Implementation of full suite of BIBA for CollarFolk

1st Ananya Chandel
School of Computing
National College of Ireland
x19237529@studnet.ncirl.ie

2nd Himanshu Rathee
School of Computing
National College of Ireland
x20132689@student.ncirl.ie

3rd Komal Bhalerao
School of Computing
National College of Ireland
x20135386@student.ncirl.ie

4th Rohan Koli
School of Computing
National College of Ireland
x19224842@student.ncirl.ie

Abstract—The objective of this project is to demonstrate the implementation of business intelligence and an analytical way of facilitating business processes. Dynamic 365 Sales is used for customer relationship management and PowerBI is used to better visualize the company's performance.
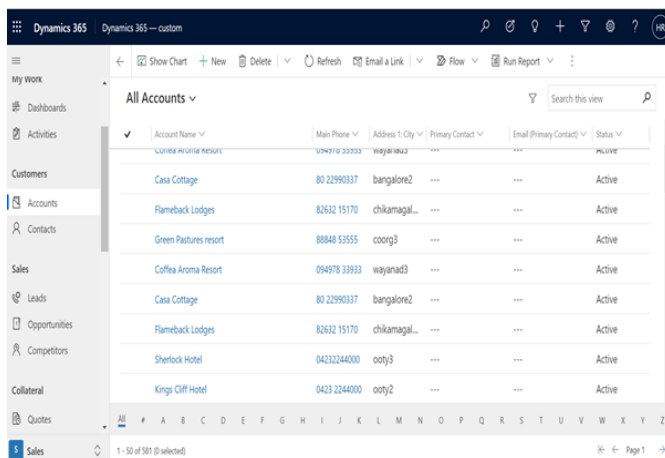
Index Terms—Dynamic 365 Sales,Power BI, CollarFolk

I. CUSTOMER RELATIONSHIP MANAGEMENT (DYNAMIC 365 SALES)

CollarFolk is a small startup which facilitates pet friendly holidays. The following steps illustrates how Dynamic 365 Sales was used to increase customer satisfaction and improvement of business operations. [1]

A. Accounts Setup

Dynamic 365 CRM accounts segment consists of the data of our partners/vendors etc. As CollarFolk has around 500 properties which are displayed on their website so customers can book or enquire about any of those properties. Therefore, all the properties were added in the accounts section of Dynamic 365 Sales with vendors data of CollarFolk so that these accounts could be mapped against leads. Fig 1 shows 581 accounts added with properties names, contact number, address of the property etc.
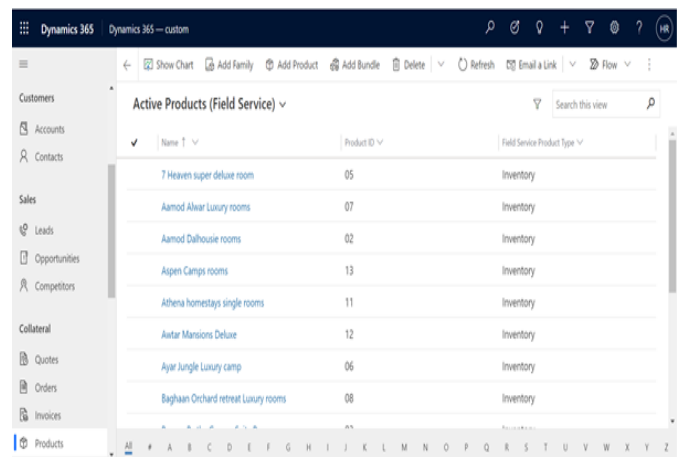

Fig. 1. Vendors added as accounts

B. Products

The room types of all the properties were added as products by importing the data from Excel. All the properties has various room types and so it is of utmost importance to map the correct room type suggested/allocated to a customer against them. Later during lead management these products were assigned to customers as per their requirements. Also, a new price list was created and the current prices of all the properties rooms were added. Fig 2 shows the various room types available at the property added as products.

Fig. 2. Room types of all the properties added as products

C. Contacts

The names along-with mobile numbers and email id's of the vendors were added in the contact segment so that they can be assigned and easily accessed in-case there are any changes in the booking of a customer. Fig 3 represents the details of the contact person at the property being added in the contacts segment.

D. Lead Creation

As and when a customer calls for a booking/suggestions on where they want to go for a vacation their details are noted as leads. Furthermore, as per the knowledge of the employee they assign a particular property(accounts) which they recommend to the customer and a product(room type) as per the customer's preference. Fig 4 represents the initialization of a lead and noting down the details of the customer. A particular room type which was added as a product is also assigned to the lead so that it can be judged where and what exactly the customer needs.

Fig. 3. Contacts of the properties

Fig. 4. First instance of an incoming lead

E. Lead Development

Once a call is received for availing services provided by a company a Lead is generated. A lead can be a potential customer but there is a possibility he may or may not be converted to a customer. After the basic requirement and the contact information of the customer is captured the customer is qualified and now its treated as an opportunity. [2]

F. Opportunities

A lead(customer) once qualified is now an opportunity for business. As he can contribute for company's revenue generation by buying the product or choosing service. In this phase agent can be assigned for a particular customer and information like budget amount, purchase timeframe and description is noted. Later based on assessing customer need and his current situation he is proposed a suitable solution. In the development phase we can also identify the Stakeholders and Competitors.

Fig. 5. Lead Under Development

G. Proposal

Under the Propose phase a Qualified lead is reviewed by the Sales team and a proposal is developed and offered. After the complete review of the proposal by the sales team. Proposal is presented to the customer. The customer makes a decision to weather to go with the proposal and once he decides to go with the proposal offered revenue is generated for the company. After the customer accepts the proposal or buys the product or services offered by the company they are closed as won. The customers can also be closed as lost if they do not find the proposal to be appropriate.

Fig. 6. Proposal Phase

H. Closure

Once the customer makes a decision it can be both ways either he can buy the service or he might not buy the service. In this phase he is closed as Won or lost and proposed with the Complete final proposal which make him make a decision. Once he chooses or rejects Decision date is captured and a Thank You note is sent. He might or might not choose our service again for this he can be offered discounts or followups.
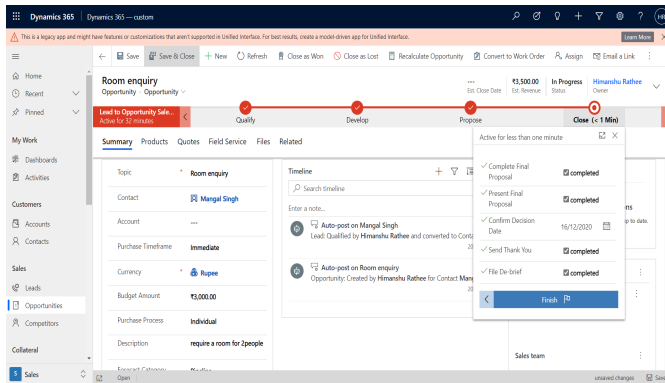
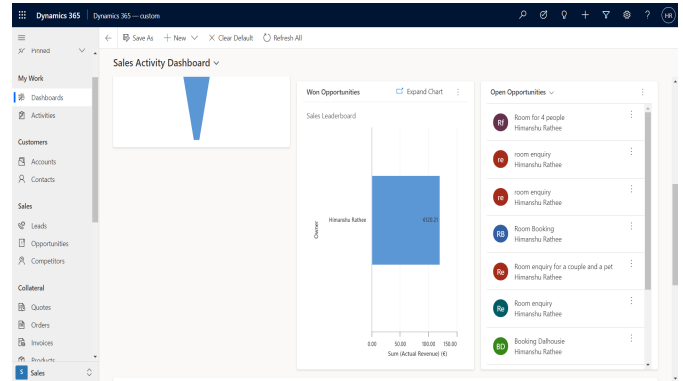This completed the last cycle for lead generation and closure.

Fig. 7. Lead Closure

I. Sales Dashboard

1) We have used Power BI to create the dashboards but our dynamic CRM prototype also offers few visualizations in the form of dashboards. These dashboard shows us all the open Opportunities which constitute the Estimated revenue for all the leads that are converted as opportunities. All Opportunities give us a visualization of total leads as won or lost and the won leads are the customers who avail the service and this adds up to the revenue of the company. The dashboard also gives us the information about the Open leads as these are potential customers those can be qualified and nurtured to customers who avail company's service. As can be seen in fig 8. [3]
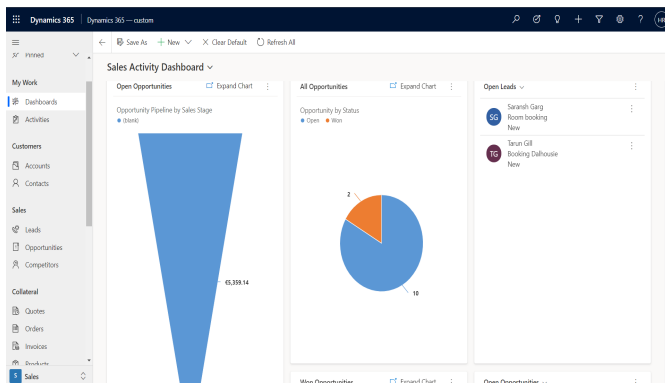

Fig. 8. Opportunities

2) The dashboard visualizations in the figure 9 shows the open Opportunities which are leads who are qualified to be an opportunity and could be potential customers. Once the customers buy the product or service they are closed as won Opportunities. The dashboard provides Visualization for the won Opportunities and the revenue generated by them. These dashboards provide some useful insights for the company that can be used to improvise business decisions to increase profit and lead in the current market by analyzing future requirements.

Fig. 9. Won/Closed Leads

II. DASHBOARD IMPLEMENTATION

For visual display of organizational KPIs, data and metrics we implemented an executive strategic dashboard which gives the CEO's and partners of the company a clear visibility of the business performance at a glance across all the verticals. Dashboards were implemented using Microsoft Power BI.

A. Test Data

The historic raw data containing the revenue generated since the year 2016 was provided by the company "Collarfolk" for implementation. The data was cleaned and structured into six different logical databases.

1) Customer Data: This database stores all the information of the customers which includes telephone number, email address, name and a unique customer id.
2) Employee Data : This database stores the information of the people employed in the organization such as employee contact, name, position, ctc, and a unique employee id.
3) Sales (Hotel) : This database contains information on the confirmed hotel bookings done by customers and information of the employee who won the lead.
4) Sales (Transport) : This database contains information on the confirmed transport bookings done by customers and the employee who won the lead.
5) Vendor (Hotel) : The contact information of all the vendors providing hotel reservation is stored in this database.
6) Vendor (Transport) : The contact information of all the vendors providing transport reservation is stored in this database.

The Sales(Hotel) and Sales(Transport) database are connected to the four databases Customer data, Employee data, vendor(Transport) data and Vendor (Hotel) data using unique ids from each of the respective databases which forms the entity-relationship diagram as in fig.10.
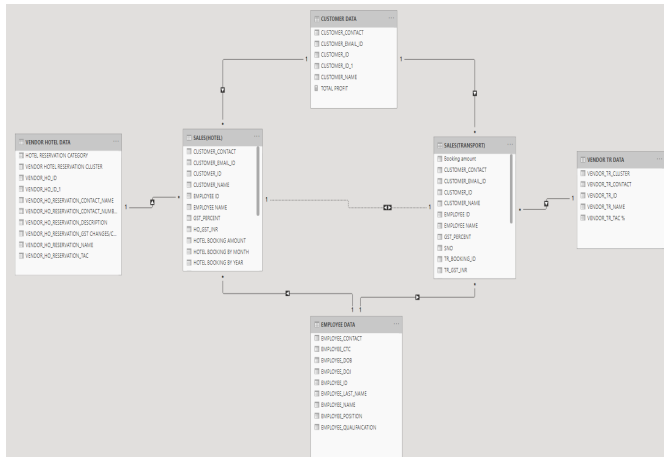
Fig. 10. Entity-Relationship Diagram

B. Sales Dashboard

We have created a Sales dashboard as displayed in fig.11 which provides different visualizations to the user such as CEOs and partners to help make strategic decisions. The key metrics include the total profit to the organization,profit from hotel booking vertical and lastly the profit from transport booking vertical accumulated since inception.

The two histograms display the monthly and yearly profits for Collarfolk company respectively, since inception. The histograms display the profits for the company both from hotel reservation as well as profits from transport reservation.

The donuts chart below provide information of the performance of each employee as a percentage of sales in hotel reservation and transport booking reservation respectively.

A drop-down box below the regions provide interactive benefit to the user by selecting a particular cluster to view the performance. All other metrics are adjusted according to the cluster selected and by default "all" clusters are selected.
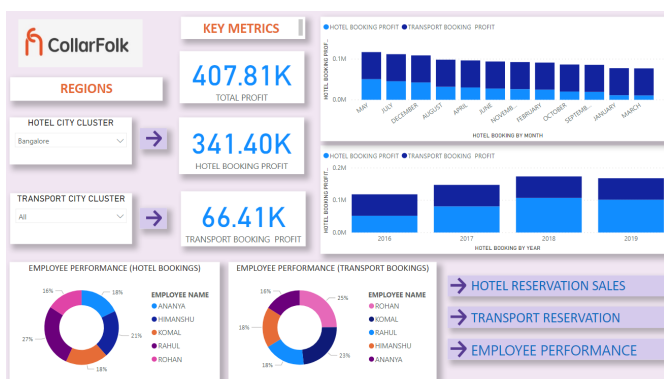

Fig. 11. Sales Dashboard

Three hyperlinks are used to navigate and drill-down to individual business verticals for in-dept information regarding hotel reservation sales, transport reservation and individual employee performance for ease of access.

Fig. 12. Stacked column chat for Hotel Booking profit by Year and Month-wise

In the first dashboard in fig.12, Hotel Booking profit generated from the year 2016 to 2020 is displayed. The highest generated profit was in the year 2017 up to 0.46 million. Followed by year 2017, 2018 is the second most year to generate 0.37 million profit by booking hotel. Year 2016 and 2019 generated 0.31 million and 0.25 million profit, respectively. The year 2020 took a drastic turn because of the COVID 19 situation world-wide and the lockdown imposed causing people to stay at home and no-traveling restrictions hence the instant drop in profit.

The second dashboard shows the profit generated by the hotel bookings month-wise. The highest of all is May month, followed by June. We can also check profits for particular year and/or month by just selecting the drop-down and slicer shown above. The total profit generated is 1.4 million.
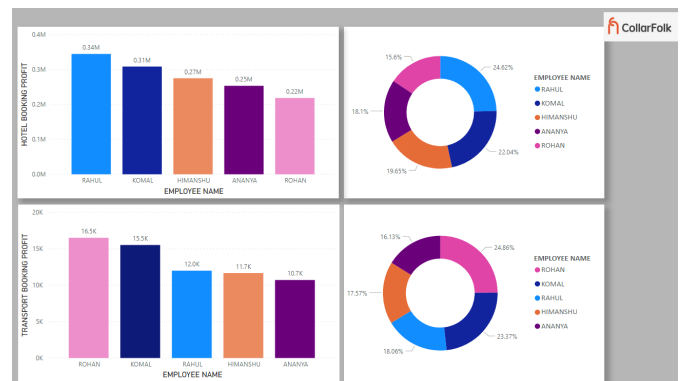

Fig. 13. Stacked column chart and Donut chart for Employee Performance by Hotel and Transport Profit

The stacked column chart above depicts the profits generated by employees in Hotel and Transport booking. The highest profit to generate hotel booking is Rahul contributing (0.34M) contributing 24.62% to the overall profit as seen in the donut chart whereas Rohan is the one to generate the lowest profit (0.2M) of all the employees almost close to Ananya (0.25M) contributing only 15.6% to overall profit. Komal and Himanshu provided up to 22.04% and 19.65% profit to hotel booking and 23.37% and 17.57% to transport booking.
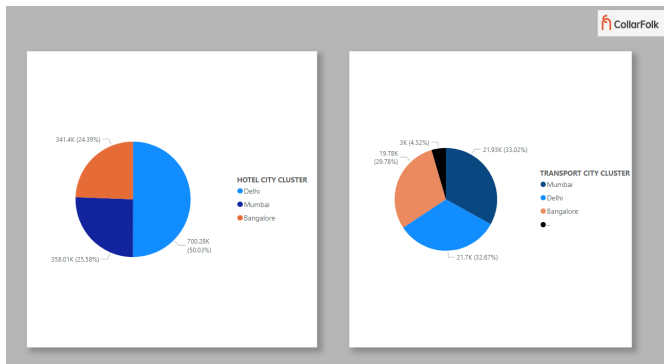
Fig. 14. Pie chart for city clusters including Hotel and Transport Benefit

The above Pie Chart divides the cluster into three major cities, Mumbai, Delhi and Bangalore. Most of the profits generated via hotel booking is in Delhi up to (700.28K) granting half of the total i.e., 50.03%. 32.67% out of all preferred to book a transport for Delhi whereas 33.02% in Mumbai and 29.78% in Bangalore. Rest 4.52% of the customers preferred to travel by Train.
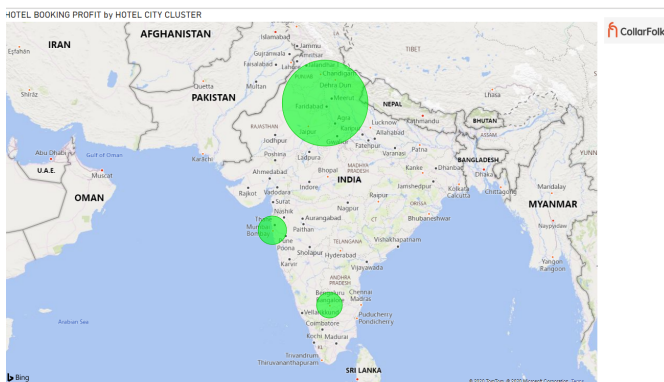

Fig. 15. Regional Map profit by Hotel Booking

The major three cities are highlighted in the map above. The Regional Map suggests that most of the profit turnover was generated in Delhi city showing the circle wider as compared to other cities.
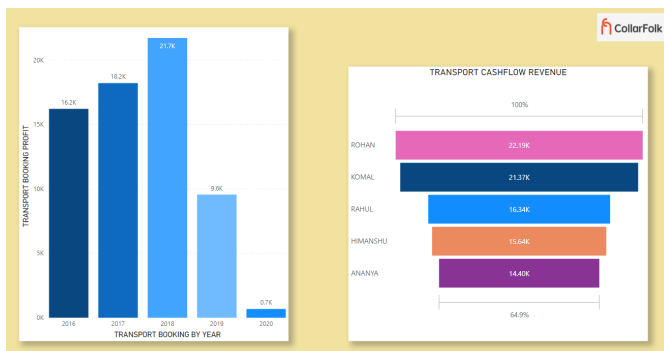

Fig. 16. Stacked Column chart and Funnel for Transport Profit and Transport Cashflow Revenue

The stacked column chart suggests that the year 2018 was the most profitable year for the organisation and generated most profit by transport booking. The least benefit provided is the year 2020. The funnel depicts the employee performance for the total cashflow revenue generated by transport bookings. Rohan tops the funnel by 22.19K profit followed by Komal (21.37K), Rahul (16.34K), Himanshu (15.64K) and Ananya (14.40K). This Funnel here is generated to analyse each employee's performance to give bonus to the best performance and also to eliminate employees who provides least profits to the organisation.
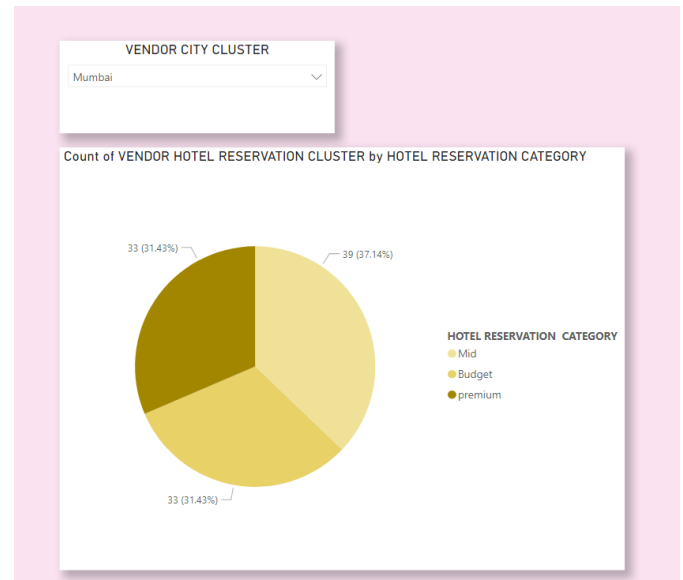

Fig. 17. Pie chart for Hotel Reservation Category

The hotel reservation is divided into three categories namely Mid, Budget and Premium. As seen in the pie chart above, customers for Mumbai region tend to opt for Mid category as compared to other categories i.e., 37.14% of customers. Budget and Premium category shows the same percentage of sales (31.43%) for Mumbai Region. The slicer above gives the flexibility of choosing a particular region to explore and compare sales with respect to city clusters.

REFERENCES

[1] 2020. [Online]. Available: https://docs.microsoft.com/en-gb/dynamics365/
[2] D. businesses, "Dynamics 365 marketing: Customer journeys for b2b businesses — promx," 2020. [Online]. Available: https://promx.net/en/2020/03/dynamics-365-marketing-customer-journeys-for-b2b-businesses/
[3] 2020. [Online]. Available: https://mailchimp.com/crm/what-is-crm/