Strategic Growth: Optimizing Operations of Dental Practice

A Final report for the BDM capstone Project

Submitted by

Name: Maithreyi Mahesh

Roll number: 23f2000778

IITM Online BS Degree Program,

Indian Institute of Technology, Madras, Chennai

Tamil Nadu, India, 600036

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Declaration Statement

I am working on a Project titled "Strategic Growth: Optimizing Operations of Dental Practice". I extend my appreciation to Growing Smiles Dentist, for providing the necessary resources that enabled me to conduct my project.

I hereby assert that the data presented and assessed in this project report is genuine and precise to the utmost extent of my knowledge and capabilities. The data has been gathered from primary sources and carefully analyzed to assure its reliability.
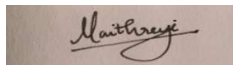
Additionally, I affirm that all procedures employed for the purpose of data collection and analysis have been duly explained in this report. The outcomes and inferences derived from the data are an accurate depiction of the findings acquired through thorough analytical procedures.

I am dedicated to adhering to the principles of academic honesty and integrity, and I am receptive to any additional examination or validation of the data contained in this project report.

I understand that the execution of this project is intended for individual completion and is not to be undertaken collectively. I thus affirm that I am not engaged in any form of collaboration with other individuals, and that all the work undertaken has been solely conducted by me. In the event that plagiarism is detected in the report at any stage of the project's completion, I am fully aware and prepared to accept disciplinary measures imposed by the relevant authority.

I understand that all recommendations made in this project report are within the context of the academic project taken up towards course fulfillment in the BS Degree Program offered by IIT Madras. The institution does not endorse any of the claims or comments.

Signature of Candidate:

Name: Maithreyi Mahesh

Date: 10th October 2024

Executive Summary

The project undertaken is based on the workings of a premier paediatric dental clinic named 'Growing Smiles', located in the eastern region of Bengaluru. The project focuses on different aspects of the clinic's practices and examines the aspects of the operation that work well for the clinic, and those that need improvement. The primary issues revolve around the inconsistent nature of the number of appointments on different days of the week. The age demographic of the patients addresses a very small sector of clientele, resulting in a loss of potential revenue and business. A recurrent problem relates to the wait time between appointments causing distress in younger patients and delayed treatment. This also results in scheduling conflicts. The practice depends on consultants for a major portion of their operations and irregular visits by consulting dentists disrupts the workflow. A smaller issue is related to the spend on advertisements where the management is unable to realise benefits on the return on investment for this. All this leads to dissatisfaction among a section of the clientele and their parents.

For the analysis, quantitative and qualitative datapoints were considered. Some unstructured qualitative data has been collected through online reviews and I have tried to summarize the feedback and make it relevant to this study. I have attempted to correlate the various factors that go into the business, like age distribution, treatment types, specializations, appointment distribution and advertising methods to arrive at the aforementioned conclusions. I have extensively used Microsoft Excel and related tools to analyse the data.

It is evident that the practice itself is successful and profitable. From the data, I find that around 45% of the appointments are on weekends, with another 18% of appointments scheduled on Fridays. Weekdays are not as popular. About 65% of appointments are for children under the age of ten, with only 10% of appointments addressing adults over the age of 20. There is a clear, positive correlation between wait times and treatment times, especially in the case of children below the age of ten. As the consultants handle the specialised procedures, their treatment times per appointment is significantly larger. There is a disparity in the cost incurred for advertisements and the benefits derived from these.

As a premier paediatric clinic, the majority of the patients are under the age of ten and require parental supervision. School schedules and working parents contribute to the large number of appointments over the weekends owing to convenience. The large treatment time in younger

patients is seen to be a causal effect of the large wait times. The consultants find it inconvenient to travel large distances to cover relatively fewer appointments. Word-of-mouth and Newspapers/Flyers have proven to be the major source of new clients, while Google advertisements bring in very marginal number of patients despite incurring maximum costs.

It is recommended that the clinic introduces discounts or free cleaning services on weekdays to attract ailing patients on weekdays as well. Segregating the waiting areas for older children with play areas or other attractions to keep them engaged might help bring in older children. Free or discounted consultations for siblings and parents will help bring in older demographics. The receptionist must be trained to handle conflicts in the schedule efficiently. The clinic could also invest in a personalized scheduling or client management software to manage appointments. Further data collection will help determine if there is a cause-and-effect relationship between the wait times and treatment times in children below the age of ten. If this is true, the wait times in children below the age of ten must be reduced. The consultants' schedules and visiting days need to be relooked to optimise their time. The targeted advertisement functions must be looked into and optimised effectively.

Analysis Process and Methods

This project was done with the goal of optimising the dentists' time and efforts. It was recognised that the dentists' schedules were volatile, and susceptible to quick changes. The dentists are busy for most of the weekend, skipping meals and breaks to treat patients and cover the appointments. The goal of the project was to manage these consequences and increase the overall efficiency of the clinic. Another goal was to increase patient satisfaction. In line with this, the resident dentists Dr. Sushil and Dr. Janani were approached, and multiple discussions were undertaken to identify the shortcomings from their perspective. They spoke primarily of the time it took to treat younger children, the delays in treatment, and the relentless appointments on weekends.

With this in mind, the data of patients' age distribution, procedure, doctor, wait and treatment times were collected and analysed over a period of three months, taking into consideration working and holiday months.

For the cleaning of data, the rows with much relevant missing information were removed. The data type of the dates was changed for easier analysis and the ages were put into age brackets. The days were added to form patterns. PowerBI and Tableau were used to validate accuracy of the results and for visualisation purposes.

1. The disparity in number of patients over the week:

   Objective: To analyse the fluctuations to find patterns, if any, and to understand the flow of patients on different days of the week.

   The number of appointments per day were analysed over a period of three months. Efforts were made to understand the days that consistently had the most and least patients. Pivot tables were created to generate the average number of patients per day of the week. The analysis of the patient count on the different days of the week was done using a line chart. The line chart helps derive a definitive trend for our analysis purpose.

2. Concentration of age demographics of patients:

   Objective: To analyse age demographics of patients and understand the largest contributors to business.

   The cross section of patients was segregated into groups based on their age. The focus of the practice was to cater to the needs of patients under the age of eighteen. Here, I tried to understand the trends of patients that visited the clinic by age. As a paediatric clinic, their primary patient intake was targeted at minors, and this is clear from the data. The mode was visualised using graphs. The age groups were also compared against different procedures and doctors to derive insights. I have tried to bracket the demographics in the best way possible, considering the volume of patients in these groups, leading to uneven bin sizes. A bar chart derived from a pivot grouping the patients by age bin is used here to help visualize and compare the results.

3. Customer dissatisfaction stemming from long wait durations despite having scheduled appointments:

   Objective: To analyse the root cause for client dissatisfaction and prolonged treatment times.

   While the general service and the quality of treatment are commendable, the patients are dissatisfied with the waiting times. To analyse this, some patients were questioned on the quality of care, and reviews were collected from online forums. The mean, median, mode and range were calculated for this. Statistical distributions were fit to the wait time, and a normal distribution was fitted to the data.

   A conversation with the dentists revealed that some children get perturbed after waiting for a long time. This led to the exploration of the correlation between the wait times and the treatment times, especially for the consultations in children below ten

years of age.

To analyse this, a correlation was done using Excel Analytics add-in. A scatter plot was also fit to this data.

4. Specialized procedures and appointments with consultants:

   Objective: To analyse the popularity of procedures and the time they take and potential new revenue streams.

   To analyse the number of procedures done by consultants, a pivot table and comparative table was created showing the number of procedures performed by each consultant. The popularity of different treatments was looked into and were mapped to the different age demographics to understand trends. The time taken for each procedure was plotted on a graph to determine the best possible schedules for appointments. This should help schedule the consultant visits more optimally.

5. Return on investment for advertising expenses:

   Objective: To identify methods of advertising with best returns and to make appropriate investment decisions.

   The clinic has attempted advertising online and through multiple offline media. There is a stark difference in the business the two methods have brought in. The clinic has invested in targeted advertisements on Google Ads, and they have tried advertising through social media platforms like Instagram and Facebook. This has been analysed to find methods that have worked for the clinic, and those that haven't, and to understand which investment has delivered maximum returns.

   A bar chart has been used to visualise the stark differences in the various methods of advertising.

Results and Findings

The general feedback related to the clinic is positive, which the location being one of the biggest attractions to the patients. In addition, this is a specialist paediatric dental clinic, making it compulsive for parents to bring their wards in. The dentists and consultants are specialists at what they practice, and their reputation attracts new patients. The price-performance is generally found to be a positive in this case as well. The only negative feedback is that the wait time between appointments is huge, often causing fatigue in the patients, leading to frustration, non-cooperation and cancellations. The calendar year 2023 saw over 4166 appointments, of which 787 were cancelled for various reasons. This data does

not include the walk-ins. The cancellations span 18-20% of the monthly appointments and needs immediate attention.

The dentists and consultants are specialists in their streams. The practice draws specialists in Endodontics, Cosmetic Dentistry, Aesthetic Dentistry, Implants, Oral Surgery, Orthodontics, Alignments, Invisalign, Bridge and other lines of treatment that is related to paediatrics. Their reputation attracts patients and constantly creates new revenue streams. The year 2023 saw 1038 new clients, and an average of about 80 to 100 new clients every month this year.

The irregularity in the visits of the consultants often leads to cancelled appointments, causing frustration amongst patients and thereby, loss of business. The much-discussed wait times between appointments also creates unhappy clientele, leading to only 81% of the booked appointments (3379 in 2023) being realized.

Data Points

1] The disparity in number of patients over the week
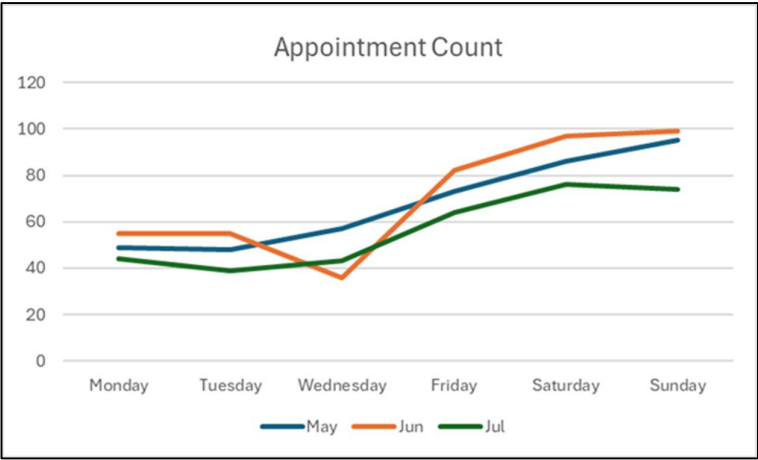
4.1: Line Chart showing average number of appointments by day of the week every month

We have selected data from the months of May, June and July 2024, to get a good representation of data from the busy and lean periods of the dental clinic. The annual calendar for this dental clinic is split into "Holiday months" and "non-Holiday months". The holiday months correspond to the school holiday season, which is May and June in Bangalore, based on our sample. These months witness a significantly larger number of appointments compared to the rest of the year. Despite May and June having different volumes from July,
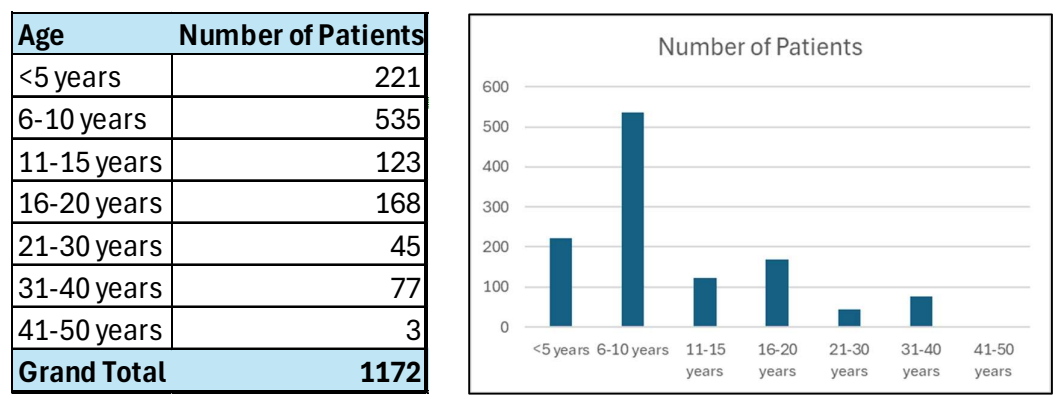
the patterns of working days and hours are pretty similar over different months. The data sample was selected taking this into account.

The primary pattern found in the data is that the weekends, in addition to Fridays, have a significantly larger clientele seeking appointments for treatments, as most working parents prefer getting their appointments done over the weekend, creating a larger demand for weekend appointments. Mondays, Tuesdays and Wednesdays consistently have lesser number of appointments, comparatively. The appointments work on a first-come-first-serve basis, leading to substantial amount of treatment time getting spilt over. The patients that are unable to get the dentists' time on the weekend due to the above spillovers, but need an urgent procedure through a preferred specialist, will try to get an alternative time during the week. Though not their original preference, the parents try to accommodate these urgent procedures in their schedules during a time when the appointments are available. In cases where there is no urgency or criticality to get the procedure done, the patients do not mind waiting for a couple of weeks to get a weekend appointment.

It is apparent that most paediatric patients and their parents prefer taking time off, or work from home, on Fridays. Most people working in larger corporates have busy Mondays, and taking a holiday mid-week severely impacts their flow of work. Therefore, the weekdays are not the first preference to visit a dentist. In addition, the Fridays and Saturdays work better in cases where the patient needs additional time to recover from the treatment, as they have the following day to recuperate.

In this case, a line graph has been deemed the most appropriate form of graphical representation. There was an attempt to represent this through a bar chart and a scatter plot, but these charts did not clearly indicate the difference in the appointments by day of week each month. The line chart that has been chosen represents the best possible depiction of the dataset presented, although there is no continuity between the data points. The line chart enhances the visual idea of the trends that are being presented through this sample.

2] Concentration of age demographics of patients

Age	Number of Patients
<5 years	221
6-10 years	535
11-15 years	123
16-20 years	168
21-30 years	45
31-40 years	77
41-50 years	3
Grand Total	1172

4.2 Bar Graph and Table showing the analysis of age demographics

As a specialist paediatric dental practice, the dentists are trained to handle pre-adolescent patients. However, the majority of the patients (about 65%) are under the age of 10 years. Children between the ages of 11 to 18 years are not particularly happy about visiting a paediatric clinic, although the clinic is equipped to treat them with care. With some focus, this could become a significant revenue stream as well.

The Pareto Distribution is also evident here with close to 70% of the clientele come from two specific age distributions

In this case, a bar chart has been deemed an appropriate representation as this clearly demonstrates the distribution of patients by age. A scatter plot or a pie chart will not be an accurate depiction of data.

3] Customer dissatisfaction stemming from long wait durations despite having scheduled appointments

	Treatment time	Wait time
Treatment	1	
Wait time	0.558834547	1

For the month of June 2024	Consolidated for the months of May, June and July 2024

Correlation between Wait and Treatment Times

Correlation between Wait and Treatment Times
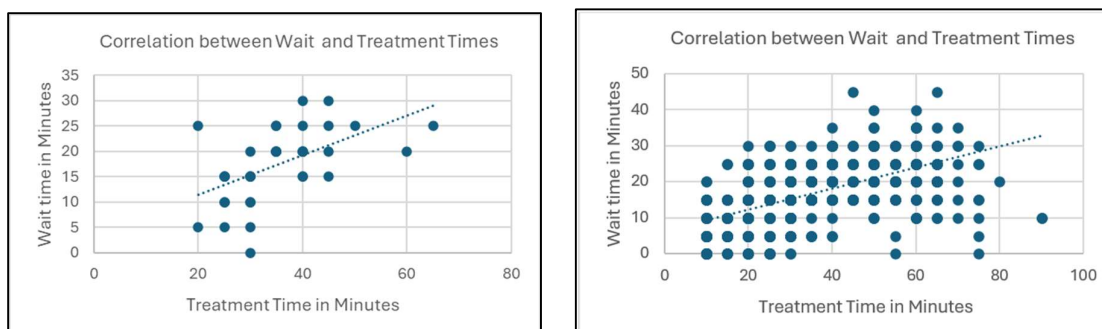
4.3 Scatter plot showing correlation between wait times and treatment times of patients below ten

From the sample received, we have established a positive correlation between the wait time and treatment time for patients under the age of 10, particularly during consultations. One of the big gaps that was detected through this project was related to the time spent by the patients and their guardians, waiting for a dentist to see them. Despite having a committed appointment, and patients turning up on time, they are kept waiting as the dentists are still addressing prior appointments. This causing distress in the younger patients, and loss of business. Children usually get disturbed and fidgety during prolonged waiting periods. They lose patience, and this leads to non-cooperation during the consultation or treatment. It is also noticed that first-time patients do not trust the dentists, and the long wait time further makes them hostile and fearful towards the dentist.

The doctors have to expend a lot of time to calm the children down and build a connection with them before the treatment, so that the patients can get comfortable. This causes the overall time taken for the treatment to increase, leading to the aforementioned spillovers. This has been seen as one of the major contributors for the significant number of appointments that get cancelled.

One of the solutions to reduce the treatment time was to engage the resident nurse to calm the children. However, this was not a practical solution, as the children would get comfortable with the nurses, but they would still get agitated around the dentists as they were a new entity for the children. This has been seen as one of the major contributors for the significant number of appointments that get cancelled.

Here, a scatter plot has been utilised as the representation of choice as it shows a correlation between the wait times and the treatment times of children below 10 years of age, in the best

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possible manner. This chart shows the comprehensive correlation of all the months of sample data.

4] Specialized procedures and appointments with consultants

Procedures	Dr. Debarchana	Dr. Janani	Dr. Kaushik	Dr. Sheron	Dr. Sushil	Dr. Vivek	Grand Total
Alignment			15		5	1	21
Braces		1	9		3	10	23
Cleaning		24	1		44	2	71
Consultation	1	88	11	12	340	13	465
Crowns		7	1		16		24
Extraction		27		1	100	1	129
Filling		42	1	6	202	5	256
Implants	8						8
Invisalign					2	18	20
Root Canal		23		29	98	1	151
Whitening	4						4
Grand Total	13	212	38	48	810	51	1172

4.4.1 Table showing the popularity of each doctor for a procedure across all ages

This table showcases the number of procedures by dentist. This clearly illustrates the procedure each consultant specialises in and the popularity of these procedures within this practice.

As a paediatric clinic, it is evident that procedures like fillings, extractions and root canals are more prevalent when compared to procedures like whitening and implants, which are more adult- focused.

This table shows us that when it comes to specialised procedures and the consultants, alignments are mostly handled by Dr. Kaushik, implants and teeth whitening are only handled by Dr. Debarchana and Invisalign is taken care of by Dr. Vivek. In the case of braces, both Dr. Kaushik and Dr. Vivek handle these procedures, reducing both of their work hours considerably. Although both the dentists are specialised in other procedures (Alignment and Invisalign), their total work hours are less than optimal.

This table also demonstrates the distribution of these treatments by dentist and shows the popularity of that dentist for the procedure. We see here that all the consultants have specific specialisations, while the heavy lifting for consultations is done by the resident dentists, Dr. Sushil and Dr. Janani. This ensures that the consultants' time is optimally used for their specialisations.

Procedures	Dr. Janani	Dr. Kaushik	Dr. Sheron	Dr. Sushil	Dr. Vivek	Grand Total
Alignment		8		3	1	12
Braces		4		1	5	10
Cleaning	15	1		20	1	37
Consultation	69	8	8	284	9	378
Crowns	5	1		11		17
Extraction	22		1	83	1	107
Filling	34	1	5	176	3	219
Invisalign					5	5
Root Canal	13		14	65	1	93
Grand Total	158	23	28	643	26	878

4.4.2 Tabular representation of the popularity of each doctor for a procedure for children under ten

The resident dentists have specialised in paediatric dentistry, and they take care of most of the appointments when it comes to patients under ten years of age. The consultants are not specialist paediatric dentists, and mostly cater to the adults and older children, and address any procedures involving complications, for the most part. Any paediatric procedure involving extreme complications or procedures in need of expertise is delegated to the consultants. As specialist paediatric dentists, Dr. Sushil and Dr. Janani perform most of the procedure on the children, which includes fillings, extractions, cleanings and root canals.

The two tables have been used to demonstrate that paediatric procedures make up about 75% of all realised appointments. About 43% of all procedures on children were of the type 'Consultation', which in turn led to other procedures. About 81% of all consultations were of the paediatric type, which demonstrates the popularity of this clinic as well as the effectiveness of their advertising methods.

Here, a table seemed most appropriate as this gives you the distribution in the simplest way. A graph does not make sense and complicates the representation further, with no additional benefit.

5] Return on investment for advertising expenses

Advertising	Count of How they heard
Google ads	62
Newspaper/Flyer	258
Social media	67
Walk-ins	113
Website	24
Word of mouth	648
Grand Total	1172
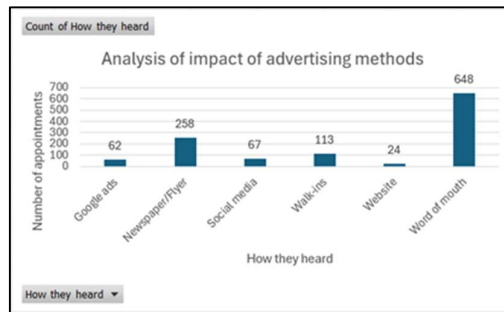
4.5 Bar graph and Table showing analysis of impact of each method of advertising

This dental practice does resort to advertisements to attract clientele. As a speciality paediatric clinic, the practice constantly evaluates the most beneficial mode of advertisements to attract the attention of the parents of the children in the neighbourhood where the clinic is established. The common modes of advertisements include social media, Google advertisements, Newspaper advertisements, and flyers or pamphlets that are delivered to the houses in the neighbourhood. It has been evident that the most successful method of advertisement for this clinic has consistently been referrals and word of mouth. Existing clientele referring new patients creates trust and leads to new people requesting appointments.

The other factor is also the proximity. A number of dental clinics exist in every locality, and most people prefer to get their treatment done at a clinic closest to them because of convenience, unless referred to a most trustworthy one by someone who has had a good experience. Good referrals create new clientele that are willing to travel a little further for quality and safe treatment, and this has contributed to a big part of the revenue stream for the clinic.

Newspaper and Flyer advertisements form a good method of advertisement, as these reach the residents of the specific locality that this dental practice aims to target. This is a testimony to the fact that the residents of a locality prefer a locally available practice to fix their dental problems, for reasons of convenience. This is evident from the number of walk-ins, and from some of the appointments.

The online advertising methods, while not unsuccessful, have not brought in enough revenue to justify the advertising costs. The clinic continuously spends significant resources on

Google Ads and to build and maintain a website. This mode of advertisement attracts targeted audiences based on their needs and searches.

This distribution of clientele to the advertisement mode follows the Pareto Principle. The top two forms of advertising (Word of mouth, Newspaper and Flyer advertisements) account for almost 80% of the total clientele that comes in.

In this case, a bar chart has been deemed appropriate representation as this clearly demonstrates the impact of the different methods of advertisements adopted by the practice. The number of advertising methods is too large for a pie chart. A line chart or a scatter chart is not best suited for a categorical variable.
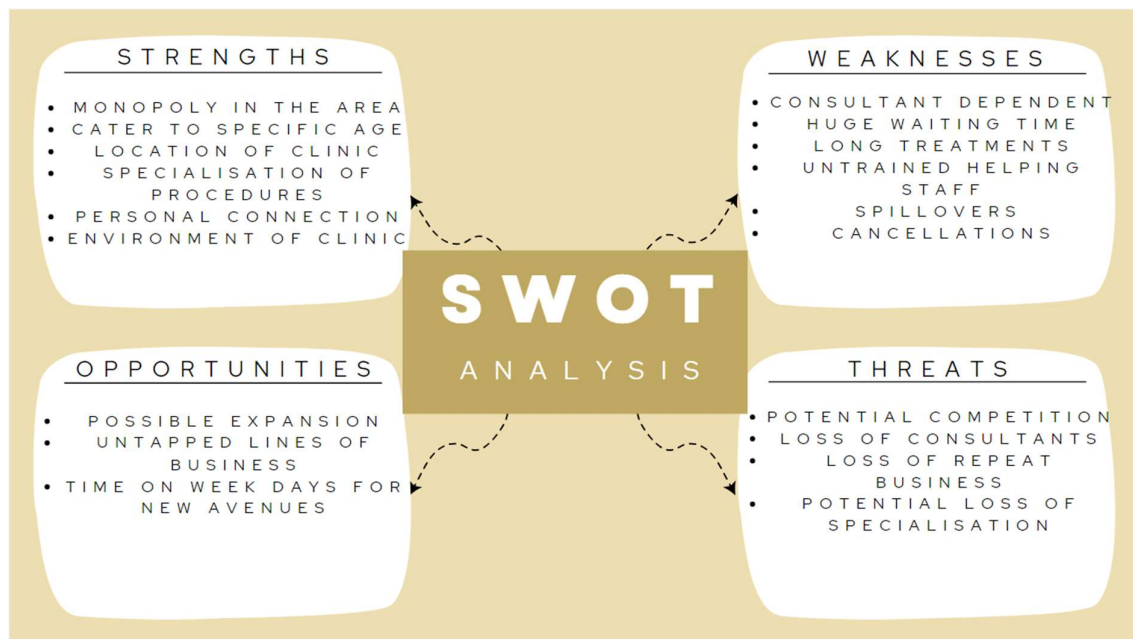

6] Qualitative Analysis – Feedback and Review received from existing patients

The quantitative feedback is primarily derived through reviews and feedback provided on the website, Google Reviews, social media and other such fora. The main feedback that shed a positive light on the clinic and its operations centre around the following:

i. The overall experience on the facility, the treatment and the dentists have been very positive. Most sites show a 4 or 5-star rating for this.

ii. The dentists, and the specialists have received glowing tributes, and are seen as the go-to people for paediatric dentistry. The average ratings for this are around 4.25.

iii. The location of the clinic is an added advantage. The clinic is located in the midst of a residential locality, but also has many commercial complexes and huge technology parks in the periphery. This makes it a compelling place for a paediatric clinic, as the parents and caretakers find this very convenient.

iv. The clinic caters to a perfect age demography which is unique. This is seen as a benefit by most parents.

v. The technology used and the equipment that the clinic boasts of are seen to be state-of-the art and is trusted by most of the visitors. This has been rated highly as well.

vi. The price attached to each procedure is perceived to be very competitive and appropriate. The patients and the parents of the children who get treated have give an overwhelming thumbs-up for this with a near-perfect rating.

vii.   The time for the procedure has a mixed review. While some patients have positive comments, this is also seen as a negative by most.

viii.   On the negative note, the time for the treatment has seen significant cancellations and loss of business.

ix.   The wait-time and the discomfort that this causes to the younger patients is one big factor that causes client dissatisfaction.

x.   The conversations with the investors also highlighted the fact that the consultants are specialists in their domains and are highly regarded by the clientele. However, they are not necessarily equipped to deal with the younger clientele, often causing delays.

xi.   It is also evident that the consultants are irregular and are available for fewer days in the month. I have not been able to do extensive analysis on this as the consultants are more willing to accept an increased number of appointments during the holiday months.

xii.   One of the factors that has been discussed is the suboptimal spread of appointments across the week. The variance between the lean times and the busy hours is significant.

SWOT Analysis

STRENGTHS

- MONOPOLY IN THE AREA
- CATER TO SPECIFIC AGE
- LOCATION OF CLINIC
- SPECIALISATION OF PROCEDURES
- PERSONAL CONNECTION
- ENVIRONMENT OF CLINIC

WEAKNESSES

- CONSULTANT DEPENDENT
- HUGE WAITING TIME
- LONG TREATMENTS
- UNTRAINED HELPING STAFF
- SPILLOVERS
- CANCELLATIONS

SWOT ANALYSIS

OPPORTUNITIES

- POSSIBLE EXPANSION
- UNTAPPED LINES OF BUSINESS
- TIME ON WEEK DAYS FOR NEW AVENUES

THREATS

- POTENTIAL COMPETITION
- LOSS OF CONSULTANTS
- LOSS OF REPEAT BUSINESS
- POTENTIAL LOSS OF SPECIALISATION

Interpretation of Results and Recommendations

1] The disparity in number of patients over the week:

Paediatric patients and their parents prefer taking time off, or work from home, on Fridays. Most people working in larger corporates have busy Mondays, and taking a holiday mid-week severely impacts their flow of work. Therefore, the weekdays are not the first preference to visit a dentist. In addition, the Fridays and Saturdays work better in cases where the patient needs additional time to recover from the treatment, as they have the following day to recuperate. The clinic could keep more official working hours on the weekend, to dilute the flow of patients, while also offering discounts and incentives to patients that come in on weekdays. [Refer Chart 4.1]

Recommendation:

a) Since Wednesdays see a lighter turnout of patients, the practice could introduce a new specialization in geriatric dental care. From the data, there is a lack of patients above the age of 40. A major benefit is that the senior citizens would be willing to come in during the week. This could be a new business opportunity.

b) In the event that the aforementioned recommendation is unviable, the clinic could formally reduce the number of working hours on Wednesdays, to make it a half day for the doctors. This would ensure that the dentists get enough time off work in a week, while also making sure that the hours they are functional are more fruitful.

2] Concentration of age demographics of patients:

The majority of the patients (about 65%) are under the age of 10 years. Although this is a paediatric clinic, with the ability to treat pre adult patients with care, children between the ages of 11 to 18 years are not particularly happy about visiting. The feedback from parents makes it evident that these children are uncomfortable being seen in a paediatric clinic. In addition, the layout and decor of the clinic is seen to be more in tune with the younger demographic which further puts the older kids off. [Refer Chart 4.2]

Recommendation:

Based on a recommendation, the management is happy to invest in a separate waiting room for adults and older children. This could be put into place on an urgent basis to bring these

older children back. The clinic could also offer package deals for specific long-term treatments targeted at these older children.

3] Customer dissatisfaction stemming from long wait durations despite having scheduled appointments:

The correlation between the wait times and the treatment times is particularly significant among children under the age of ten. In the discussions with the receptionist, it was evident that the practice has not measured the correlation of the wait time on the overall treatment time and quality. Reducing the wait time could potentially help shorten the overall treatment time and improve the quality of treatment on children. [Refer Chart 4.3]

<u>Recommendation:</u>

The practice should give priority to the younger demographic, and to complete their appointments first. As a paediatric clinic, they must focus on retaining the goodwill and trust of the younger patients, leading to client retention. In addition, this will address the challenges around long wait times, and the long treatment times that the clinic is grappling with. Addressing their concerns first would save them time, effort and help them get better reviews in the long run. This will help them reduce the overall consultation time, to help the dentists to focus better on the actual procedures.

Another recommendation would be to provide comprehensive training to the receptionist, especially when it comes to scheduling. An effective schedule would be one where the patients' convenience is prioritized without harming the dentists' productivity. By training the receptionist to make effective schedules, the wait times can be minimized, and the doctors will work optimal hours.

The clinic could invest in low-cost, specialized client relationship management software to facilitate scheduling and managing appointments. Some of these will help automate the sending of reminders to patients for their upcoming appointments and help schedule follow-up calls or texts based on the dentists' recommendations. The receptionist must be trained to effectively use this software, as well as to balance appointments, avoiding overbooking, over-utilisation or under-utilisation of resources.

The clinic must take steps to handle cancellations effectively. The clinic has collaborated with available platforms like "Practo". This partnership should be leveraged to offer a small discount or packages for patients that come for the treatment through these platforms, as well as for long term procedures.

4] Specialized procedures and appointments with consultants:

The number of appointments, and the time spent, by two of the consultants is significantly lower than the rest of the staff. This is not the optimal revenue model for these consultants as their efforts to travel and practice in this clinic is not justified. [Refer Chart 4.4.1 and 4.4.2]

Recommendation:
It would be prudent to revisit this and optimize the visits and the scheduling of these consultants to maximise their utilization. A new stream of business for other age demographics that require braces, Invisalign treatment or alignment will lead to new revenue streams and help optimise operations, since the consultants are trained for this.

5] Return on investment for advertising expenses:

It is evident that word of mouth as a means of advertising has been the most effective and has brought in the majority of the new clientele. The newspaper advertisements and flyers have also proved effective. The clinic can invest more time and resources on these methods as they have demonstrated results. On the contrary, online ads and social media have not been as productive although the clinic has spent more money. [Refer Chart 4.5]

Google Ads was considered as a good investment initially. However, the lack of follow-up and reviews has resulted in reduced returns on this investment. The conversion rate of the spend on these advertisements, to the patients that visit as a result, is only about 7% of the total clientele. Although this is not an insignificant number, their main advertising expense is Google Ads, and this is not a return that is proportional to the investment.

Recommendation:
The Google Ads method of marketing needs to be re-examined. An attempt should be made to redesign their content to make it more relevant and appealing to audience. The target for these ads needs to be refocused, taking into consideration location, age demographics and specialisations. The clinic should invest in follow-ups on potential patients visiting their website or clicking on their links, as a result of an Ad find.

The second recommendation pertains to the reviews, and the general perceived reputation of the clinic. Since people readily give negative feedback and are hesitant to give positive feedback, some incentive could be provided to nudge satisfied patients towards leaving reviews. A 5-10% discount on the bill amount, or on resultant procedures scheduled in the next few months (two to three months ahead) should be incentive enough to encourage

patients to leave reviews on multiple platforms. Also, encouraging patients or parents to provide feedback during the visit itself, while waiting for the billing or payments could increase the number of reviews received.

Apart from the online feedback, patients could be encouraged to give feedback or suggestions in real time during the visit, thus helping the clinic improve its operations in a way that is conducive to the patients.

Summary

The data collected for this project has provided us insights on how the business is run on a regular basis and gives us an understanding of the positive and negative practices. It is evident that the dental clinic has been performing well from the perspective of clientele and revenue generation, when analysing the data from a big-picture optics. The data for this project was received from the clinic and has both qualitative and quantitative characteristics to help in detailed analysis. The project focuses on three months as a mechanism to get a good sample across different time periods.

From the data, it has been noticed that there are resident dentists who manage the clinic and visiting consultants who are specialists. Most dentists have a tight schedule and manage the patients well. However, two dentists seem to have lower number of patients on the days they visit, warranting a relook at their appointments or looking a new client-base for efficiently managing their time.

It is evident that some adjustments need to be done to introduce improvements, and help take this clinic to the next level, and to help increase the client-base and profitability. The time spent by patients waiting for a dentist to address them is a cause of concern. This can easily be fixed through better planning and appointment management, as well as proper training for the reception staff. It is also recommended to evaluate a robust client relationship management software that has strengths in managing appointments.

Most appointments are scheduled on Fridays, and weekends, alluding to the fact that most children attend schools or have working parents that need to accompany them for appointments. Wednesdays see the lowest number of patients, and could be repurposed for the elderly patients, as the specialists are trained to address this demographic as well. This could help realise a new, untapped client-base.

Most new clients seem to have heard about the clinic from references, newspaper or targeted flyer advertisements, or through social media. The money spent on online and other advertisement modes could be repurposed and the clinic could look at a better review system to strengthen this and attract more clients.

The clinic is reputed and has regular, loyal clientele. Some changes in the practices followed could help reduce cancellations in the appointments, as well as to attract new client demographics. Focused advertisements and management of appointments will add to the positives.

Links

Link to Data:

https://docs.google.com/spreadsheets/d/1zkIif6C74NOmIJExajGho3GqcaSW9iXtfS2vWSU H3jk/edit?usp=drive_link

Link to Proof of Originality:

https://drive.google.com/drive/folders/1_KmCEXGQKaImWgLFWMfYSTv8sNxBU0AY?us p=drive_link