

**Report On
Business Model Canvas of Sewage Treatment Plant**

By

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requirements for the degree of
Master of Business Administration**

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Declaration

It is hereby declared that -

1. The internship report submitted is my own original work while completing MBA degree at BRAC University.
2. The report does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The report does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I have acknowledged all main sources of help.

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Letter of Transmittal

April 11, 2020

Mahmudul Haq

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Subject: Submission of Internship Report

Dear Sir,

This is my pleasure to represent my work experience from the beginning of my joinin in Flowater Solutions Limited – an environment company. In my Business Development career, this is very interesting to work in engineering sector and a consultative solution which have both socio-economic and environment value. Furthermore, it was helped me to understand STP technology no too manu technical aspects but in business aspects to suggest buyer and channel partners.

I have attempted my best to finish the report with the essential data and recommended proposition in a significant compact and comprehensive manner as possible.

I would like to express my sincere gratitude for your continuous guidance in preparing the report as well as make this report informative and useful to have an apparent perspective on the issue. I shall be very happy to provide any explanation regarding the report and do not hesitate to contact mefor any query on this report or any relevant matters.

I trust that the report will meet the desires.

Sincerely yours,

Walid Alam

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BRAC Business School

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Non-Disclosure Agreement

This agreement is made and entered into by and between Flowater Solutions Limited and the undersigned student at BRAC University Student - Walid Alam

Executive Summary

The sewage discharge of Bangladesh are not disposed as per environment rules and regulations and health regulations. Therefore, unhygienic and polluted contaminants in both rural and urban areas cause uncertain dangerous diseases and uncertain death. Considering Dhaka's sewage system which is not centrally dispose wastewater and domestic waste liquid are thrown to rivers and sometimes burst it to drinking pipeline or surface. Sufficient and master plan of sewage system are in pipeline to build or expansion but lack of proper monitoring and maintenance policy is making days worst. Furthermore, contaminants in river water and surface water increasing day by day and in rainy season pollution increases.

Important financial aid are projected by World Bank and side by side local agencies such as Dhaka WASA and Chittagong WASA is making the future better. The master plan for both the cities will be connected under a sewage connection system so that those separated septic tank to storm drain flow of disposal can be controlled and can be discharge in a safe manner for environment.

Flowater Solutions Limited set an ambition to develop STP business model which will serve it's business more effective and efficiently and necessary decision can be made mode structure. In last two months, the nine building blocks of Business Model Canvas provide Flowater a dynamic result in both channel partner development and new business lead generate and deal closing. Precise allocation of components and customer segments helped Flowater to get instant feedback and make delivery more effectively.

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Chapter 1

1.1 Introduction

According to Professor Mujibur Rahman of Bangladesh University of Engineering Technology (Daily Star, 2017), Worldwide it results 842,000 deaths each year when 80 percent wastewater of society which are being untreated and thrown to inland surface. He also added in 2014 -2015 fiscal year Bangladesh lost \$9 billion dollar due to environment pollution and from that \$1.5 billion by water pollution. Professor Mjibur also quoted that high income country release 30 percent wastewater, middle income country release 62 to 72 percent wastewater and low income country release 92 percent wastewater. The scanty and backdated sewage management of Dhaka is polluting the rivers desparately (Mithu, 2019). The author also added there are 1.5 crore people in Dhaka and everyday the city roughly initiates 20 lakh cubic meters of wastewater. But there is only one functionally inappropriate 1.2 lakh cubic meter per day capacity sewage tretament plant, of which one-third can be deplaoyable (Mithu, 2019). The sewage treatment plant called Pagla plant in Narayanganj. According to Mithu (2019), With the expansion of Dhaka city the plant has been renovated 26 sewage lift stations. He also added Dhaka WASA mentioned only 20 percent area of the city has been connected with the plant. According to Sharmin (2016), the connected area is 30 percent and other households has their own septic tank. According to Mithu (2019), Though 70 percent wastewater is undre one connection but others are throwing to rivers such as Buriganga, Balu, Turag. The author also cited a survey of World Bank (2014) that only two percent wastewater dispose properly. The author also added that many people in Dhaka connect septic tank with drain so that they can minimize cost and that results the flow of faecal sludge to the rivers. Therefore, environment is becoming hazardous. According to Sharmin (2016), to improve the situation Dhaka WASA has taken different measurement with the financial help of Asian Development Bank (ADB) such as a small tunnel sewage system in Mirpur. According to Hasan (2018), less than 3 percent of domestic sludge can be carried out by Dhaka WASA sewage system and without monitoring onsite sanitation does not work properly. The author also added, government identified out of nine reasons of river pollution one is untreated sewage. According to Mithu (2019) and Hasan (2018), as quality sanitation is one of the Sustainable Development Goal and if we fail to bring Dhaka under sewage network then we

cannot achieve quality sanitation. Hasan (2018) also mentioned about four sewage treatment plant installation and as per Dhaka WASA six more plants will be established. The initiative for Dasherbandi financed by EXIM Bank of China and the design of Uttara plant finished and World Bank promised to finance for the project. A feasibility study on Rayerbazar plant initiated by Asian Development Bank (Hasan, 2018). According to Dhaka WASA Managing Director Taqsem A Khan (2019), Dhaka city will be under sewage network by 2030 but it can be early as on 2025 (Mithu, 2019). He also added the operation of Dasherbandi Sewage Treatment Plant will be executed in 2021 which will have 500 million litres capacity to treat everyday and it will cover Gulshan, Badda, Aftabnagar, Hatirjheel, Tejgaon and its adjacent areas (Mahmud, 2019). Another statement by Executive Engineer at Sewer Division of WASA, Saijia Afreen stated that Dhaka WASA has another masterplan of sewage treatment plant extension by 2035 which will cover Gazipur, Savar and Keraniganj (Mahmud, 2019).

Similarly in Chittagong Water Supply and Sewerage Authority (CWASA) took a sewage treatment plant project named “First Ever Sewerage Project of Chittagong City” predicted to complete by 2025 (Hussain, 2018). With sewage and faecal sludge treatment plant, it will increase the oxygen level of Karnaphuli river and improve the underwater biodiversity (Hussain, 2019). According to Newey (2019), in Cox’s Bazar a 40 cubic meter per day faecal sludge management had been built by Oxfam and funded by UNHCR. Addressing the Oxfam Treatment Plant the author mentioned there are other waste treatment under development. Therefore, the scope of work for Flowater as a Sewage Treatment Plant vendor is increasing now-a-days and with quality technology and proper maintenance service we can make a better environment for our future.

1.2 Origin of the Report

In my business development career, I always tried to sell quality product and service. When I got to know about an environment company who is working for ensuring better environment future, that something knocked my mind and I took the challenge to make business model canvas for Sewage Treatment Plant.

With this orientation my report comprises of Business Model Canvas for Sewage Treatment Plant in Flowater Solutions Limited. The report is distributed in many parts according to the instructions of supervisor of report.

Earlier a glimpse of Bangladesh Sewage system and environmental and economical impact was described as per the data available in online resources. As STP business is emerging for environmental concern and the environmental policy is changing in organizations such as I mentioned in my business model customer segments, Flowater Solutions Limited is committing to provide best STP technology and quality maintenance of those plant. We are now targeting the policy of Department of Environment and Bangladesh Government to achieve Sustainable Development Goals. Our target is today or tomorrow we have to pay for our do and did.

The report will describe the inception of Flowater Solutions Limited, the footprint of Flowater and STP technology it offers and installed. In short, the report will describe the trend of STP. The most importantly a chapter will describe STP Business Model Canvas.

1.3 Objective of the Report

Broad Objective

The general objective of this report is to fulfill the MBA internship program requirements as well as complete the graduation and to further proceed my professional career. Furthermore, to develop more business opportunities for my organization and take precise decisions when necessary.

Specific Objective

The study entails the following specific aspects-

- To provide an initial idea of sewage system in Bangladesh
- To give an overview of FloWater Solutions Limited
- To give a brief description of latest STP trends
- To give inception of Business Model Canvas and why for FloWater
- To describe nine building blocks of Business Model Canvas
- To give recommendation for STP Business Model Canvas

1.4 Scope of the report

The scope of the report is limited to all field experiences such as site visit, structure design and layout analysis and procedures of business relationship and business development in Flowater Solutions Limited. Side by side, the technical knowledge and client information provided by

senior manager and director as well as own learnings and identification was very essential. The scope of the report is also limited by the information given by supply chain and finance department of Flowater as they are confidential.

1.5 Methodology of the report

The nature of the report is descriptive with Sewage system of Bangladesh and future scope of business which are gathered through practical work experience, site visit, meeting with project directors and technical knowledge.

Methodology includes the implementation of business model canvas for Sewage Treatment Plant (STP) where business development strategy identified and explained in the nine categories of BMC. I have two source –

Primary source: Technical know how from technical manager.

Secondary source: Website, articles, online news articles.

1.6 Limitations of Study

During this report making, it was very busy schedule to write all the details of business model canvas. However, the nature of the information of my project is somewhat confidential and critical to analyze. Though there are mentioned demand for environmental improvement through sewage treatment in Bangladesh but there are no specific measurement of price for such system. In addition, from practical experience it must say that even STP trends cannot be specified earlier. Therefore, it is depends on area, occupancy and waste parameter.

Furthermore, there are no marketing evidence for STP installation. Therefore, it was difficult to identify further business opportunity.

Chapter 2

2.1 Background

The inception was in 2017, Flowater Solutions Limited started its journey as an environment company and for-profit company based in both two largest metropolitan areas – Dhaka and Chattogram. With successful execution over 100 projects of water and wastewater treatment plant, Flowater is committed to provide environment solutions to industrial, real estate, NGOs and private individuals. Flowater solutions limited is a turnkey project which provide consultative solution from design to completion.

Flowater reach its clients through direct Business to Business (B2B) marketing, reference from business relationship, trade shows and local need and network. They encourage reuse and recycling of wastewater.

2.2 Sewage Treatment Plant

There are lot of contaminants in industrial, household wastewater and sewage. STP remove those contaminants but it uses physical, chemical and biological processes and dispose as per environment safety measure and rules. Flowater does design, fabricate, supply, erect and commission Sewage Treatment Plants for treating sewage generated by Industry, large colonies, Hotels, Hospitals and commercial buildings.

Flowater offers best STP technologies in Bangladesh. They are –

- Aerobic Biological (ASP) STP
- Anaerobic Biological STP
- Moving Bed Biofilm Reactor (MBBR) STP
- Membrane Bio-reactor (MBR) STP
- Sequential Batch Reactor (SBR) STP

Aerobic Biological (ASP) STP: Aerobic bacteria digest all the pollutants. Air blower will be used for continuous air supply and through bubble diffusers at the bottom of the tank. The cost of this type of STP is higher because an aerobic bacterial colony being established so that complete oxidation and digestion of organic matter and organic pollutants to Carbon Dioxide, Water and Nitrogen and quash the bad smell and pollution problem.

Anaerobic Biological STP: The chemical and energy cost is low here. As it provides mass reduction of input, anaerobic biological STP is widely used for sludge and organic waste treatment. As the organic matter reduce into methane, therefore methane can be used as electricity production or heating purposes.

Moving Bed Biofilm Reactor (MBBR) STP: Here the capital cost is low but the constant rotary movement of MBBR media by air diffusers makes the operating costs high. The technology is user friendly and it does not require any sludge recycle. Compare to conventional treatment process, MBBR STP generate small sludge. According to Step (2017), it eliminates media jam and the disadvantage is it's operation is manual and treat lower level wastewater.

Membrane Bio-reactor (MBR) STP: This is a combination of membrane process, biological treatment and activated sludge process. If the space is an issue for buyer, it is the best choice because sludge settlement does not require. According to STeP (2017), the main advantage is it is an automated system but it requires higher skill level for maintenance. MBR can do higher level wastewater treatment. Therefore, the capital cost is higher and every three year the membrane need to be replaced which make the cost upward (STeP, 2017)

Sequential Batch Reactor (SBR) STP: In a single basin or tank, this technology combine all treatment process (react, settle and decant) which defers it from activated sludge process. It is also an automated system. It does not require secondary clarifier. Thus the capital cost is low but require high skill maintenance because the automated system setup is more complex (STeP, 2017). Furthermore, it does lower level wastewater treatment. As SBR is a biological treatment, the wastewater from laundries, kitchen and washrooms cannot be treated (Supriyanto, Siddiqua, Peiris and Shah, 2015).

Chapter 3

3.1 The Inception of Business Model Canvas

The Swiss business model guru Alexander Osterwalder and management Information Systems professor Yves Pigneur was first invented Business Model Canvas (Mulder, 2017). Mulder also added the Business Model Canvas is a graphical representation and a strategy tool for a new organizational development. She addressed the nine categories for Business Model Canvas are the building blocks of an organization. According to Mulder (2017), it is possible to increase the existing performance of an organization using the business model canvas and the clear visual representation can able to make easy and advance decision.

3.2 Why Business Model Canvas for Flowater Solutions Limited?

When I joined the organization I was asked to make effective and efficeint strategy for STP systems and grab the market share by giving consultative solution. As we already have footprint in market in the water treatment plant projects, I took that adavantage to hunt new lead. Side by side I am starting to build networking. The most interesting part was the canvas gave a clear result within one week of the development and we gain five leads according to our customer segments. Therefore, that make my team to be clear about total project outcomes and all we need to have to implement after getting the work order from clients. From design and layout analysis of a project to propose technology that make more easy to increase our customer relationship and most importantly building trust with confident.

The nine building blocks addressed by Patty Mulder (2017) will be described for FloWater Solutions Limited.

Business Model Canvas

Sewage Treatment Plant

Key Partners

- Component Manufacturers
- Contractors
- Channel Partners

Key Activities

- Sales and Marketing
- Testing sewage discharge parameter
- Based on sewage parameter offer technologies and design
- Technical and commercial offer
- AMC offer
- Implementation of STP (Assemble, Installation and Commission)

Key Resources

- Human resource
- Technical inventories
- Agreements
- Databases
- Brand
- Contracts

Value Propositions

- End to end delivery of STP system
- Pump Supply

Customer Relationships

- EPC and MEP consultant
- Builders
- Direct customer
- Architect firms

Channels

- Engineering consultants
- Channel partners
- Tenders

Customer Segments

- Hospital
- Textiles
- Hotel
- Real Estate Project

Cost Structure

- Fixed cost – human resource, labor and transport
- Variable cost – Installation, commissioning and implementation

Revenue Streams

- Total solutions sales of STP or total consultancy
- Annual Maintenance Contract

3.3 Key Partners

- 1. Component Manufacturers:** To implement a Sewage Treatment Plant we need to buy component to assemble the system. Therefore, there are some local and international component vendors whom we treat as our valuable stakeholder as well. Our component includes pump, air diffuser, blower, media tank, filter press, screening system. We have to carefully handle these component manufacturers through our supply chain so that their policy cannot make any impact in our STP business.
- 2. Contractors:** We always welcome construction contractors as our partners too. Because they are influencers for our STP business. For instance, if a contractor does not follow Bangladesh National Building Code (BNBC) guideline, then it will jeopardize the owner of the building. Therefore contractors can suggest sewage treatment instead of sewage tank.
- 3. Channel partners:** To ensure a quality project and provide value, we are only partner with local distributor of some component manufacturer. Such as we make channel partner with western and European brand pump in Bangladesh. Therefore, both can promote value proposition of STP business. For instance, if we promote and sell their pump to our valued clients and they promote and sell our STP technologies, we can have a win win situation in business.

3.4 Key Activities

According to Sanitation Technology Platform (Step, 2016), there are STP implementation key functions which are followed by STP vendors. When we are innovating our STP business key activities we consider the key functions as our key activities.

- 1. Sales and Marketing:** This activity includes generating lead from social network, cold call, cold email and having face to face meeting with concern project director of the construction. We gather all the details of occupancy, available space, clients preferred technology of STP.
- 2. Testing sewage discharge parameter:** According to Bangladesh Environmental Conservation Rules 1997, the construction must follow sewage discharge parameter. If any clients want to test it by Flowater then we will suggest ICDDR and BUET testing

facility. Therefore, we will test the inlet parameter of sewage and based on that we will suggest the best possible STP technology. The standard parameter of sewage discharge is given below:

Sl. No.	Parameters	Unit	*Bangladesh Standard (Discharge to Inland Surface Water) ECR'97*
01	PH	-	6-9
02	Oil & Grease	mg/l	≤10
03	Dissolve Oxygen (DO)	mg/l	4.5-8
04	Bio-Chemical Oxygen Demand (BOD ₅)	mg/l	≤40
05	Chemical Oxygen Demand (COD)	mg/l	≤200
06	Total Suspended Solid (TSS)	mg/l	≤150
07	Coliform	Numbers /100 ml	≤1000

Figure: Sewage discharge Parameter

3. **Technology and design offer:** Based on the project type such as whether it is hospital, hotel, residential or commercial, we will calculate capacity based on Bangladesh National Building Code (BNBC) guidelines. We will also consider hours of operation and average flow.
4. **Technical and commercial offer submission:** After proceeding technology and design, we will propose both technical and commercial offer to clients. Technical offer includes all the treatment process flow and technical component description such as quantity, capacity, origin. In addition, we will breakdown the cost of electricity, chemical and also we will recommend space requirement. Commercial offer includes the total price of the STP system and payment terms.
5. **AMC offer:** Annual Maintenance Contract will be based on clients requirement if they need it or not. But we suggest to take AMC because of swift operation of STP plant. We can give one year complementary AMC after installation of STP.
6. **Implementation of STP:** After getting a formal purchase order and advance payment from client we will accomplish the project withing 8 to 12 weeks. We will include operators training and primary technical test.

3.5 Key Resources

1. **Human Resource:** For dedicated STP business a technical incharge, business development manager and supply chain manager are the key human resources. In addition, field technical workers are the most important without whom STP system cannot be handed over to the clients.
2. **Technical inventories:** These include all components are used to assemble STP system such as Blower, Dosing pump, Air diffuser, media, tank, sludge transfer pump, flow meter, media etc.
3. **Agreements:** All MOUs with channel partners and financial institution, employee professional agreements etc.
4. **Databases:** A client pipeline database is followed across the organization where we can sort matured deals which are near to close.
5. **Brand:** All communication, digital and offline campaign, patents of Flowater.
6. **Contracts:** All the purchase order from our valued clients.

3.6 Value Propositions

1. **End to end delivery:** According to STeP (2016), the category of STP vendor is based on key functions they perform to build a total solution. Flowater is under end-to-end vendor category because it performs all functions sales and marketing, design, commission and operations and maintenance. The motivating factors behind a end-to-end vendor is to be a quality focused and talent staffed and with the capability and desire the more functions an end-to-end vendor serve, the more the STP vendor can generate revenue (STeP, 2016). In addition, STeP mentioned end-to-end vendor ensure total solution with OM so that STP vendor can protect their reputation from bad comments. Side by side, sale and marketing can increase business relationship with customers (STeP 2016). Flowater always work with quality and suggest customer the best technology according to their budget and space. Therefore, there is no only profit game in this business and with dedicated team Flowater ensure STP installation, commissioning and services.
2. **Pump Supply:** According to Dang (2020), through channel partnership if two organizations' customers are similar and both introduces product or services to their

clients then with a certain agreement of revenue sharing both can have win-win situation. Therefore, through channel partnership Flowater with other western and European brand pump introduce both pump and STP technologies to their clients because for a construction pump is necessary.

3.7 Customer Relationships

- 1. EPC and MEP Consultant:** EPC (Electrical, Procurement and Construction) and MEP (Mechanical, Electrical and Plumbing) Consultant get their business from tender and their own customer hunting policy. These EPC and MEP consultants hire vendors for STP as there are some space availability requirements and technology preferences. Flowater technical team and business development team communicate and work closely with EPC and MEP consultants. When EPC and MEP consultants participate or get any lead of construction such as hotel, hospital, big residential projects, academic construction, they invite us for meeting and provide design and scope of work. Based on budget, space and technology preferences and most importantly sewage discharge parameter Flowater provides technical and commercial offer. According to STeP (2016), customer relationship through EPC and MEP can make potential business opportunities for STP vendors.
- 2. Builders:** Real Estate builders is our second potential clients. Real estate builders have many big residential projects inside Dhaka and extended portion of Dhaka such as Purbachal. According to Dang (2020), if Flowater make product business development strategy with real estate builders then for luxury and big projects they can add value to their residential product and services and attract more customers. Flowater offer sewage treatment technology instead of basic sewage tank.
- 3. Direct customer:** Some high profile residence require STP technology and also some private project requires STP such as industry who discharge high effluent. Therefore, they have to make environment friendly factories and there are compliance of buyer. Flowater use those parameter to meet all compliance and suggest best STP technology for clients. Thus the relationship is become more solutions centric and strong. We can refer our channel partners to our direct customer.

- 4. Architect Firms:** We can pitch to famous architect firms because architect firms make total construction design. Though architect firms are affiliated with builders and direct customers but we maintain external relationship with architect firms because they can also work as our product and service influencer.

3.8 Customer Segments

- 1. Hotel:** According to Environmental Conservation Rules 1997, Hotel project is under Orange B category and they have to apply for Environment Clearance Certificate. For that hotel project layout and their liquid waste management plan must have to submit in details. Therefore, hotel need STP for standard sewage discharge to the inlet surface land.
- 2. Textiles:** Same as hotel garments is also in orange B category. In addition, for international buyer and compliance such as LEED, H&M and Oeko-Tex, garments factories need to establish STP to achieve highest point in water.
- 3. Hospital:** When it comes to medical waste we have to take it big because hospital liquid waste is very hazardous combination of ICU, pathology, lab, blood liquid, medicine liquid, emergency ward liquid and occupancy liquid waste etc. According to E.C.R. 1997, hospital is under red category and technical manager Mr. Murad added that department of environment send notice to the hospitals who have more than 50 bed to establish STP. Therefore, our scope of work is increasing day by day as there are environmental impact for those medical waste. In addition, those hospital who doesn't have STP, are now in search of consultant like Flowater who can implement best STP technologies for those hospital with space availability. So, our segment is more than 50 bed hospital in Bangladesh.
- 4. Real estate project:** Real estate luxury and big project prefer STP solution now-a-days. But sometimes budget is an issue to implement such technologies.

3.9 Channels

- 1. Engineering consultants:** MEP and EPC consultants are the main potential channel to reach our customer segments. Business development team will make lead from them and set meeting to discuss about the project layout and design. Through consultants we can

reach to project director who is the decision maker and providing best knowledge of STP systems with the budget and technology can be logical to close the deal.

- 2. Channel partners:** The western and European brand pump distributors are our channel partner by whom we can reach to many customers. The channel partners can generate leads from getting MEP consultants to decision maker.
- 3. Tenders:** Both government and private conglomerates publish tender for civil works, STP installation and equipment supply. Flowater can participate those tenders as per tender qualification requirements.

3.10 Cost Structure

- 1. Fixed Cost:** Fixed cost includes our human resource (technical manager, business development manager and technical workers) salaries, rent of office and warehouse. The most expensive human resources are technical engineers.
- 2. Variable Cost:** Cost includes component costs both local and import equipments, incentives, commission, VAT, AIT, transport, C & F processing fee etc.

As we described earlier for total STP setup requires capital cost. According to STeP (2017), capital cost includes total design, supply, installation and commissioning. Therefore, we will consider here the component cost and civil cost. As mentioned earlier components includes blower, air diffusers, membrane, filter press, screen, media, electrical components, control panel, pump, flow meter and civil includes tank and foundations. Therefore, capital cost formula will be the summation of component cost and civil cost. In addition, component cost includes not only price but also if we have to import any component for buyer requirements or to add value to our STP solution then their includes VAT and TAX, customs and freight fees and transport also. Therefore, component cost is higher than civil cost because cost is associated with tank and foundation construction.

3.11 Revenue Streams

As a business development manager when it comes to lead generation and negotiation meeting, customers jump to least price. As STP business is a consultative solution it is very hard to assume and disclose price because sometimes it can make with a single technology and

sometime it can make with combined technology. Our customer segment such as hospital sometime require ETP cum STP based on inlet liquid waste parameter and space available. But the minimum cost to a client can be BDT 20 lacs but if it has reuse option then it will cost high. After one year complementary annual maintenance, from second year we renew AMC and based on client requirement we supply components and give technical services. Flowater is not a cost driven company. We are value driven company. We provide consultative solution so that customer can get proper guideline for STP technology and customers budget and space can meet the best objective of their projects.

Chapter 4

Recommendations

According to World Bank – Dhaka Sanitation Improvement Project (2019), there are existing STP expansion work of Pagla sewage treatment plant and Uttara sewage treatment plant. Flowater can participate tender of these any work for equipment supply, design, installation and engineering. In addition, to add more value to the service Flowater can active in digital campaign in environment celebration or special days. Flowater can increase its CSR activities with its channel partners and thus increase market share. Flowater can increase its funds through applying international investors such as JICA to add socio-economic value. Therefore, partnership with international STP suppliers who has good success rate in Asian subcontinent region for rural domestic waste treatment. Flowater should focus on social event to attract international investors and international fund provider such as World Bank to increase its visibility in market. Furthermore, the business model canvas should be updated as per any uncertain policy change in environment agencies, buyer behavior and company policy.

Conclusions

The intention to build a business model canvas is to nurture the business prospects of STP and encourage the environmental impact on STP technologies. As Flowater has very talent team in technical and business development, regular study on better technology to improve waste treatment and output to inland surface must be required. In addition, with a good management philosophy employee can add value to environmental impact and encourage channel partners to buyer about STP trends. Furthermore, regular supplier market follow up both locally and internationally so that Flowater can get best support from it's vendor too. Finally, to reduce industrial and commercial hazardous waste with the support of government STP business model canvas for Flowater can make safe environment for all over Bangladesh.

References

- Five more sewer treatment plants planned for city. (2017). Retrieved 10 April 2020, from <https://www.thedailystar.net/backpage/five-more-sewer-treatment-plants-planned-city-1383043>
- Frederiksen, L. (2020). Business Development Strategy: A High-Growth Approach [Blog]. Retrieved from <https://hingemarketing.com/blog/story/business-development-strategy-a-high-growth-approach>
- Hasan, J. (2018). Dhaka city exists with no effective sewerage system. Retrieved 10 April 2020, from <https://thefinancialexpress.com.bd/trade/dhaka-city-exists-with-no-effective-sewerage-system-1531022465>
- How Much Do Biological Wastewater Treatment Systems Cost?. (2019). [Blog]. Retrieved from <https://www.samcotech.com/how-much-do-biological-wastewater-treatment-systems-cost-pricing/>
- Hussain, A. (2018). Chittagong Wasa to launch massive sewerage treatment project. Retrieved 10 April 2020, from <https://www.dhakatribune.com/bangladesh/nation/2018/03/22/chittagong-wasa-launch-massive-sewerage-treatment-project>
- Mahmud, R. (2019). Dhaka Wasa builds hope on mega projects. Retrieved 10 April 2020, from <https://tbsnews.net/bangladesh/dhaka-wasa-builds-hope-mega-projects>
- Mithu, A. (2019). Dhaka's outdated sewage system choking rivers. Retrieved 10 April 2020, from <https://tbsnews.net/environment/dhakas-outdated-sewage-system-choking-rivers>
- Mulder, P. (2017). Business Model Canvas (BMC). Retrieved 10 April 2020, from <https://www.toolshero.com/strategy/business-model-canvas/>
- Newey, S. (2019). Largest-ever sewage treatment plant opens in Bangladesh refugee camp Cox's Bazar. Retrieved 10 April 2020, from <https://www.telegraph.co.uk/global-health/climate-and-people/largest-ever-sewage-treatment-plant-opens-bangladesh-refugee/>
- PatrickDang.com. *Business Development & B2B Sales for Startups- Sales Valley* [Video]. Retrieved from https://col.udemy.com/course-dashboard-redirect/?course_id=1449746
- Sanitation Technology Platform (STeP). (2016). *Business Model Assessment of Sewage Treatment Plants*. India. Retrieved from http://stepsforsanitation.org/?smd_process_download=1&download_id=5286
- Sanitation Technology Platform (STeP). (2017). *AN ASSESSMENT OF SMALL-SCALE STP TECHNOLOGIES: INDIA*. India. Retrieved from http://stepsforsanitation.org/?smd_process_download=1&download_id=4270
- Department of Environment. (1997). *The Environment Conservation Rules* (pp. 184, 198, 202, 212).

Sharmin, A. (2016). *Water and wastewater in Bangladesh, current status and design of a decentralized solution* (Master Thesis). LUND UNIVERSITY.

Supriyanto, Siddiqua, N., Peiris, M., & Shah, P. (2015). *SATTVIC REVOLUTION Application of Sequencing Batch Reactor (SBR) Technology for Sewage Treatment in Urban Context* (M.Sc.). National University of Singapore.

The World Bank. (2019). *Dhaka Sanitation Improvement Project (P161432)* (p. 8). The World Bank. Retrieved from <http://documents.worldbank.org/curated/en/694131569756219276/text/Project-Information-Document-Integrated-Safeguards-Data-Sheet-Dhaka-Sanitation-Improvement-Project-P161432.txt>