MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)

Final Year Internship Report

on

Business Analyst Intern in Capillary Technologies

Submitted By:

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0901CS181055

Faculty Mentor:

Dr Ranjeet Kumar Singh

Asst. Professor, CSE, MITS

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE

GWALIOR - 474005 (MP) est. 1957

MAY-JUNE 2022

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)

A final year internship report submitted in partial fulfilment of the requirement for the degree of

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE AND ENGINEERING

Submitted by:

KHUSHI SINGHAI
Enrolment No: 0901CS181055

Under Supervision of

Dr Ranjeet Kumar Singh

Asst. Professor
Computer Science & Engineering

Submitted to:

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE
GWALIOR - 474005 (MP) est. 19
MAY-JUNE 2022

30th May 2022

<u>**TO WHOMSOEVER IT MAY CONCERN**</u>

This is to certify that **Khushi Singhai** of **Computer Science Engineering** at **Madhav Institute of Technology and Science, Gwalior** has successfully completed 4 months internship at **Capillary Technologies India Limited, Bengaluru** from **3rd January 2022 to 3rd May 2022** under the guidance of **Ashutosh Chouksey**

During her Internship, she contributed in **Customer Success Team** for Capillary Technologies India Limited.

We wish you all the best for your future endeavors.

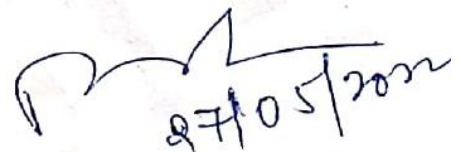for **Capillary Technologies India Limited**

Shruti Alva
Director HR

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR
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CERTIFICATE

This is certified that **Khushi Singhai (0901CS181055)** has submitted the Internship report of the work she has done under the mentorship of **Dr Ranjeet Kumar Singh** in partial fulfilment of the requirement for the award of degree of Bachelor of Technology in Computer Science and Engineering from Madhav Institute of Technology and Science, Gwalior.

Dr Ranjeet Kumar Singh
Faculty Mentor
Asst. Professor
Computer Science and Engineering

27/05/2022

Dr Manish Dixit
Professor and Head,
Computer Science and Engineering

Dr. Manish Dixit
Professor & HOD
Department of CSE
M.I.T.S. Gwalior

DECLARATION

I hereby declare that the work being presented in this Internship report, for the partial fulfilment of requirement for the award of the degree of Bachelor of Technology in CSE at Madhav Institute of Technology & Science, Gwalior is an authenticated and original record of my work under the mentorship of **Dr. Ranjeet Kumar Singh**, Assistant Professor, Department of CSE.

I declare that I have not submitted the matter embodied in this report for the award of any degree or diploma anywhere else.

Khushi Singhai
0901CS181055
IV Year
Computer Science and Engineering
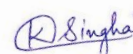
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ACKNOWLEDGEMENT

The full semester internship has proved to be pivotal to my career. I am thankful to my institute **Madhav Institute of Technology and Science** to allow me to continue my disciplinary/interdisciplinary internship as a curriculum requirement, under the provisions of the Flexible Curriculum Scheme (based on the AICTE Model Curriculum 2018), approved by the Academic Council of the institute. I extend my gratitude to the Director of the institute, **Dr R. K. Pandit** and Dean Academics, **Dr Manjaree Pandit** for this.

I would sincerely like to thank my department, **Department of Computer Science and Engineering, for allowing** me to explore this internship. I humbly thank **Dr Manish Dixit**, Professor and Head, Department of Computer Science and Engineering, for his continued support during the course of this engagement, which eased the process and formalities involved.

I am sincerely thankful to my faculty mentors. I am grateful to the guidance of**, Dr Ranjeet Kumar Singh,** Asst. Professor Department of Computer Science and Engineering, for his continued support and close mentoring throughout the internship. I am also very thankful to the faculty and staff of the department.

Khushi Singhai
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IV Year
Computer Science and Engineering

Abstract

This report serves the purpose to record the details of my industrial internship in Capillary Technologies as a Business Analyst Intern in Customer Success Department. It's a CRM consultancy which helps clients to grow their customer base. It was a great experience working in real time projects in the industry. I had to gather a lot of knowledge and experience from my mentor and other professionals. It was also about how to work in a group and be an efficient team member. The main objective is to reflect mine achievements during internship and to be familiar with practical aspects of the theoretical knowledge gained at college.

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Chapter 1: Introduction

1.1   About the Company

Capillary Technologies is a software product company, which provides cloud based Omnichannel Customer Engagement, eCommerce platform and related services for retailers and brands. **Customer engagement** is an interaction between an external consumer/customer and an organization (company or brand) through various online or offline channels. A customer's motivationally driven, volitional investment of operant resources (including cognitive, emotional, behavioral, and social knowledge and skills), and operand resources into brand interactions," which applies to online and offline engagement.

Online customer engagement is qualitatively different from offline engagement as the nature of the customer's interactions with a brand, company and other customers differ on the internet. Discussion forums or blogs, for example, are spaces where people can communicate and socialize in ways that cannot be replicated by any offline interactive medium. Online customer engagement is a social phenomenon that became mainstream with the wide adoption of the internet in the late 1990s, which has expanded the technical developments in broadband speed, connectivity and social media. These factors enable customer behavior to regularly engage in online communities revolving, directly or indirectly, around product categories and other consumption topics. This process leads to a customer's positive engagement with the company or offering, as well as the behaviors associated with different degrees of customer engagement.

1.2   Objectives

- **A Unified Data Platform**

Capture data across channels, cleanse and dedupe consumer records, and enrich consumer records based on each and every activity

- **Get A 360° Single View of Your Customers**

Get a 360° single view of each consumer along with transactional and behavioral activity across channels

- **Enable Segmentation and Personalisation**

Increase conversions with personalised messaging and experiences powered by demographical and behavioral customer segmentation through CDP data

- **Power Customer Activation and Engagement**

Target consumers with personalised messaging across channels, enable effective promotions and loyalty programs based on CDP data

- **Get Real-Time Business Insights**

Take quick decisions with access to all consumer transactional and behavioral data and real-time reporting of standard business KPIs

1.3   Scope

Since 2009, a number of new definitions have been proposed in literature. In 2011, the term was defined as "the level of a customer's cognitive, emotional and behavioural investment in specific brand interactions," and identifies the three CE dimensions of immersion (cognitive), passion (emotional) and activation (behavioural). It was also defined as "a psychological state that occurs by virtue of interactive, co-creative customer experiences with a particular agent/object (e.g. a brand)". Researchers have based their work on customer engagement as a multi-dimensional construct, while also identifying that it is context dependent. Engagement gets manifested in the various interactions that customers undertake, which in turn get shaped up by individual cultures. The context is not limited to geographical context, but also includes the medium with which the user engages. Moreover, customer engagement is the emotional involvement and psychological process in which both new and existing consumers become loyal with specific types of services or products

1.4   Placement Description

The required span for the internship given by MITS is 4-6 months. So, my work frame is:

Organization Name:	Capillary Technologies
Start date:	3rd January 2022
End date:	3rd May 2022
Total duration:	4 months
Intern position:	Business Analyst
Office Hours:	10:00:00 AM to 5:00:00 PM

1.5   Brief Role of Business Analyst

- Define configuration specifications and business analysis requirements

- Perform quality assurance

- Define reporting and alerting requirements

- Own and develop relationship with partners, working with them to optimize and enhance our integration

- Help design, document and maintain system processes

- Report on common sources of technical issues or questions and make recommendations to product team

- Communicate key insights and findings to product team

- Constantly be on the lookout for ways to improve monitoring, discover issues and deliver better value to the customer

Chapter 2: About my Internship

2.1 Introduction

My first day of internship was the usual onboarding process which included my interaction with the HR team. The helped me to access the interface and made me familiar with my team. In the coming weeks I interacted with my reporting manager and associates to learn more about my role in the company. After that I was asked to do the certifications for my products and modules as a part of my training session. I was asked to give weekly updates about my certification courses to my manager. Post completing my training session I along with my team of interns were given different brands as part of my job. I cannot disclose the details of the brand as it's confidential.

After that I started working with my manager and associates on brand growth and performance. As an intern I didn't interact with the client directly, I studied the brand growth and reported various development to my seniors.

2.2 My Roles and Responsibilities

As a Business Analyst Intern my primary responsibilities were-
2   Understand the insight+ platform to create reports and charts for brands.
3   Attend biweekly meetings with the team to get updates on client's demand.
4   Write SQL Queries.
5   Formulate ways to improve based on previous Data Research.
6   Explore solutions for client's growth and build campaigns for them.

2.3 Products and Modules

2.3.1 Insight+

Capillary Insights+ is an effective business intelligence tool that offers a 360-degree analysis of an organization's business data and provides various reports with statistical proficiency. You can view reports related to sales, campaigns, loyalty, product, CRM and also create custom reports as required for an organization. Leveraging such insights can not only help you drive product innovation but also track and improve the impact of product launches in real-time.

Insights+ is equipped with over 50 predefined charts and 250 key performance indicators (KPIs). Other than reports, Insights+ allows you to export data and create customer segments.

Customer Segmentation is a logical grouping of audiences based on shared characteristics. Segments are used to tailor the marketing efforts of brands effectively. Segmentation is usually done based on demographics or customer behavior. A segment consists of different values called partitions. For example, we can have a segment name Transaction Value whose partitions could be High, Medium, and Low. The segments are used for effective targeting and reporting in modules such as Campaigns, Loyalty, and Essential Insights.

Features-

7   It is an effective business intelligence tool that provides analysis of an organization's business data

8   It provides various reports like standard reports, custom reports, migration reports with statistical proficiency.

9   Equipped with over 550 predefined KPIs and predefined charts.

10   Provided with different type of charts such as Migration Charts, Funnel Charts for a better analysis of data.

11   Allows you to segment customers on basis of shared characteristics.

12   Schedule reports on a fixed date or on a daily, weekly, or monthly basis. Receive reports through emails as links.

13   The release of Mobile view for Insight+ reports marks the entry of Capillary's Core Products..

2.3.2 Loyalty+

Capillary's Loyalty Manager helps create an effective loyalty program(s) that upsurge customer enrollment and engagement through points or coupon incentives. The platform provides flexibility to customize a loyalty program to match business needs.

In Loyalty Manager, you can create a regular loyalty program that usually runs for a longer duration and promotion programs that you want to run for a shorter period. You can reward customers with points and coupons based on their purchases, and grade their loyalty with tiers. You can reward customers differently for different tiers. You can have a loyalty program running on multiple sources (In Store, e-commerce store, WeChat, and mobile app) while maintaining a single customer profile across sources.

Features-

- Manager helps create an effective loyalty program that upsurge customer enrollment and engagement.
- It has an easy to use UI and powerful rule engine and supports multiple customer engagement programs.
- Provides cross channel loyalty.
- Customers can be notified about the loyalty updates through SMS, email, Mobile Push and WeChat.

- Organizations with multiple brands can configure a different loyalty program for each brand while maintaining a single customer profile across the organization.
- Helps you to acquire new customers and retain the existing ones and identify the fraud ones.
  Customers on real-time loyalty updates instantly through SMS, email, and WeChat.

2.3.3 Engage+

Capillary's Engage+ is a marketing automation solution that helps in creating significant and personalized multi-channel marketing campaigns. Reach out to your customers by running campaigns using emails, mobiles, social media and in-store outlets. Capillary's Campaign Manager backed by customer analytic helps in creating significant and personalized email/SMS campaigns and generate campaign reports. A campaign is an umbrella under which you organize and manage information so that promotion or an offer is communicated effectively to members of your loyalty program.

You can use the Engage+ to do the following:

- Create new campaigns. To know more click on New Campaigns
- View live, lapsed, and upcoming campaigns
- Create coupons, email, and text templates, image gallery for use in campaigns
- Create sticky lists for use in campaigns
- View the number of available email and SMS credits
- Send emails and SMSs to customers as part of the campaigns.
  .

Features-

- Marketing automation solution that helps to create significant and personalized multi-channel marketing campaigns.
- To create a campaign for different marketing objectives, such as Sales promotion, New Store opening, Brand anniversary, Birthday, and many others.
- Allows segmenting customers of a particular loyalty program and then targeting them by creating personalized communications.
- Powered by customer analytic which helps in creating significant and personalized email/SMS campaigns and generate campaign reports.
- Helps you to filter the audience, manage SMS content, create offers and coupons with different message optimization strategies.
- Campaigns pre integrated with user's different social media accounts.

2.3.4 Smart Store+

- Helps in increasing customer's inflow and getting customers engaged with the store using effective loyalty program.
- Track store's transactions to analyse the data and build effective campaigns.
- Register customers and to increase the store's loyalty customers and generate huge profits by running efficient loyalty programs.
- Easy customer complaints registering and tracking system to provide better customer service.

2.3.5 Anywhere Commerce+

- This platform allows you to create and manage a webstore.
- It essentially lets you manage all aspects of running an online store like product catalog, checkout, inventory, payment processing, fulfilment operations etc.
- It provides the customer to order from anywhere, pick-up, return and get it delivered to anywhere.

2.4 Requirement Analysis

In any area of expertise, identifying a shared terminology and developing an operational framework is necessary for successful cooperation between professionals and any other interested sides in said areas, as well as for providing clear communication between them. This is especially true in the field of business analysis. The job of business analysts includes a tremendous amount of information, numerous tasks to be performed, and various relationships with associates both within the team and the organisation in question. Having an established structure and precisely defined business analysis concepts allows the business analyst to make sense of the task at hand and accurately assess necessary resources, skills, and actions. Once the business analyst gathers all of the necessary information through elicitation efforts, the business analysts can start their work on requirements analysis and design definition. The analyzed, structured, and stakeholder-verified requirements lay a foundation for design definition and ultimately developing a solution that will bring value to the organization.

The main distinction between requirements and designs is in the way they are used and who benefits from them. What is a requirement for one stakeholder can be a design for another. They both have their role in defining the change and can be overarching in their scope or precisely detailed depending on who they are intended for. The different Requirements for a Business Analyst involves-

2.4.1 Functional Requirements

These define how a product/service/solution should function from the end-user's perspective. They describe the features and functions with which the end-user will interact directly.

2.4.2 Operational Requirements

These define operations that must be carried out in the background to keep the product or process functioning over a period of time.

2.4.3 Technical Requirements

These define the technical issues that must be considered to successfully implement the process or create the product.

2.4.4 Transitional Requirements

These are the steps needed to implement the new product or process smoothly.

2.5 System Requirements

2.5.1 System configurations:

The software requirement specification can produce at the culmination of the analysis task.

The function and performance allocated to software as part of system engineering are refined by established a complete information description, a detailed functional description, a representation of system behavior, and indication of performance and design constrain, appropriate validate criteria, and other information pertinent to requirements.

2.5.2 Software requirements:

Operating System: Windows 10

Software Used- Microsoft word, Excel, Power point

Language Used- SQL

Platform Used- Insight+

2.5.3 Hardware Requirements

Processor- Intel core i3

Memory-   8GB RAM

Hard Disk- 1TB

2.5.4 External Interface Requirements

You only require some hardware's

- A desktop with Internet.
- Website can be reached by using the cell phone as well.

2.5.6 Non-functional Requirements

These include

- Can be accessed by anyone.
- Safety – All the details of the registered users is kept safe.
- Quality - Best.

2.6 My Reports on Brand Performance

Key Performance Indicators Used-

Total Sales

Loyalty Transactions

Repeat Sales

Enrolment Sales

Customer Average transaction value

Customer Average basket size

Redemption Rate

%Enrolment Conversion

Repeat Customers Shopped

2.6.1 Brand Analysis for JA Quarter

Month	Total Sales Values	%	Loyalty Txns Values	%	Repeat Sales Values	%	Enrollment Sales Values	%
Jan, 2022	821,568,457.56	31.00%	135,733	30%	461,214,597.07	30.00%	325,993,114	
Feb, 2022	828,817,275.09	31.00%	139,941	31%	467,353,395.82	31.00%	324,800,277	
Mar, 2022	784,132,954.19	30.00%	142,860	32%	472,074,680.02	31.00%	276,868,464	
Apr, 2022	201,332,278.21	8.00%	31,960	7%	117,799,125.82	8.00%	76,360,348	
Total	2,635,850,965.05	100.00%	450,494	100%	1,518,441,798.73	100.00%	1,004,022,204	

Enrollment Sales Values	%	Customer ATV Values	Customer ABS Values	Redemption Rate Values	% Enrollment Conversion Values	Repeat Customers Shopped Values	%
325,993,114	32%	6,232	2.511	14.03%	93.08%	z	33%
324,800,277	32%	6,030	2.622	0.28%	92.05%	67,586	35%
276,868,464	28%	5,701	2.461	0.79%	93.23%	73,730	38%
76,360,348	8%	6,513	2.709	0.49%	95.41%	17,425	9%
1,004,022,204	100%	6,035	2.546	0.73%	93.05%	193,659	100%

2.6.2 Comparison of brand performances on different Key Performance Indicators-

Month	Total Sales		Loyalty txns		Repeat Sales		Enrollment Sales		Repeat Customers Sh
	Louis Phillipe	Allen Solly	Louis Phillipe	Allen Solly	Louis Phillipe	Allen Solly	Louis Phillipe	Allen Solly	Louis Phillipe	Alle
Jan, 2022	821,568,457.56	345,830,825.68	135,733	96,013	461,214,597.07	164,400,389.78	325,993,114	162,983,370	64,518	
Feb, 2022	828,817,275.09	341,692,444.13	139,941	89,324	467,353,395.82	154,634,417.16	324,800,277	177,080,958	67,586	
Mar, 2022	784,132,954.19	375,137,455.14	142,860	100,788	472,074,680.02	179,036,379.42	276,868,464	185,764,525	73,730	
Apr, 2022	201,332,278.21	88,245,651.81	31,960	21,702	117,799,125.82	40,151,218.45	76,360,348	46,004,757	17,425	
Total	2,635,850,965.05	1,150,906,376.76	450,494	307,827	1,518,441,798.73	538,222,404.81	1,004,022,204	571,833,610	193,659	

*Cannot disclose brand details because of Company-Client Confidentiality.
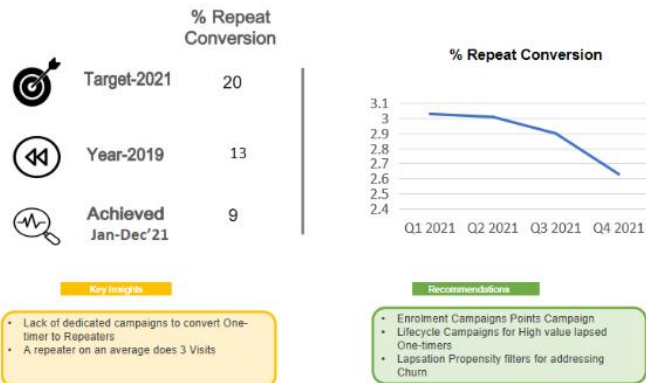
2.6.3 Quarterly Business Review Report for Brand-
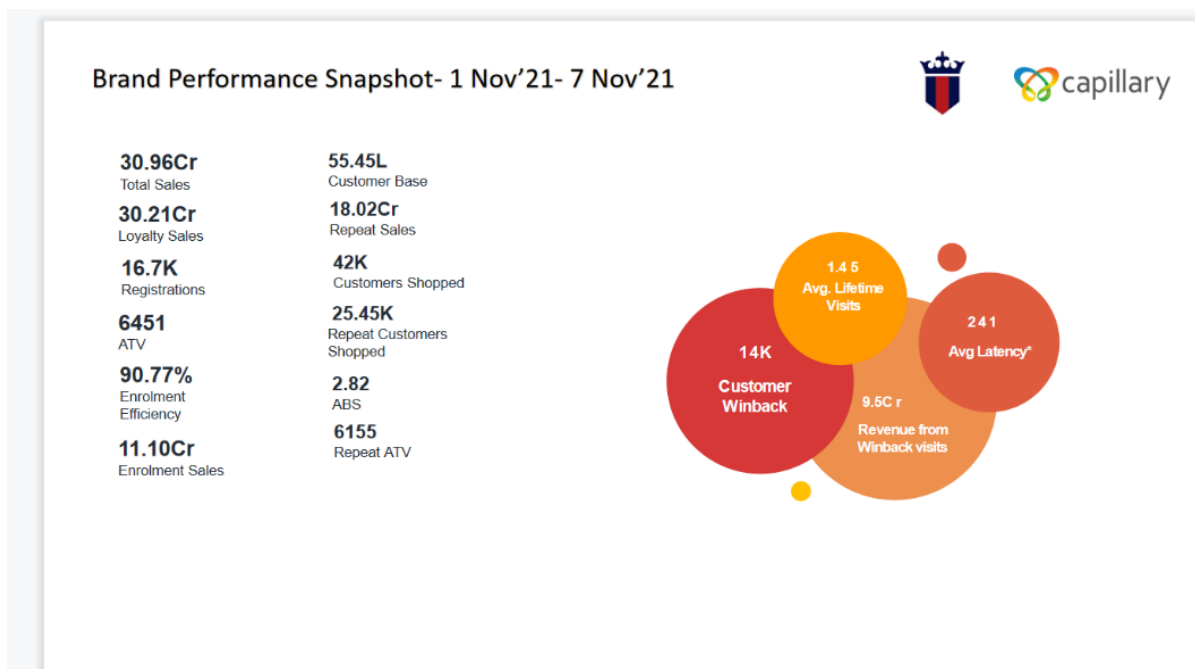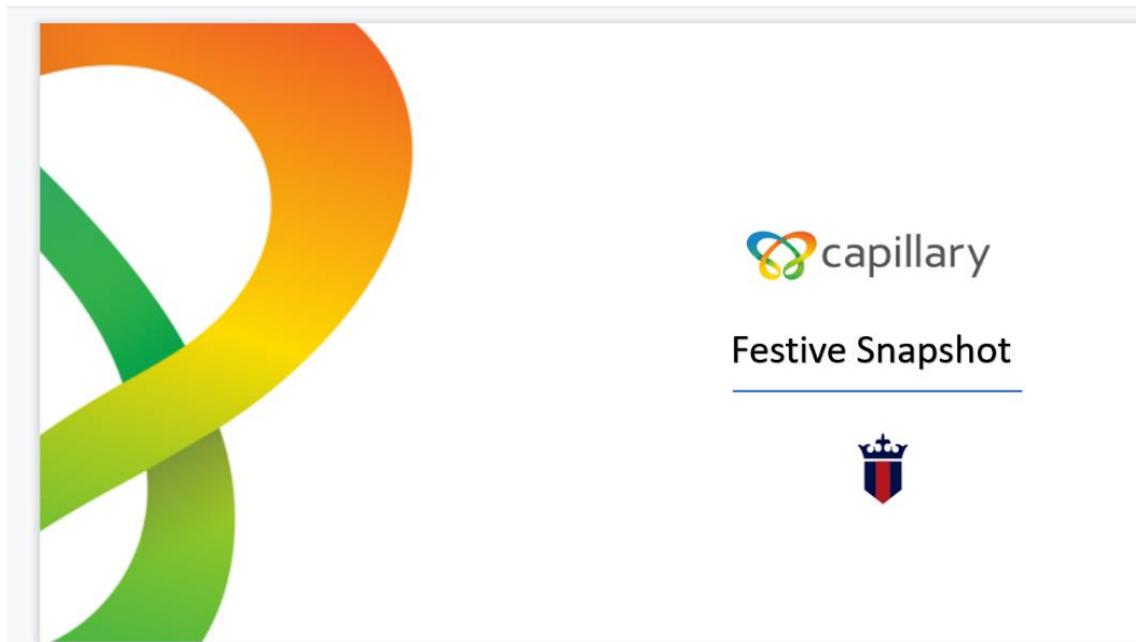
Brand performance on key KPIs in the festive season of Diwali

Key Result Areas Updates on % Repeat Conversion of Customers
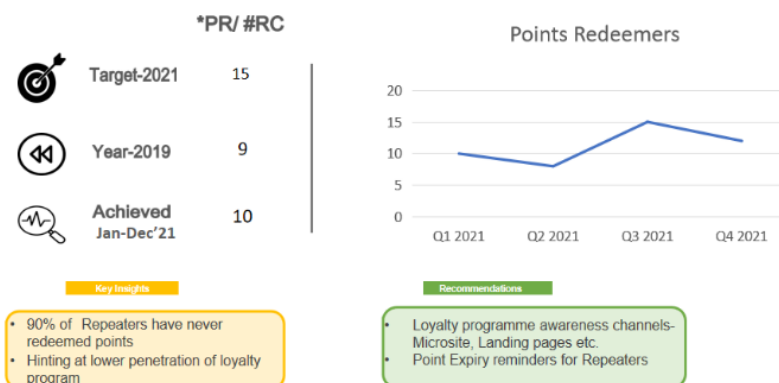
Key Result Area updates on Point Redeemers

Points Program Performance

As a part of Company's Loyalty Program

Chapter 3: Analysis

3.1 Results

- Learnt to communicate effectively in a workplace.
- Adopting new skills in requirement with market standards.
- Studied about the retail consumer market.
- To always take constructive criticism
- Make connections for effective working
- Always be a team member.

3.2 Problems faced

3.2.1 Difficulty in Communication

During my initial first month I was afraid to ask my associates for help and wanted to do all my own but slowly I realized to work in a team I should be always up for questions and that that could help me in my project as well.

3.2.2 Problems in adapting to new platform-

Learning new platforms like Insight+ seemed quite challenging in the beginning but with time and practise I became more familiar with the interface and it became easy later on.

3.2.3 Work from Home

So far all the projects that I have worked on, most of them were with my friends who were physically available in college premises to solve my problems and other situational challenges. But this was the first time working remotely, that is work from home. It was a challenge but now I can work in any conditions given from home or office.

Chapter 4: Conclusion

This report here contains the details of the activities carried out in the internship conducted at Capillary Technologies. It was a real time work experience in the industry. It gave me an opportunity to know about the different Business Analyst Roles and their work which helped me to reveal my personality and show deference and respect while seeking guidance and input from my mentors and professionals. After working as an efficient team member in a group now I have much clearer idea about my strength and weakness. Knowing that now I have hands on experience in the real labor market has boosted my confidence to take new projects and jobs in future.

It was a great experience working with the professionals and making valuable connections, so showing curiosity, enthusiasm and willingness. The final goal was to implement the theoretical knowledge gained in college to real and practical use.

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