthier alternative to sugary drinks. Additionally, the convenience of bottled water, especially in single-serve packaging, appeals to busy individuals who are constantly on the go.

Trends in the market:

One of the major trends in the Bottled Water market is the rise of premium waters. Another trend in the market is the increasing demand for sustainable packaging solutions. Customers are becoming more environmentally conscious and are actively seeking bottled water brands that use eco-friendly packaging materials such as recycled plastic or biodegradable materials. This trend is driven by concerns over plastic waste and its impact on the environment.

In the past, water bottles were sometimes made of wood, bark, or animal skins such as leather, hide and sheepskin. However, now the water bottles are usually made of plastic, glass, metal, or some combination of those substances. Other than the premium bottled water, portable drinking water are sold in disposable plastic bottle. Almost most of the bottled water are sold at bottled made with Polyethylene terephthalate (PET) and High-density polyethylene (HDPE) plastic which are considered safe for human health. However, there are companies which sells water in plastic bottles which are injurious for human health.

A study by National Academy of Sciences (NAS), USA revealed that just a liter of bottled water contains hundreds of thousands of microscopic fragments of plastic particles, microplastics, of sizes below one micrometer or one billionth of a meter. In Bangladesh, there is no recent report of any such rigorous scientific research done on microplastics in bottled water to comment on. However, the issue of microplastics in the environment has come under discussion and concerns have been expressed by different parties. Furthermore, stray cases of detection of hazardous contents including different strains of Escherichia coli (E. coli) bacteria in some bottled waters have been reported in the media from time to time. But the issue with bottled water is yet to come under serious scrutiny.

The Bangladesh Standard and Testing Institution (BSTI) provides license to these companies, and it also conducts quality tests for products it certifies. But BSTI's hands are tied with too many tasks to look after all sort of product related issues. Safety of drinking water being a matter of urgent concern, a separate dedicated body equipped with the required knowhow, funds and manpower should be at work to check quality of bottled drinking water marketed across Bangladesh.

Although most of the bottled water manufacturer and distributors sells bottled water within the country, more than 50 companies are exporting bottled waters in India, United States, Indonesia, Malaysia, Qatar, Saudi Arabia and in few African countries. In 2022, the average bottled water export price amounted to \$0.3 per liter, picking up by 2.9% against the previous year. Forecast shows that exports will grow in the coming years. Despite vast availability of local production, Bangladesh also imports of premium waters mostly for luxury hotels and restaurants. However, the import rate of bottled water is decreasing gradually due to increase in production of primum bolted water in Bangladesh by both existing and new local and international producers.

Producers of bottled water distributes their product through traditional distribution system. Packed bottled water are transferred from bottling plants to large distributors warehouse. These distributors then transport the products to retailers or smaller distributors. Small distributor node is added in case of rural areas or areas with low density population. The small distributors then supply the product to retailers who eventually sells to the consumers. In recent times, bottled water has become a mean of advertisement. Many high-end restaurants now make contracts with bottled water companies and make packaging specially for the restaurants. These specially packaged water is only available in the restaurants and served to the restaurant diners. In addition, there are few companies who have started providing free bottled water as mean of advertisement. Cost of bottled water is covered through advertisement on the bottle.

E-mail on Reporting and Compliance issues

From : Arpita Biswas FCA, Director of Finance & Accounts

To : Elius Ahmed FCA, Partner, EPIC Subject : Reporting and Compliance issues.

Date : 18 March 2024

We have prepared draft financial statements (**EXHIBIT-3**) for the year ended 31 December 2024 which we are going to share with our auditors. There are few issues yet to be incorporated in the draft financial statements where your assistance is required to make appropriate adjustments in accordance with applicable financial reporting standards.

Research and development cost:

For last several years, Splash was feeling the urgency to improve its filtration, purification, and sterilization process. During the year, board undertook a research project to improve the process and spent BDT 50,000,000 on this research work. This research identified an improved process of filtration, purification, and sterilization which is more economical than existing process. Board has approved the improvement and currently developing the process in the plant. As research outcome has led to future economic benefit, management have capitalized the research cost and reported within Other financial assets.

Contract with brand ambassador:

As part of marketing and promotional effort, we have appointed 2 celebrities and influencers as our brand ambassador at a cost of BDT 20,000,000. According to the agreement, they will remain as brand ambassador for next three years. During this period, they each will participate in one TV ad and publish one social media post per year. They have been paid in full and the entire amount has been reported in marketing expenses.

Replacement of significant component of bottling plant:

A new bottling plant was added in our Tangail plant on January 2020 at a cost of BDT 50,000,000 which was expected to have useful life of 10 years. However, in December 2023, a major part of the plant needed replacement. Original cost of the part was BDT 10,000,000 but the cost to replace the part was BDT 15,000,000. Cost of the replaced part has been added with plant cost and reported under property, plant, and equipment.

Interest free loan:

At the beginning of the year, Splash has obtained interest free intercompany loan of BDT 3,000,000 from DGL for three years with annual repayment installment of BDT 1,000,000. Management reported the amount in long-term borrowings without considering requirement of IFRS 9. In this regard incremental borrowing rate may be applied with reference to bank borrowing options in the finance strategy.

VAT Audit by authority:

Recently Splash has been audited by the VAT authority. They discovered that VDS was not deducted in last two years against payments to some discontinued suppliers amounting to total of BDT 10,000,000. The amount was paid and recorded in advance, deposits and payments. The recovery from the suppliers is not foreseeable in future.

E-Mail on Strategic investment options and financing alternatives

From : Nazmul Huda, Director of Operations, Splash Drinking Water Limited

To : Elius Ahmed FCA, Partner, EPIC

Subject : Strategic investment options and financing alternatives.

Date : 17 March 2024

Congratulations on renewal of engagement with Splash. We need you input regarding the investment and business decisions Splash's Board members are currently discussing. Board is currently considering two investment options which are mutually exclusive. First option is to set up a new line of electrolyte drink which is becoming popular very recently. Another option that the board is considering is to set up plastic bottle recycling plant as part of environment conservation efforts. For apprising the investment options, board requires the discount rate be determined considering applying Capital Asset Pricing Model (CAPM). In this regard following information has been gathered:

Six months Moving Average	Market Return : 12.44%	Current Market beta	: 1.53
Rate of Treasury bill (SMART): 9.50%			

For analysis purpose, the board has disregarded any tax effect unless explicitly mentioned. It is also assumed that all cash flows, other than initial cash outflow, accrue at the year end.

Option 1: Setting up line for electrolyte drink:

Electrolyte drinks have become very popular in recent days specially among athletes and young generation who are leading active lifestyle. These sports drinks help to replenish minerals and retain hydration after excessive sweating. Market analysis shows that demand for electrolyte drinks will increase many folds in coming days. Those who will enter the market at the early stage will be able to capture larger market share. Survey shows that Splash will be able to position its electrolyte brand using the brand value and reputation of Splash itself and the Dynamic group. Although financial viability of this proposed line is yet to be assessed, finance department have made a plan for investment outlay which includes BDT 110,000,000 for the plant and 10,000,0000 as initial advance for renting out the production facility. Splash expects to generate Revenue of BDT 40,000,000 in the first year which will have expected growth of 70% in the second year. Forecast shows that the electrolyte drink project will enjoy revenue growth of 50% in third year, 30% in the fourth year and 20% in the fifth year. New electrolyte dinks are expected to have 40% cost of revenue with annual outflow for administrative expenses of BDT 40,000,000 and distribution cost equivalent to 10% revenue. The tax rate is expected to remain stable at 25% on taxable profit. However, due to minimum taxation, no benefit will be available on carried forward loss. Cash flows are expected to grow 3% perpetually after fifth year.

Option 2: Setting up plastic bottle recycling plant:

Concern over single use plastic is growing worldwide. Plastic water bottles are one of the major areas for single use plastic. Consumers drink the water and through away the empty bottles which eventually pile up in the landfill, ponds or rivers. As part of our environment conservation effort, Splash board is considering setting up a recycling plant whether its plastic bottles will be recycled and new water bottles will be manufactured. This will not only reduce the singe use of plastic but also reduce Splash dependency over external bottle supplier. According to a supplier we have discussed, the recycling plant will grind up the plastic bottles and make plastic pellets. This bottles and pellets will go though several cleaning and sterilizing process before it can be reused. From the pellets, plastic bottles will be produced which will then be sent to regular bottling process.

Based on a discussion with a plant supplier, management have forecasted that recycling plant will cost BDT 75,000,000 for the plant and 5,000,0000 as initial advance for renting out the facility. Furthermore, management estimates annual outflow of BDT 25,000,000 for operating expenses including rent, salary, sterilizing process, and maintenance of the facility. It is expected that the plastic bottles that will be recycled can be obtained for free, but BDT 15,000,000 will be spent annually for collecting the plastic bottles and transporting them to the recycling facility. From the recycled bottles we expect to generate 50,000,000 in first two years either by saving expense of bottle purchase or selling the recycled bottles to others. The cost saving and income would increase to BDT 55,000,000 per annum for next three years. We believe we will obtain 50% tax exemption for our environmental conservation effort. We expect cash flows will grow at 2% perpetually after the fifth year.

Financing option:

Splash's board currently considering financing the selected investment options through issue of shares in IPO. Board is expecting to raise fund with 100% premium subject to approval of Bangladesh Securities & Exchange Commission (BSEC). However, they are not sure whether expected premium is justifiable to get BSEC's approval. Board is also keen to know the maximum premium it can charge if 100% premium offer is not approved. BSEC have equal consideration for the NAV, EPS and sectoral PE ratio while approving the premium rate. The market capitalization of all securities listed in DSE Ltd. as on February 2024 was BDT 7,607,235 million and market P/E Ratio for all listed securities is 13.45, whereas sectoral Market Capitalization was Tk. 352,602 million and sector's Price earnings (P/E) ratio was 56.50. Market price and EPSs of other comparable companies of the sector were as follows:

SL.	Company Name	Face Value (BDT)	NAV on February 2024 (BDT)	3-month average market price (BDT)	EPS on February 2024 (BDT)
1	Dhaka Consumer Products PLC	10	16.00	35	1.56
2	Crystal Beverage PLC	10	50	150	11.50
3	Fresh Foods PLC	10	13	56	1.21
4	Standard Drinking Water PLC	10	14	65	1.30
5	Continental Food Processing PLC	10	89	264	7.17

Splash board is planning to utilize the entire IPO proceed, net of issue cost, for financing the selected investment option. It is estimated that issue cost will be 3% of the IPO proceeds. During initial 5 years, no new bank loan can be availed without the consent of new shareholders and the BSEC. If additional fund is required for expansion or selection of new project, fund must be raised through right share at face value during this period.

DSE Listing Rules require that the listed company shall follow BSEC code of corporate governance which includes submission of quarterly financial statements and induction of independent directors higher of two or $1/5^{th}$ of the board. Further, board need to introduce different committees including an audit committee headed by an independent director. As per the new circular, all directors including the independent director shall be entitled to receive BDT 50,000 for each board and committee meeting attended. Usually, board and audit committee meetings are mandatory before submission of quarterly and annual financial statements.

Board is also considering feasibility of financing through bank loan in case BSEC do not approve the IPO at expected premium rate. We have discussed with our banker who have agreed to lend us at 3.5% premium over SMART rate.

For your reference, following 'Present Value Interest Factor' table may be used:

Year / Rate	1	2	3	4	5	6	7	8	9	10
6%	0.9434	0.8900	0.8396	0.7921	0.7473	0.7050	0.6651	0.6274	0.5919	0.5584
7%	0.9346	0.8734	0.8163	0.7629	0.7130	0.6663	0.6227	0.5820	0.5439	0.5083
8%	0.9259	0.8573	0.7938	0.7350	0.6806	0.6302	0.5835	0.5403	0.5002	0.4632
9%	0.9174	0.8417	0.7722	0.7084	0.6499	0.5963	0.5470	0.5019	0.4604	0.4224
10%	0.9091	0.8264	0.7513	0.6830	0.6209	0.5645	0.5132	0.4665	0.4241	0.3855
11%	0.9009	0.8116	0.7312	0.6587	0.5935	0.5346	0.4817	0.4339	0.3909	0.3522
12%	0.8929	0.7972	0.7118	0.6355	0.5674	0.5066	0.4523	0.4039	0.3606	0.3220
13%	0.8850	0.7831	0.6931	0.6133	0.5428	0.4803	0.4251	0.3762	0.3329	0.2946
14%	0.8772	0.7695	0.6750	0.5921	0.5194	0.4556	0.3996	0.3506	0.3075	0.2697
15%	0.8696	0.7561	0.6575	0.5718	0.4972	0.4323	0.3759	0.3269	0.2843	0.2472
16%	0.8621	0.7432	0.6407	0.5523	0.4761	0.4104	0.3538	0.3050	0.2630	0.2267
17%	0.8547	0.7305	0.6244	0.5337	0.4561	0.3898	0.3332	0.2848	0.2434	0.2080
18%	0.8475	0.7182	0.6086	0.5158	0.4371	0.3704	0.3139	0.2660	0.2255	0.1911
19%	0.8403	0.7062	0.5934	0.4987	0.4190	0.3521	0.2959	0.2487	0.2090	0.1756
20%	0.8333	0.6944	0.5787	0.4823	0.4019	0.3349	0.2791	0.2326	0.1938	0.1615

Article on "Environmental, Health and Ethical Issues of Bottled Water Industry"

The evolution of bottled water from health necessity to a lifestyle and cultural choice has environmental and social implications. Millions of people around the world in both developed and developing countries consume bottled water regularly. It is now by far the most popular type of packaged beverage. The vast majority of bottled water is sold in plastic packages, and nearly 90% is from 'out-of-home' market (sold for consumption off the premises) as opposed to 'at-home' which refers to bottled water bought and consumed in premises such as restaurants.

The growing consumption of bottled water may be simply explained by (and correlated with) changes in GDP per capita. However, it should be analyzed in context of the wide variation in the quality of public tap water, the extent of municipal water coverage, the level of public trust in tap water as well as industry's implicit and explicit efforts to position bottled water as a desirable healthy lifestyle choice and as superior to tap water. There are also arising concern that bottled water producers influence public water authority to intentionally maintain inferior water quality so that public trust less on the tape water and consume bottled water.

The plastic bottles of the bottled water are not degradable. This have attracted great media and public attention. However, it is only one of many negative impacts linked to the life cycle of bottled water. These include the depletion of resources and materials, consumption of energy and water, and emission of greenhouse gases and toxic substances. In contrast to tap water, which is distributed through a relatively energy-efficient infrastructure, the manufacturing of plastic or glass containers and their filling, packaging, and long-distance transport involves burning large quantities of fossil fuels. As with any activity involving combustion of fossil fuels, the production of bottles, whether plastic, glass, or cardboard, emits greenhouse gases (GHG) and other pollutants to the atmosphere in amounts depending on the type of fuel and the efficiency of the processes.

Bottled water is significantly more expensive than tap water. Bottling companies use the public tape water or extract underground water which are very cheap. Same water when bottled are sold at very high price quoting convenience and safety. As the demand for bottled water is raising, bottled water company increases water extraction which accelerates the drop in water reservoir levels or fully deplete the water reserve. This creates water scarcity and hampers agricultural production. Furthermore, this also impact life of human and animal as well. In addition to water contained in the bottled water, production process, transportation and packaging also consumes lots of fresh water. Furthermore, bottled water often are not fully consumed. Partially consumed bottles with water are thrown out as wastage.

The bottled water industry puts a strain on ecosystems through pollution and waste production. Technological developments over the past decades have considerably reduced the mass of manufactured PET water bottles. Nonetheless, because consumption is continuously increasing, plastic water bottles continue to produce enormous amounts of waste. Most of these solid waste goes to landfill and polluting the environment. According to a study, the post-consumer plastic waste is predicted to reach 230 million tons a year globally by 2025. Furthermore, wastage from bottled water damage the ecosystems by reducing the biodiversity by land use changes and the presence of microplastics and other pollutant emissions.

Despite having negative environmental impact, bottled water industry also provide benefits to the local population by ensuring availability of safe water in the community, creating job opportunity, increasing economic activity in the community. Furthermore, these bottled water companies also take many environmental and CSR initiatives which positively helps the environment and improve lifestyle without any government initiative. This sometimes creates ethical dilemma for the local residents who become indecisive between the employment opportunities offered by the companies and the need to preserve their local environment and maintain water access. When disputes arise between environmental activists or local residents and any bottling company over the water extraction, often the residents or activist have no standing in court in absence of necessary financing and resources. Large and often multinational commercial companies have substantially more financial resources and more sophisticated legal teams.

The growing awareness of the cumulative negative impacts of bottled water has pushed the industry to voluntarily improve its standards. However, these voluntary steps are not enough to adequately protect the environment. Challenges remain in regulating the industry to ensure that its various negative environmental and social impacts are minimized. Efforts to promote stricter regulation of a powerful multi-billion-worth industry such as that of bottled water often face strong opposition from the industry as well as its beneficiaries, stakeholders, and lobbyists.

News clips about Bangladesh bottled drinking industry.

Bottled water's popularity rising for lack of safe sources. (22 March 2021 on The Business Standard)

The water supplied by Dhaka Water Supply and Sewerage Authority (WASA) are not drinking water but drinkable water that needs boiling for at least 10 minutes before drinking it. The business of supplying jars of filtered water has flourished in the last few years in urban areas but often contain low quality water with harmful bacteria. The bottled water business is expanding 20% each year in the country as the consumers' dependence on it is increasing, said the manufacturers. The lack of safe water in urban areas is driving the bottled water business. People cannot trust other sources of water. According to a study, about 35-40 crore litres of bottled water worth Tk850-950 crore are sold in a year across the country.

Decreasing ground water is increasing risk of land slide (25 January 2024 on Daily Desh Rupantor)

Billions of people around the world depend on groundwater for drinking, irrigation for crop production and other uses. But a recent study has shown that groundwater reserves in those places are rapidly depleting. Depletion of groundwater can make it difficult to irrigate drinking water for human consumption or produce crops, and groundwater depletion will increase the likelihood of landslides and sinkholes around the world. A recent news published in a Turkish journal shows that overuse of groundwater in the central Turkish province has caused sinkholes to appear in recent years. Some 330 sinkholes have appeared so far in various agricultural fields.

Rainwater is an effective solution for groundwater protection (13 March 2024 on The Daily Ingilab)

The source of fresh water is decreasing day by day as the ground water level is going down. This is clearly impacting irrigation and availability of safe drinking water. Deep and shallow tube wells are facing water shortage during the drought season in different parts of the country unplanned extraction of excessive ground water. A simple and effective solution to this problem can be rainwater conservation and its proper use. The country receives abundant rainfall during the monsoon season every year. Annual average rainfall of Bangladesh is 203 cm. Lalakhal (Sylhet) receives the highest rainfall of 388 cm among the northern regions of the country.

Popularity of electrolyte drinks raising (10 January 2024 on Monthly Health Plus)

Popularity of electrolyte drinks have been raising ever since it has been introduced in Bangladesh. Electrolyte drinks are popular among athletes and young generation who are leading active lifestyle. Therefore, it is often called "*Sports Drink*". Electrolyte drinks, which are drinks enhanced with sodium, magnesium, and other electrolytes, are a good way to replenish minerals and retain hydration after excessive sweating or other loss of fluid.

Market regulator bans audit firm over anomalies (18 January 2023 on Daily Market Watch)

Security exchange have banned audit firm A. Chowdhury and Co., Chartered Accountants (ACC) from the stock market for collaborating with an asset management company to embezzle investors' funds. In an order issued recently, the regulator said the firm would not be allowed to audit any debt or equity listed company until further notice. The firm is currently being investigated by the Institute of Chartered Accountants of Bangladesh.

Bottled water for free: Will this new model sustain? (17 January 2024 on The Daily Star)

Recently, certain locally based 'free water' startups like Mizu, Magna Water and Free Flow have been making waves on Facebook. These initiatives promise to provide free, clean drinking water to the general public by integrating ads on the plastic bottles the water would come in. At present these free water bottles are distributed in school, college, public seminars, and workshops. Physical packaging of these bottles serves as a platform for advertisers to engage consumers through QR codes which enable users to access a variety of benefits, including collecting coupons, watching videos, ordering food, taking surveys, or downloading software. However, the key question remains: can such a model truly be sustainable in our country? Despite widespread skepticism regarding the potential success and ethical implications of these initiatives, the supporters of these companies assert that this strategy has already been tried and proven successful in numerous other countries.