BUSINESS INTELLIGENCE SUITE INTEGRATION FOR HEXAGON-3D COMPANY

IMPLEMENTATION REPORT

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1. INTRODUCTION

The business intelligence team for Hexagon-3D Company was tasked to provide a scalable, low-cost business intelligence suite with a short time to deploy. Based on the specification report provided for the proposed business intelligence suite; this report will highlight the implementation of the solution. The solution proposed is expected to meet the objectives of the company to improve the process of relating and managing their customer engagement, automate the process of getting insights and analysis based on the historical information of their customers.

2. BUSINESS IMPROVEMENT METHODOLOGY (5S Model)

As part of the company's objectives to improve key business processes for digital transformation, improving the quality and value of their employee is vital to the business. The 5S Model (a process improvement tool) has been selected to be implemented to achieve this goal. Collaboration among employees is expected improve with the implementation of this model. The 5S model is simply a systematic method and process for creating and maintaining a clean, organized and high-performance workplace through employee involvement. It enables the employees to distinguish between normal and abnormal conditions briefly. The 5S model can be the foundation for continuous improvement, cost reductions and a more productive workplace.

5S Model

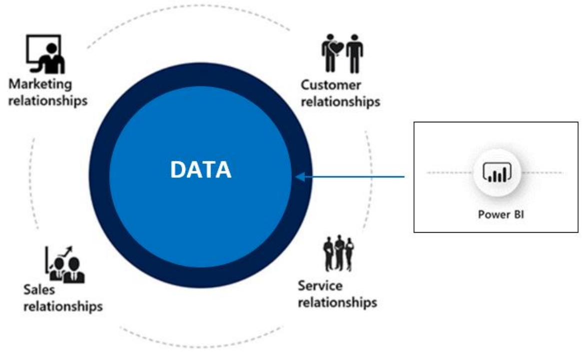
- ***Sort***: When in doubt, move it out (A red tag technique)
- ***Set in Order***: Ensuring everything is in its place
- ***Shine***: Clean and inspect or inspect through cleaning
- ***Standardize***: Make the rules, follow and enforce them
- ***Sustain***: Part of daily work and it becomes a habit

3. SOLUTION OVERVIEW

The suites of business intelligence applications identified in the specification report will be implemented for this project. The proposed applications are:

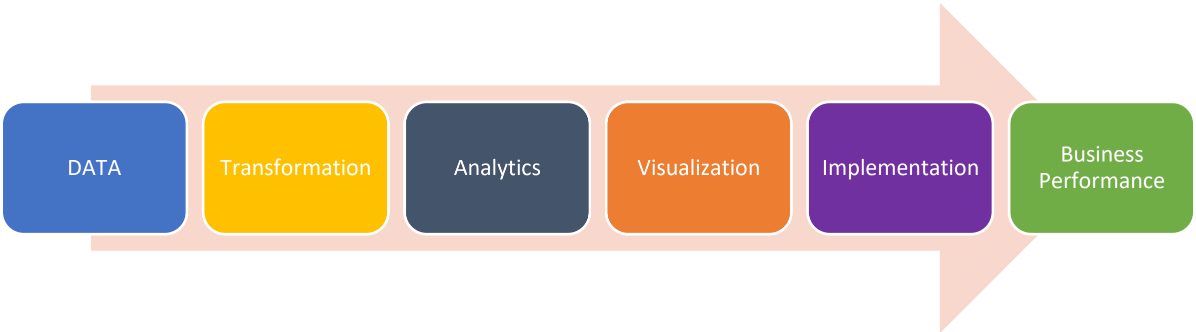
- Microsoft Dynamics 365 Customer Service
- Microsoft Dynamic 365 Sales
- Microsoft Power BI

The integrated business intelligence will enhance the analysis of customer data and sharing it across the front-office functions of marketing, sales and customer service.



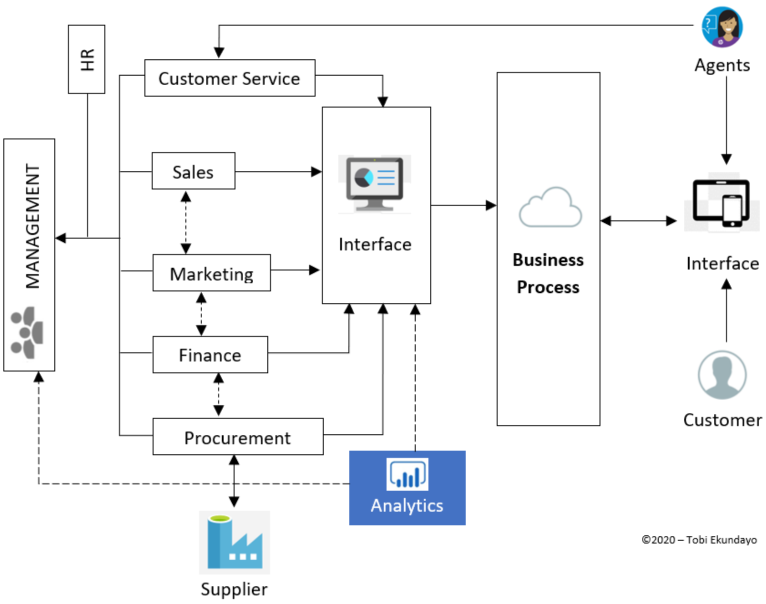
4. DEVELOPMENT PROCESS

The diagram below illustrates the process of development for the project



5. ARCHITECTURE OVERVIEW

The designed architecture below shows an overview of the enhanced communication and relationship in the business processes for the company.



6. BENEFITS OF THE PROPOSED BI SUITE

The integration of this business applications offers the ability to scale the system accordingly and provide visualizations to most of the business needs. The applications

- With dynamics 365, insights are made available to help drive change where necessary
- By using dynamics 365 customer service, customers will be engaged by leveraging on provided intelligence to view customers story
- Employees are empowered to track activities, cases, leads and opportunities better
- Productivity of customer service agents is also enhanced
- Providing a personalized customer experience is possible as customer service processes are simplified, unified and optimized
- Access to virtual agents for quick and accurate resolution
- The analysed and shared data can improve customer service relationships, increase customer retention and drive sales growth

7. IMPLEMENTATION OF DYNAMIC 365 CUSTOMER SERVICE

Dynamic 365 customer service provides an organized and fast way of engaging customers, tracking their issues and providing solution within a short time. The application consists of two divisions, to better engage the customer.

7.1 Customer Service Hub

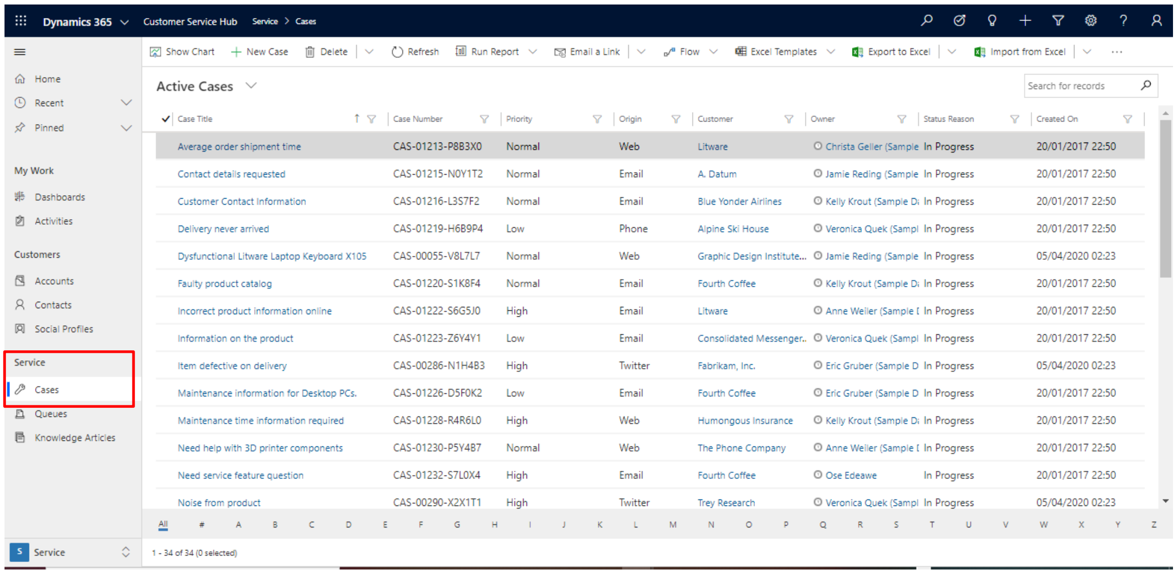
This section shows all engagement with customer (cases, activities etc)

7.1.1 Terminologies

- ***Cases*****:** A case is a problem, complaint, enquiry or situation a customer has reported what needs to be resolved. They are designed to track the process from identification, through research to final resolution. Once the cases are created customer service agent is assigned to resolve the issue.
- ***Entitlements*****:** Entitlements identify the number and type of support services a customer is entitled to.
- ***Knowledge Articles*****:** These are knowledge-based articles that aid customer service representatives in resolving cases. It includes important aspects like product guides, data sheets, frequently asked questions (FAQs), problem solutions & standard operating procedures (SOPs).
- ***Queue*****:** Activities and cases waiting to be processed are arranged and saved in a queue. Queues are used to organize, prioritize and monitor the progress of work. Queues are

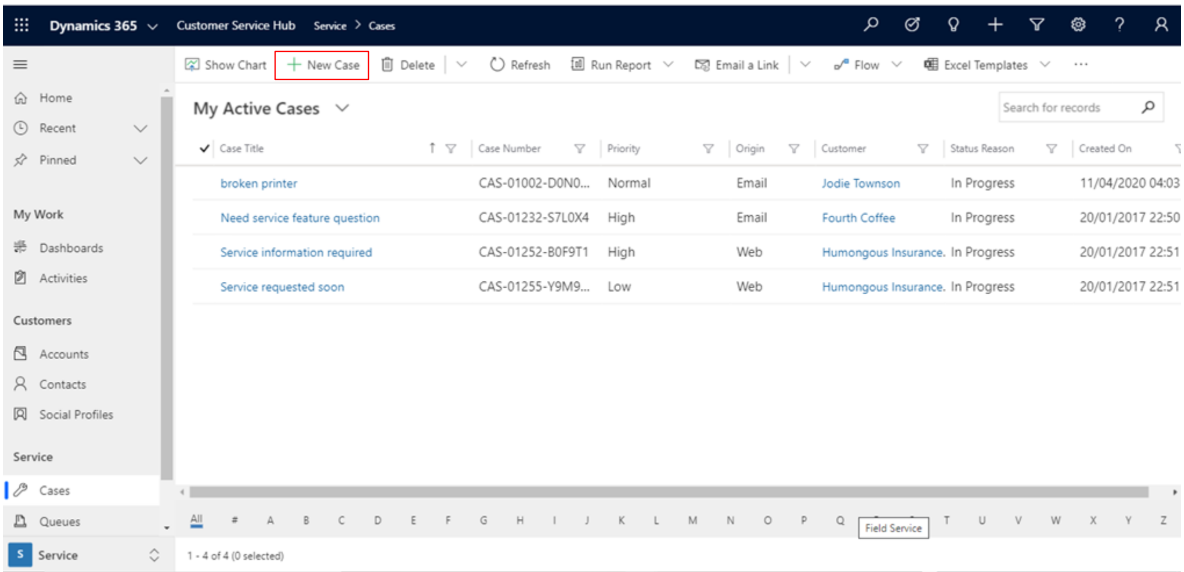
of two types, public or private queues and can be made public or private in order to resolve the issue.

- ***Service level agreements (SLAs):*** They are used to determine and trace how long it would take to respond to a customer.

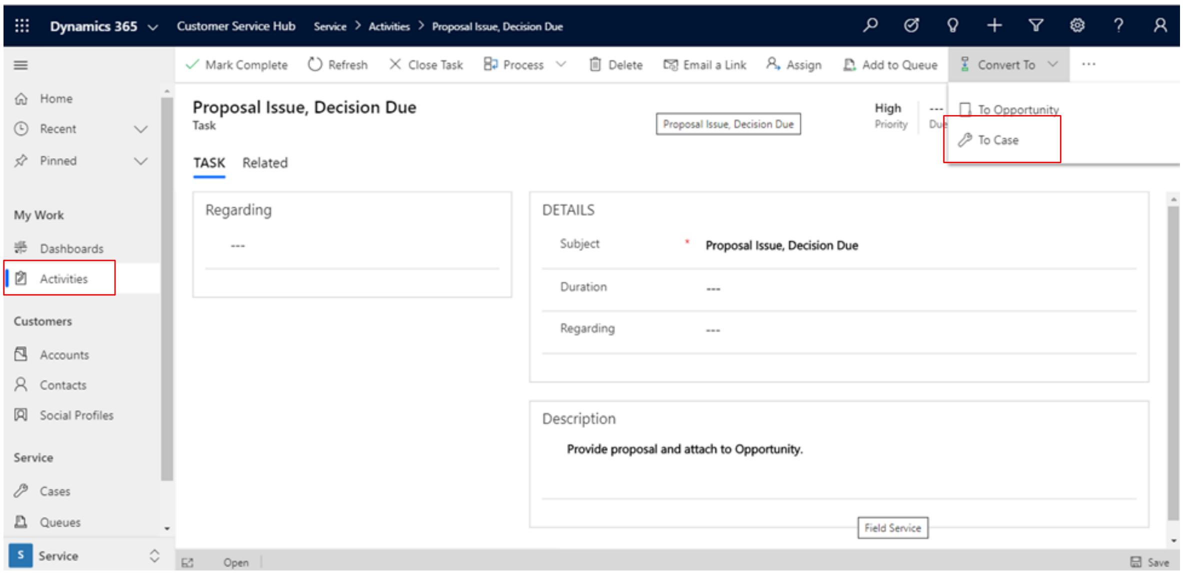


7.1.2 Case Creation and Resolution

- ***New Case***: A case can be created manually by using the new option under cases or by converting an activity (a phone call or an email) to a case. A case can also be created from an existing contact or account. Cases can also be created automatically by using automatic record creation and update rules from service management in settings.

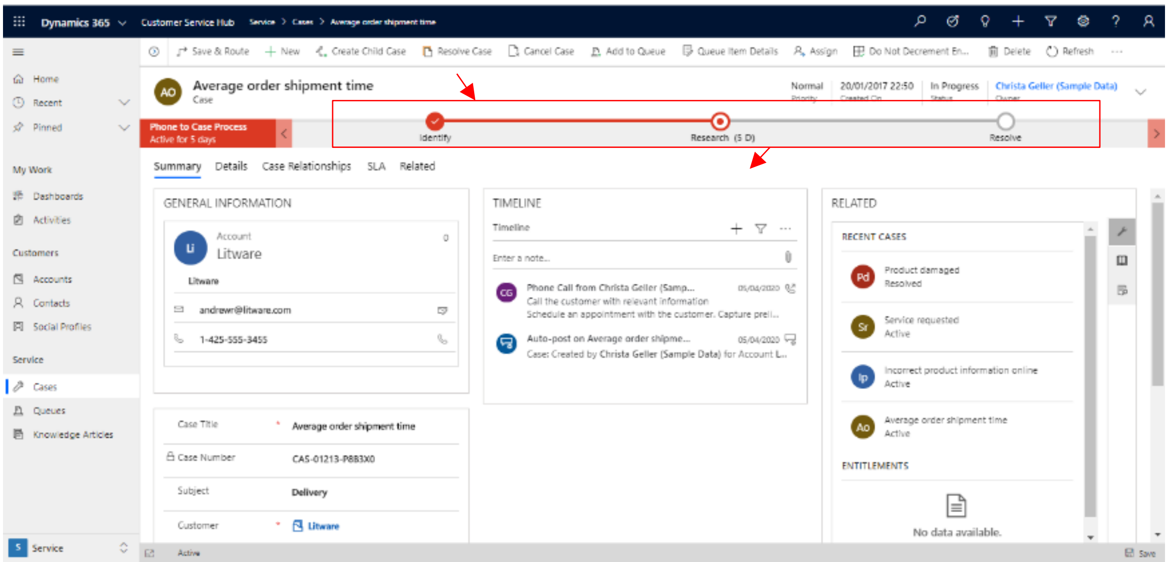


Multiple cases from the same customer can be merged into a case, and related cases or cases that must be resolved in different departments of the organization can be given a parent-child relationship case.

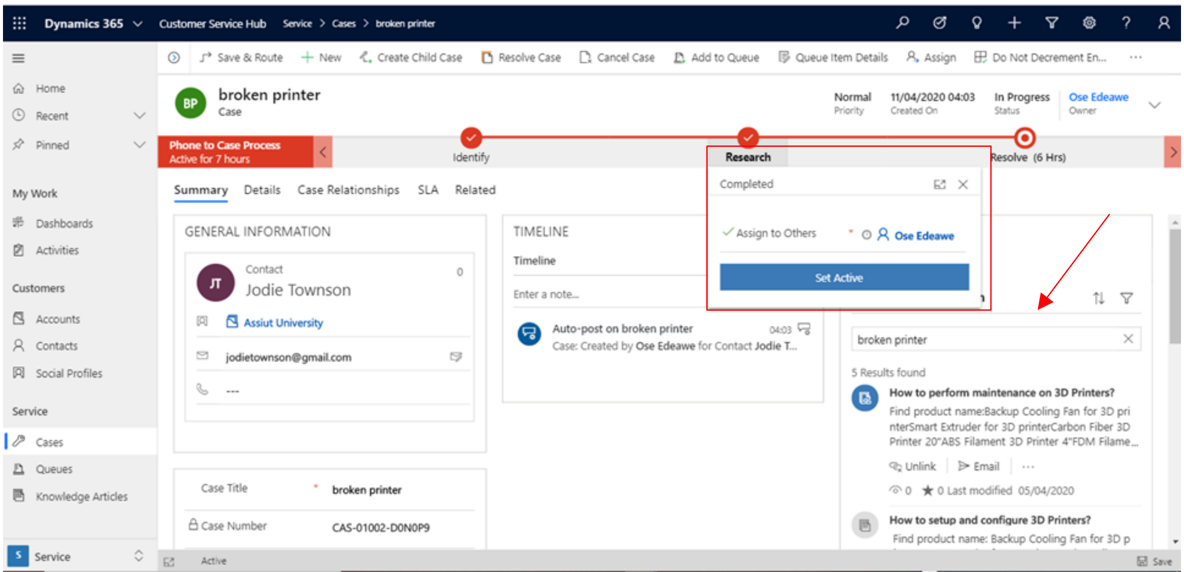


When a case is created the business process flow is triggered. The flow consists of three stages (***Identify, research and resolve***).

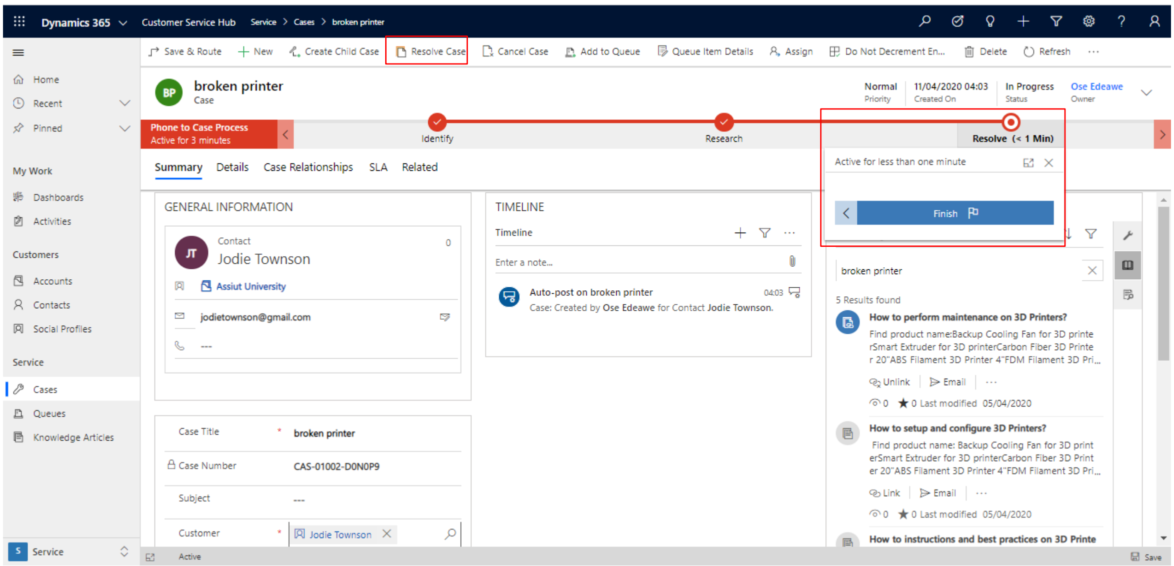
- ***Identify:*** In this stage, a case is created, or an activity is converted to a case with the necessary information. The agent adds to the timeline the activity that describes how information was gotten from the customer and the duration. The case moves to the next stage.



- ***Research***: The agent finds a solution to the issue by searching knowledge-based articles or assigning the case to another agent if he/she cannot handle it. The agent sends the solution gotten to the customer and creates a task that explains what was done and the duration. The case moves to the next stage.



- ***Resolve:*** The agent confirms from the customer that the issue has been resolved. If the response is positive the agent closes the case by using the resolve case option which shows the total time from the beginning of the process till the end.



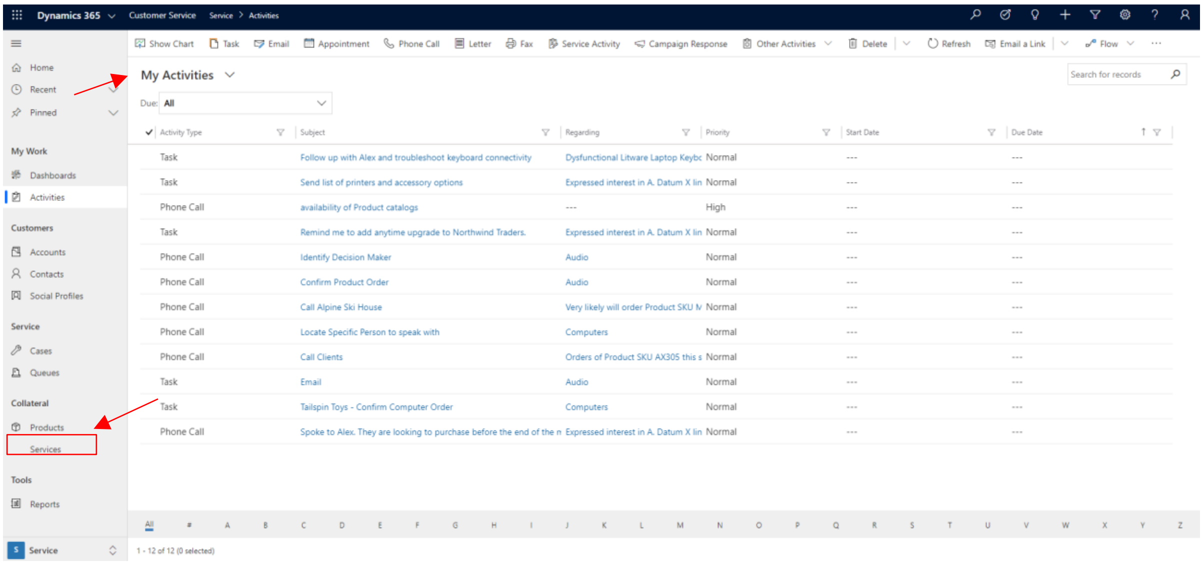
7.2 Customer Service

Insights can be obtained about any customer in the system from this section. Analysis of customer service activities can be carried out here.

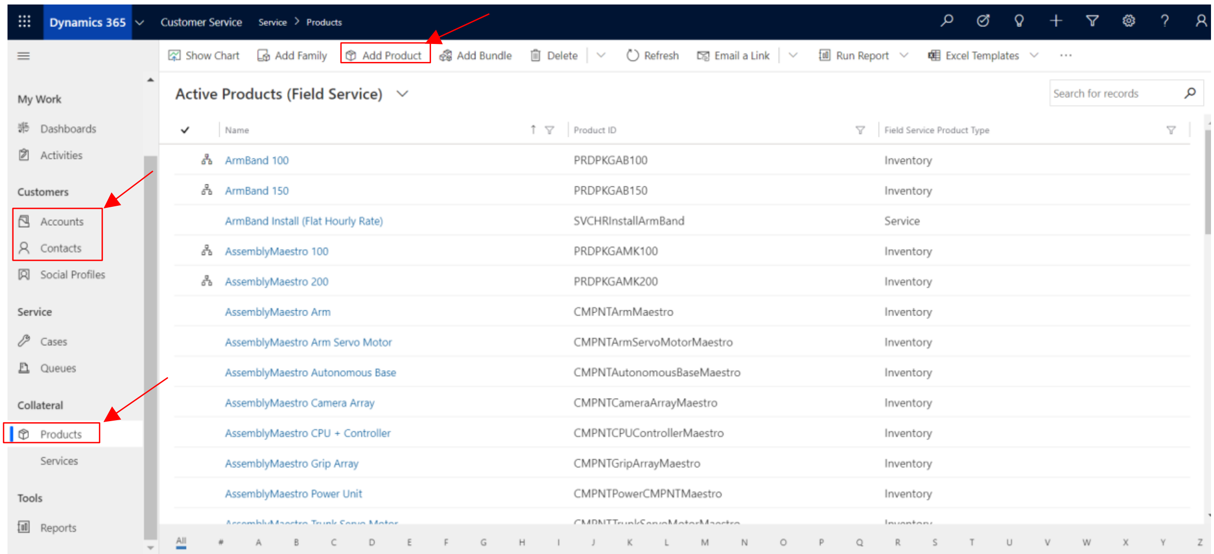
7.2.1 Terminologies

Some important terminologies identified in the customer service section are:

- ***Cases:*** Same function as that in customer service hub
- ***Queues:*** Same function as that in customer service hub
- ***Knowledge Articles:*** Same function as that in customer service hub
- ***Service Calendar:*** Service Calendar is used to monitor and track the services activities which is been scheduled. Based on the availability of the resources, scheduling of resource is carried by out by constant activity status monitoring.
- ***Contracts***: A Contract is used to define the accurate terms and conditions for the support to customers. Contracts are made based on the agreed terms and policy by the organisation and a customer. Contract is made based on the no of cases to be supported, fixed time of support and coverage date of service.
- ***Services:*** A service is nothing, but a work performed for a customer. Services includes the service description in detail, defines the resource required for a service, defines the service location from where the service must be provided. Dynamic 365 uses its in-build service scheduling engine a powerful engine to schedule the services for the customers.

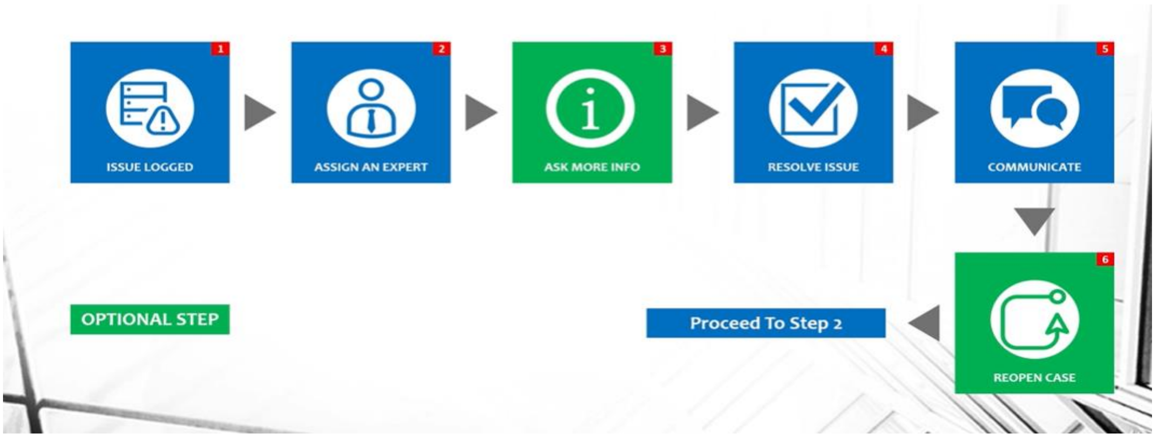


Other terminologies available in customer services are accounts, contacts, products, goals and metrics etc.

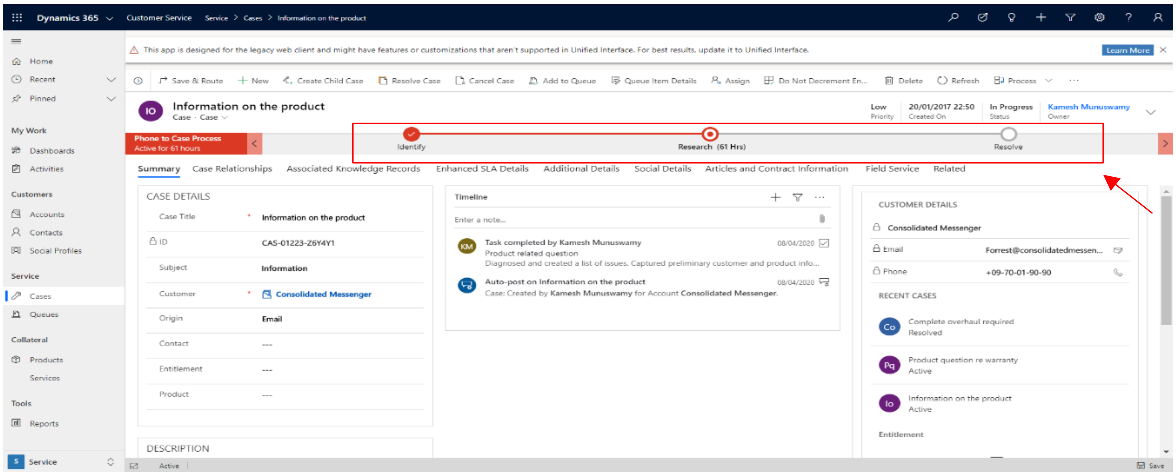


7.2.2 Customer Service Process flow

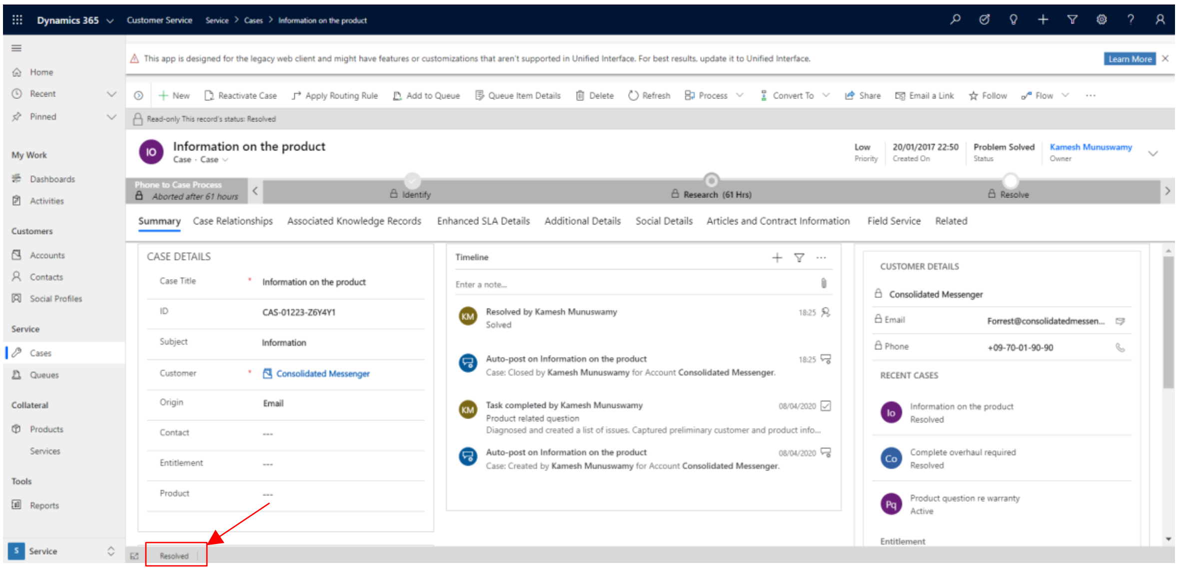
The workflow of the service starts with the customer as he/she logs the issue. Customer can log their issues through mail or phone calls based the customer services provided. Once the issue is captured by the service executive, it is then analysed using the metrics and a suitable agent is assigned to work on the issue. The expert will work on the problem to provide a better service and resolution to the customer. Based on the issue additional details are collected and once the issue is resolved it is been communicated to a respective customer. Depending on the satisfaction of the customer the agent will either close the case nor it can be reopened for better service or solution.



- ***How active cases are resolved:*** Cases are created once a customer files an issue and status of each case is monitored. All cases are worked and resolved in a process flow. Once the issue is logged it will be *identified* and moved to *research* state were the expert will work on the solution. Finally, once the issue is fixed, I can be moved to *resolve* state.



Resolved



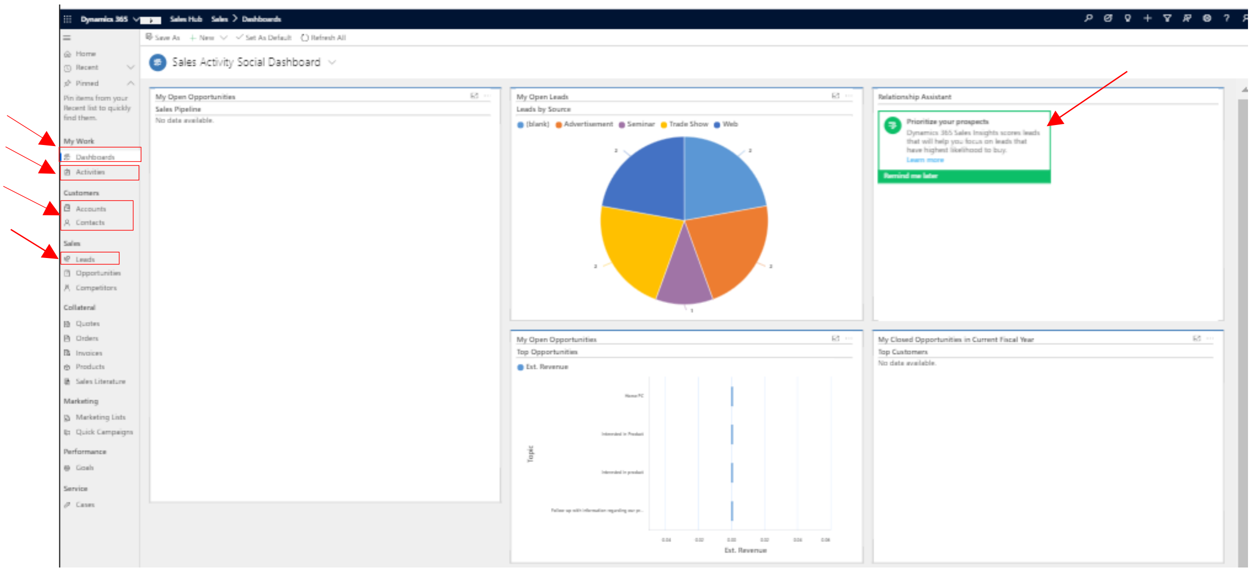
8. IMPLEMENTATION OF DYNAMIC 365 SALES

Dynamics 365 sales would be implemented to manage leads. It involves the process of creating leads, qualifying or disqualifying, converting them to opportunities and finally closing a deal with them.

8.1 Terminologies

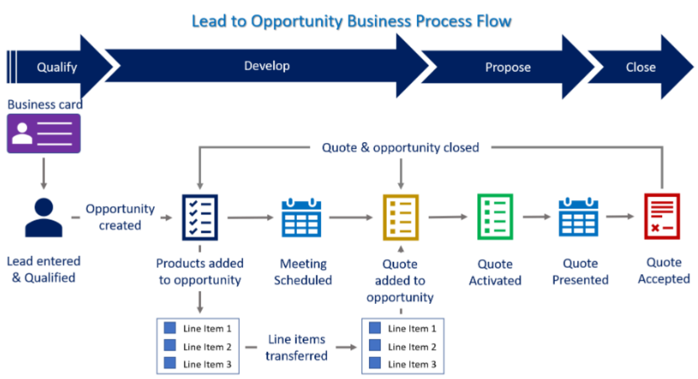
- ***Dashboard*:** this is a visual collection of views, charts and records showing your workload.
- ***Lead*:** a lead is an individual or organization interested in your product, by making enquiry, following up on an advert or social media campaign. Their records are temporary, the aim is to decide if they can be qualified as customers
- ***Accounts*:** A business or organization is stored as an account. It can be a customer or a vendor depending on the organization. They usually have related contact records.

- ***Activities***: An activity keeps track and schedules activities such as emails, phone call and appointments.
- ***Contact***: this is a single individual. It is normally related with accounts and activities.
- ***Stakeholders***: A stakeholder the major contact in the account or organization who will be associated with the decision making
- ***Quote***: This is a formal offer of products, specific prices and payment terms sent to a customer
- ***Order***: An order is a quote that a customer has accepted or a confirmed request to buy or receive goods and services depending on specified terms and conditions.
- ***Relationship Assistant***: it is a feature in dynamics 365 that helps in the monitoring and tracking of scheduled activities.

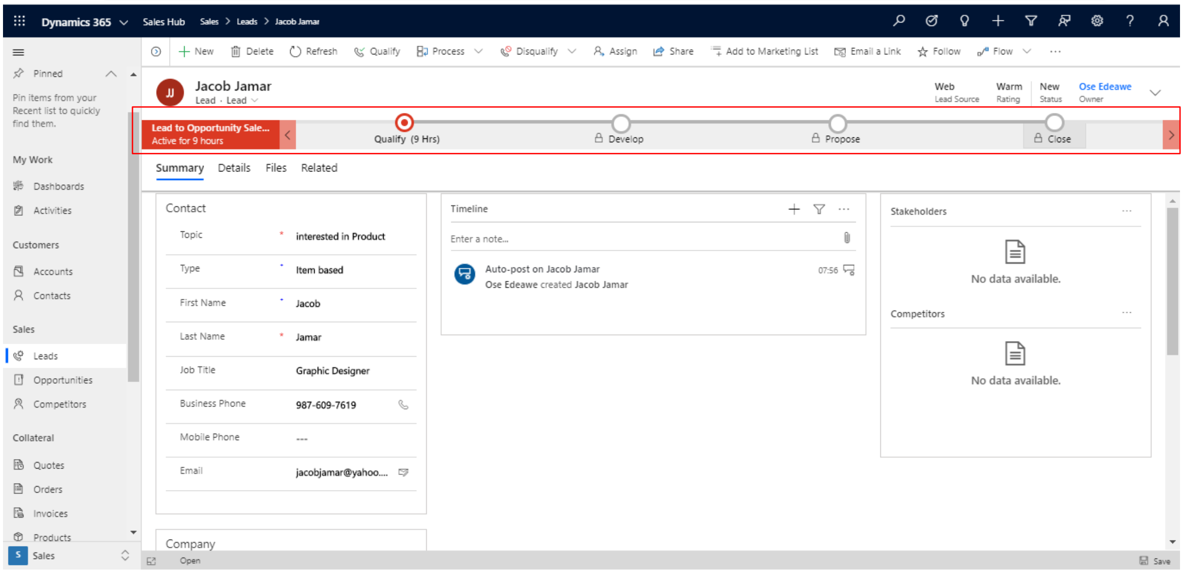


8.2 Business Process Flow (BPF)

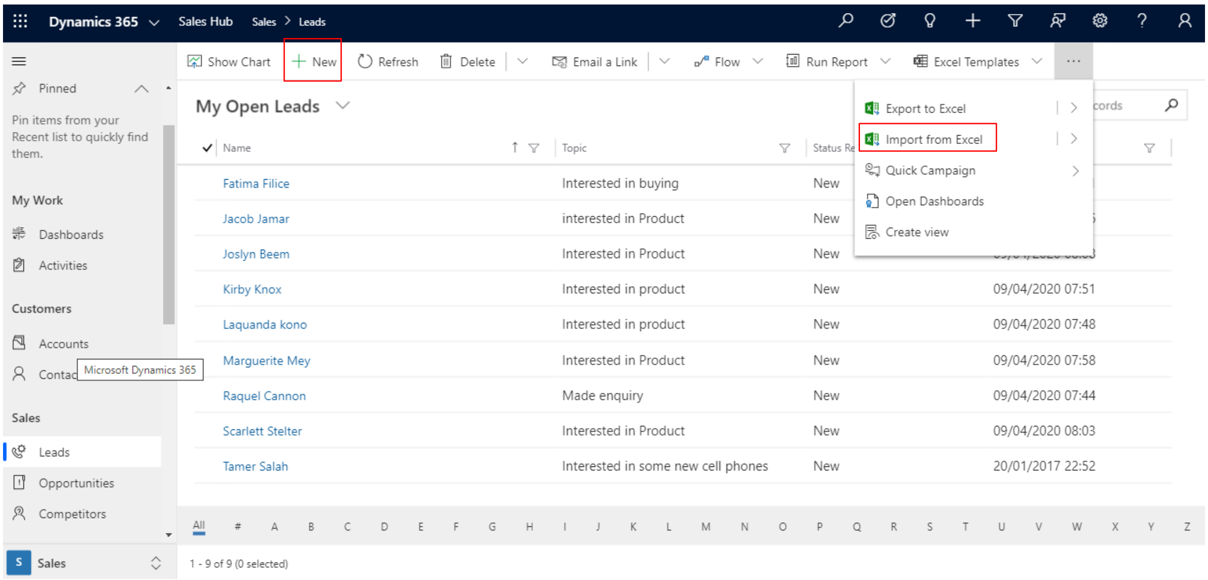
Business process flow is an automated process that helps the user with a predictable action plan that guides the use from creating a lead to when the deal is closed. In dynamic 365 sales we have four phases, namely: Qualify, Develop, Propose and Close.



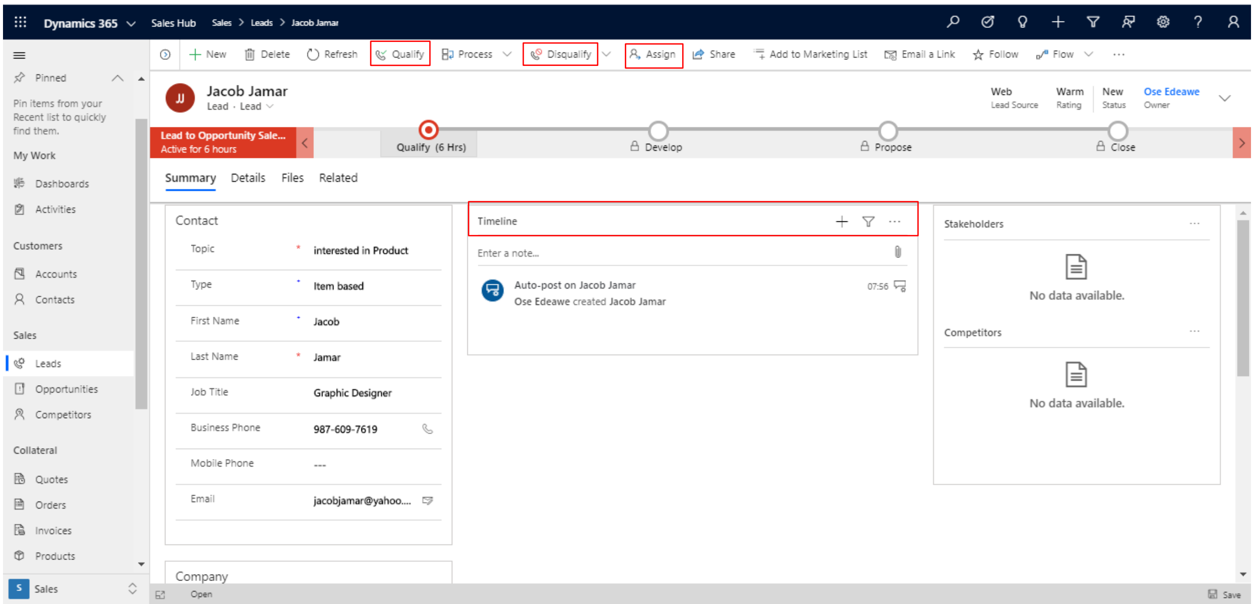
Process flow carried on sales hub is shown below;



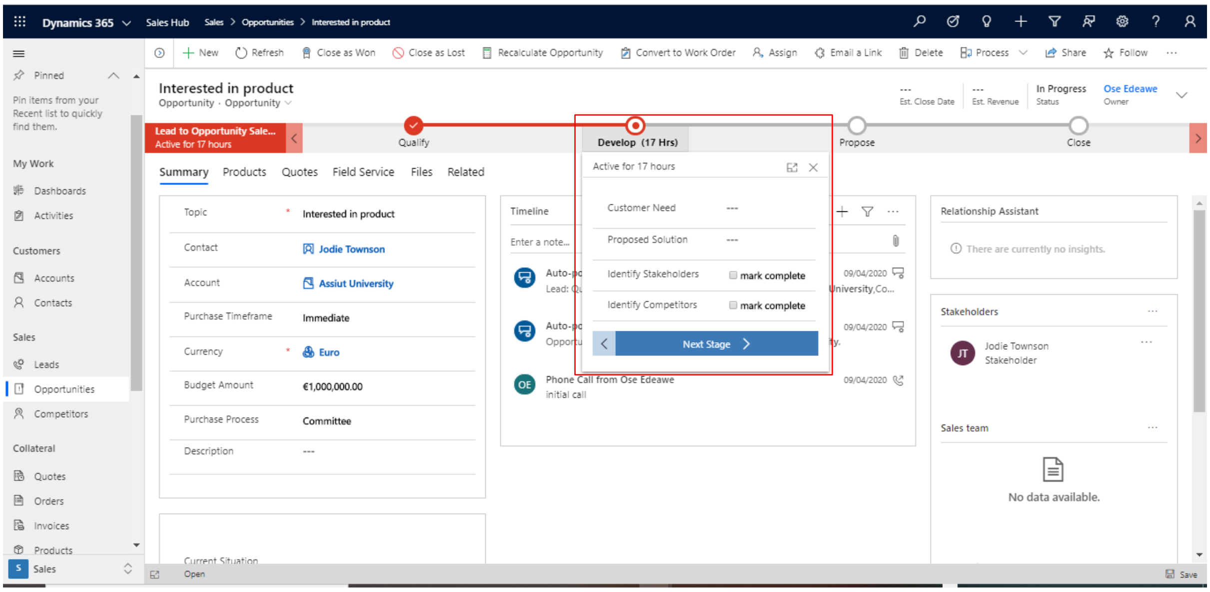
- **Qualify:** This phase starts from creating a lead on dynamics 365 to when the lead is considered a qualified lead
- **Creating Leads:** Leads are created using the sales Hub app. It allows you enter and store all the details of your potential lead. Leads can be created manually, by importing an excel or csv file or by converting an activity.



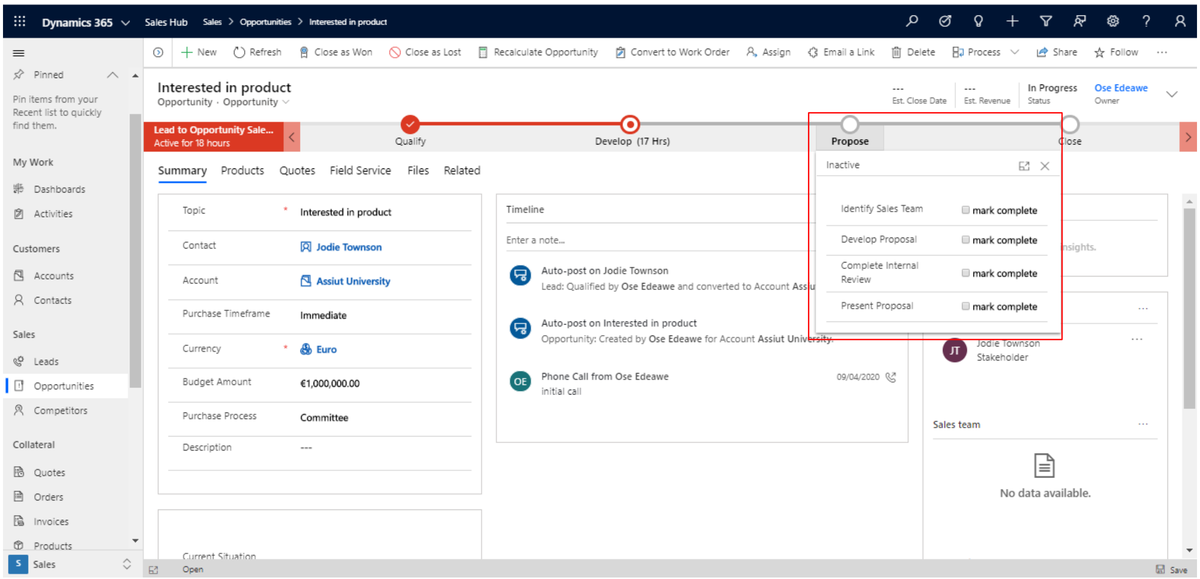
- ***Managing a Lead*****:** This is the process of assigning a lead to an account manager using the assign option based on the details of the lead and taking it through the qualification process. The qualification process is done by the account manager assigned to the lead, who schedules phone calls or meetings using the timeline option to get more information about the lead. If the lead satisfies all the criteria for the qualification process, the qualify option is chosen. If the lead doesn't satisfy the qualification process, the disqualify option is chosen which keeps the record of the lead in an inactive state



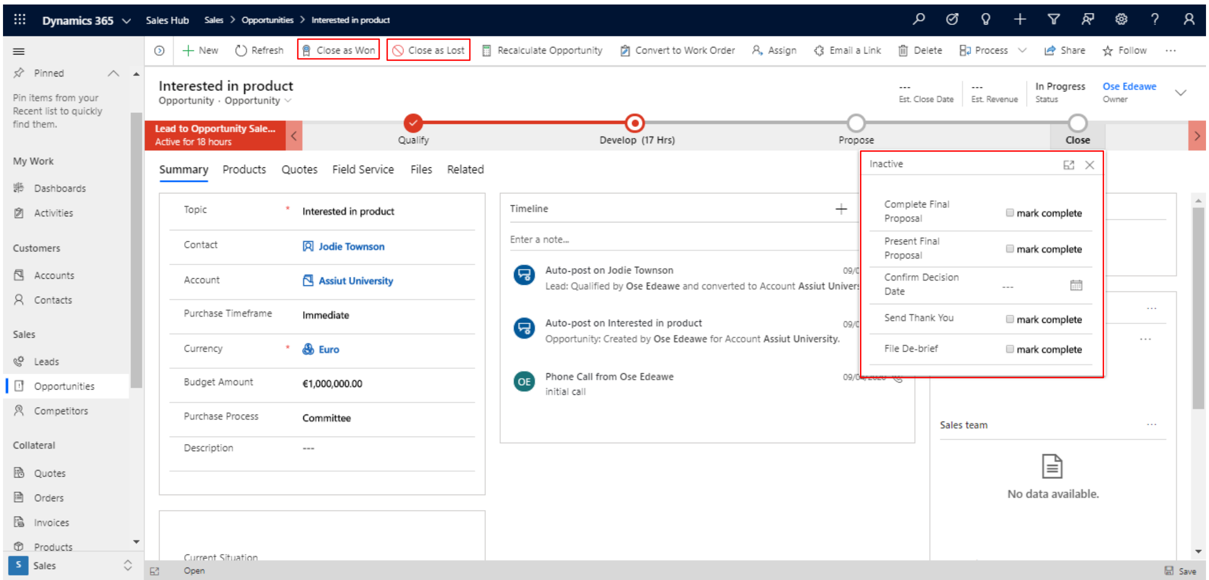
- **Develop:** When a lead is qualified it becomes an opportunity and moves to the develop phase. In this phase the account manager enters more information about the opportunity, like identifying stake holders, competitors, estimated close date, customers need and budget to provide a proposed solution.



- **Propose:** In this phase, a formal quote that includes the products needed for the opportunity is created and presented to the customer on a scheduled meeting date. Updates are made from notes about the meeting.

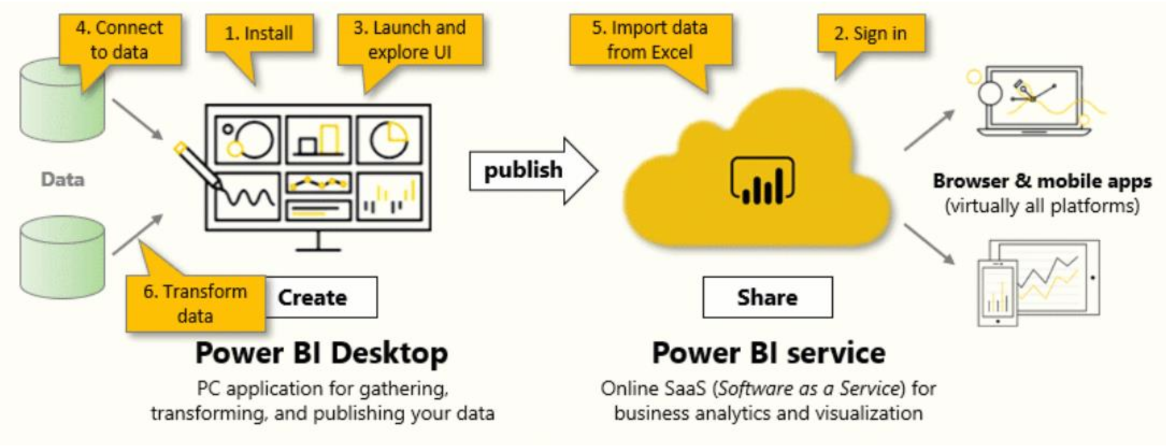


- **Close:** In this phase, the final proposal is given to the customer, the quote is converted to an order and closed as won or closed as lost if the customer chooses not to go along with the proposal.



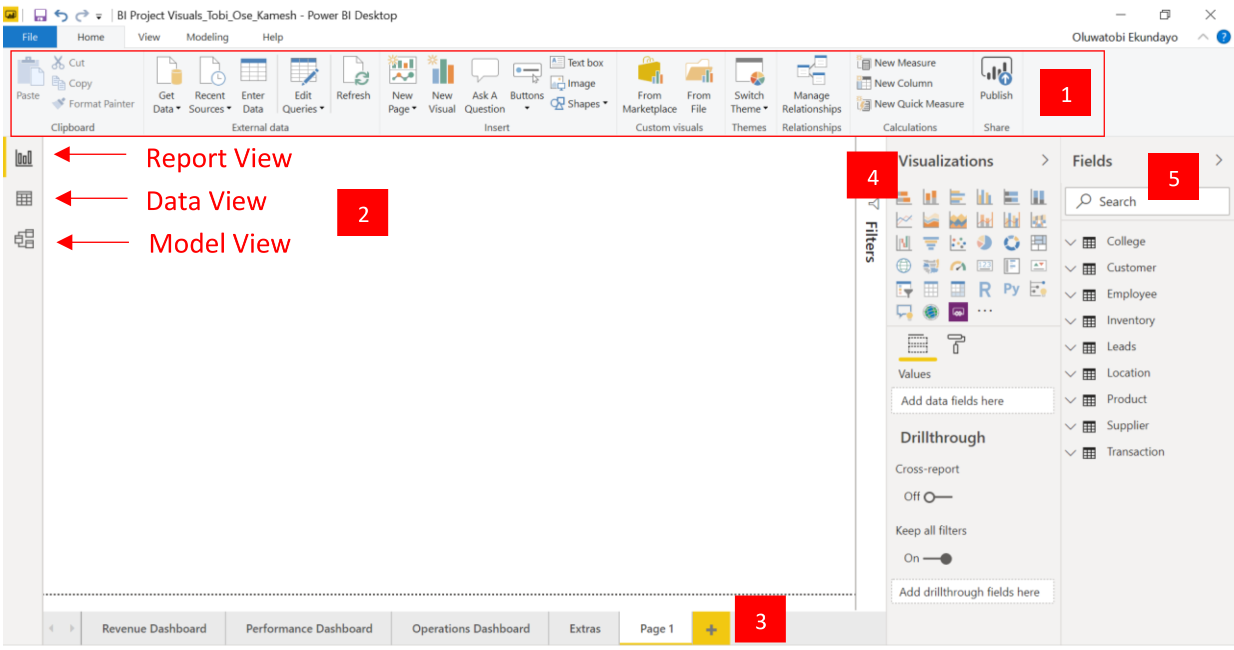
9. IMPLEMENTATION OF POWER BI

The process flow to implementing Microsoft Power BI for this project is shown below



[7]

Published reports and dashboards can be accessed on both desktop and mobile platforms. Alerts can also be customised for the reports, such that at specific period, subscribed users received updated report. Highlighted below is the description of the interface for creating the visualizations.



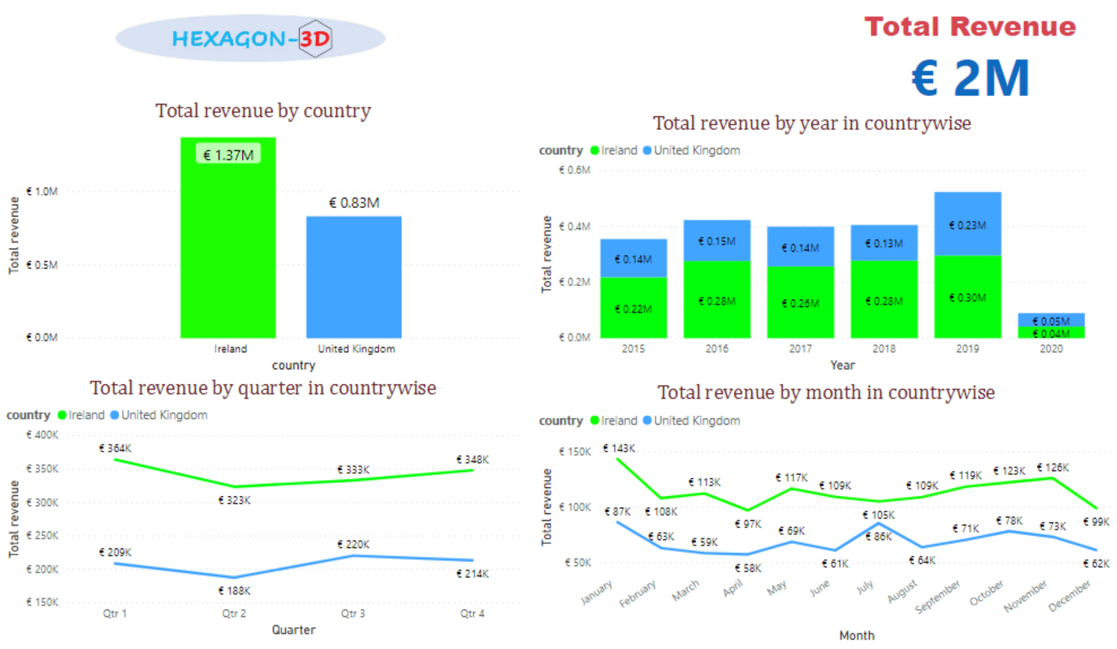
The sections of the interface highlighted in red are described below:

1. ***Ribbon***: The common tasks associated with reports and visualizations are displayed here

2. ***Canvas or Report View***: this is the location in which the visualizations are created and arranged. The Report, Data and Model views can be switched to by clicking its corresponding icon.
3. ***Pages Tab***: This area allows you to select, change or add a report page. It is located at the bottom of the power BI page
4. ***Visualization Pane***: This area contains various visual/chart type for you to select, customise fonts, colours, labels, titles etc.
5. ***Fields Pane***: This location contains elements from which you can drag and drop in the filters section of the visualization pane or to the report view pane.

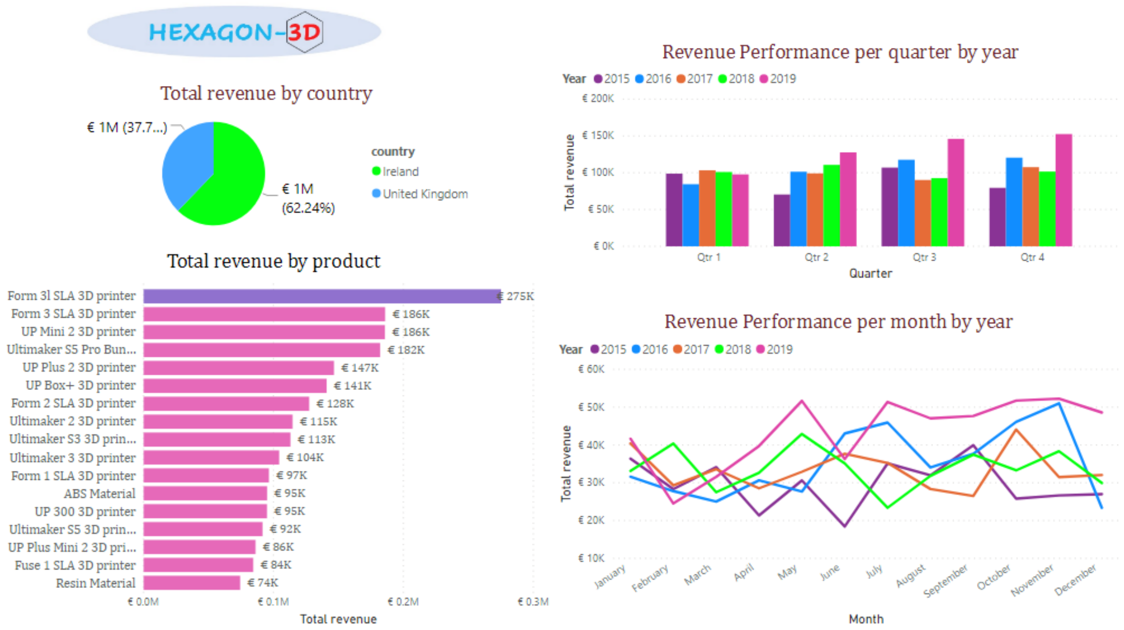
10. REPORTS AND DASHBOARD

- ***Revenue Report***



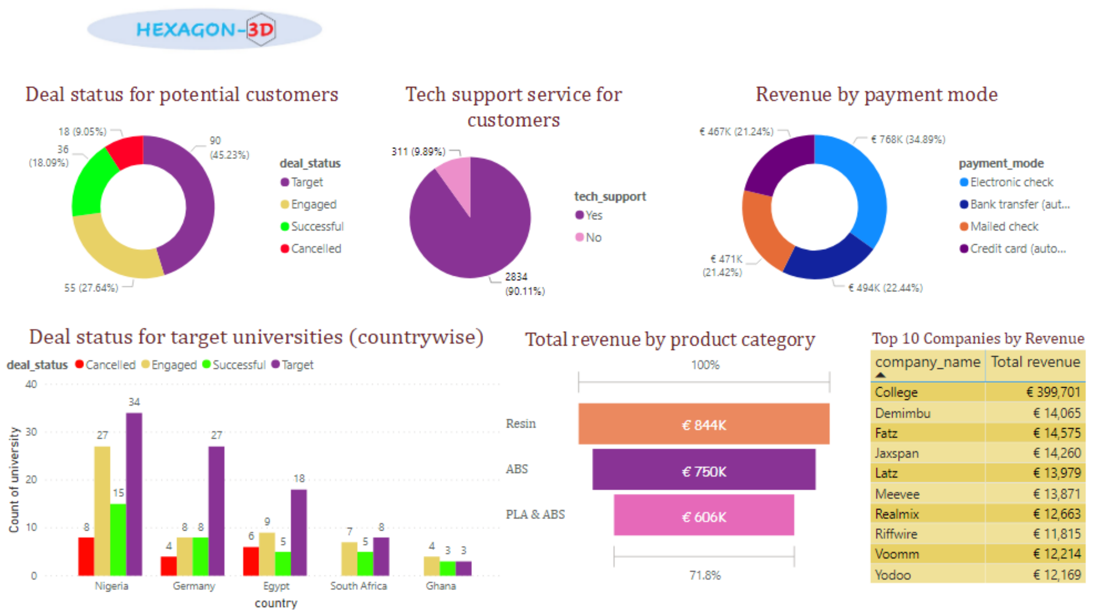
The above revenue dashboard is created only based on the revenue aspects of the company. The first report gives the insight of total revenue generated by a company in each country. Likewise, total revenue of the organization is drilled down to country wise yearly, quarterly and monthly in the other three reports.

- ***Performance Report***



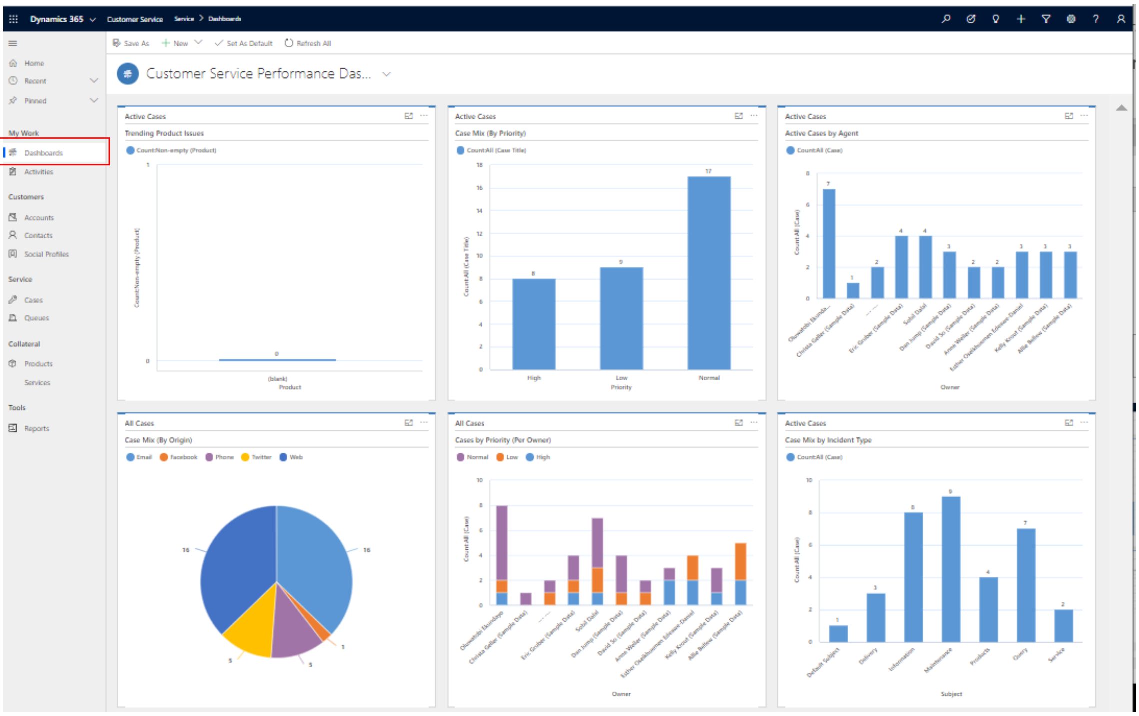
The performance dashboard is created to monitor and measure the company's performance in live market. Performance of the company in finance sector is tracked based on the revenue generated. These reports showcase the performance of the organization in course of time by drilling down to performance per quarter by year and performance per month by year.

- ***Operations Report***



The above dashboard is created considering the different operational aspects of the company. The first report in the top left corner showcases the deal status of the customers in terms of status percentage rate. The next report gives a clear picture of customers availing for tech support services as the report suggests most of the customers opt for tech support services. This provides the insight to business that tech support services can be improved to service the customers better in future.

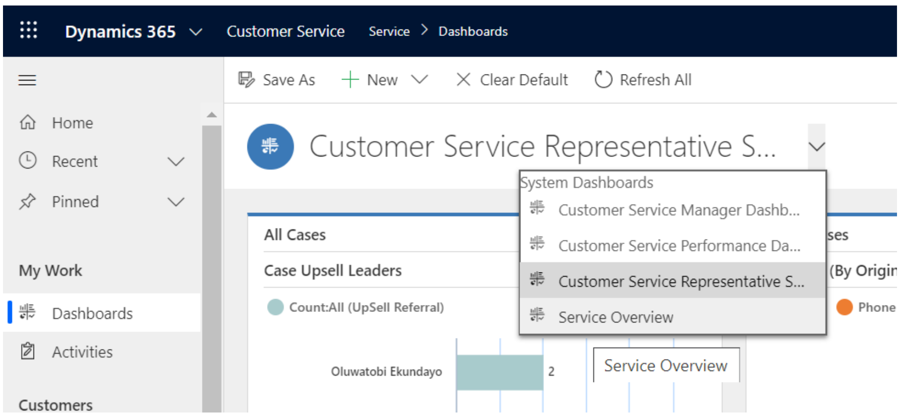
- ***Customer Service Performance Dashboard***



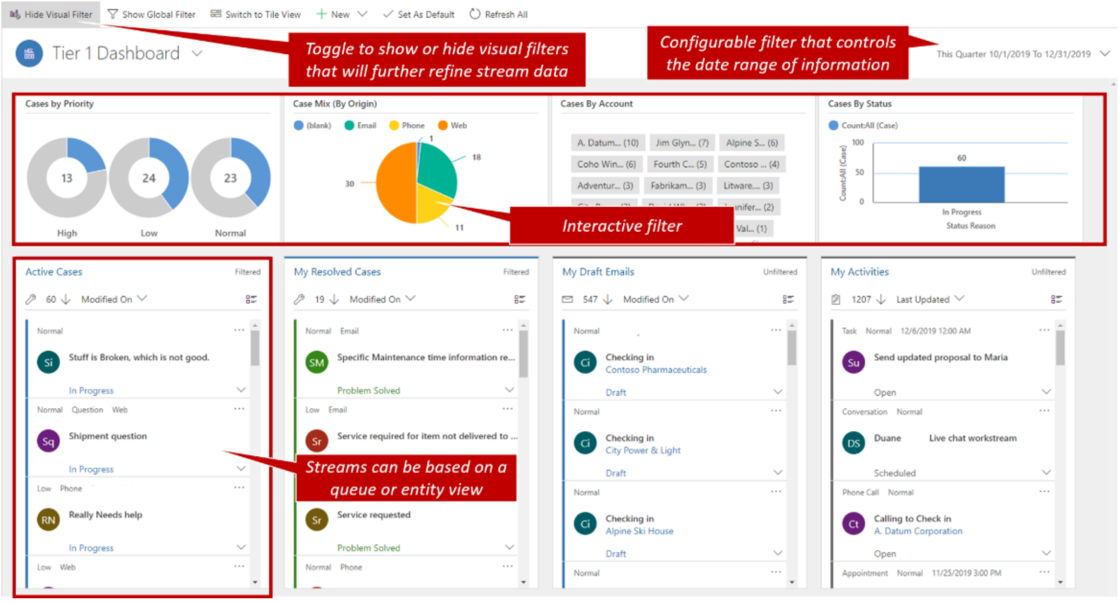
This dashboard captures the customer service performance. The six (6) Tiles provides visuals for classification of all cases by origin, priority per owner and incidence type. It also provides visuals of active cases per customer service agent.

Other variations of the Customer Service Dashboards are:

- Customer Service Manager Dashboard (Specific visuals ideal for the manager)
- Customer Service Representative Dashboard (Specific visuals ideal for the agents)
- Service Overview Dashboard (Specific visuals showing status of customer service)

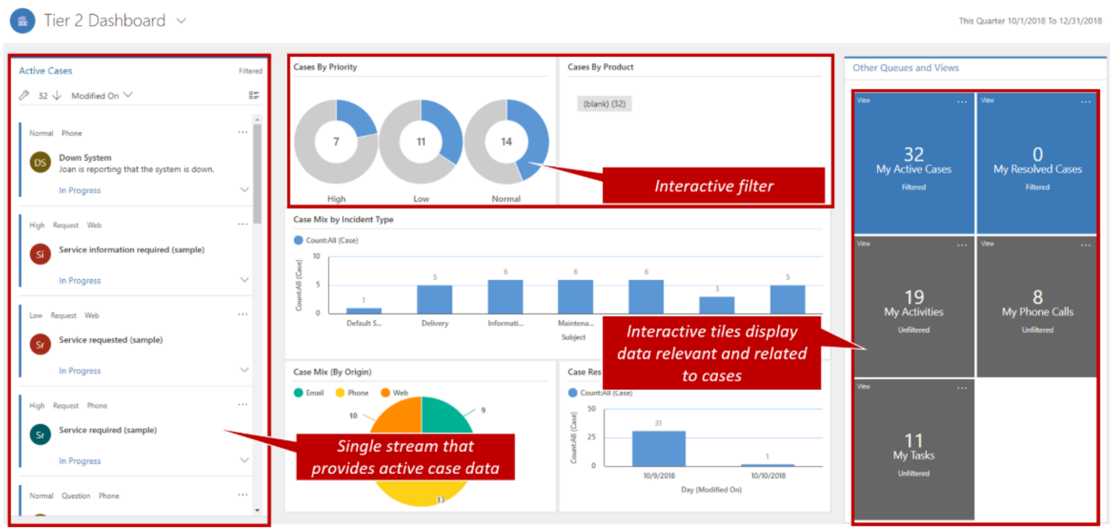


- ***Tier 1 Dashboard***



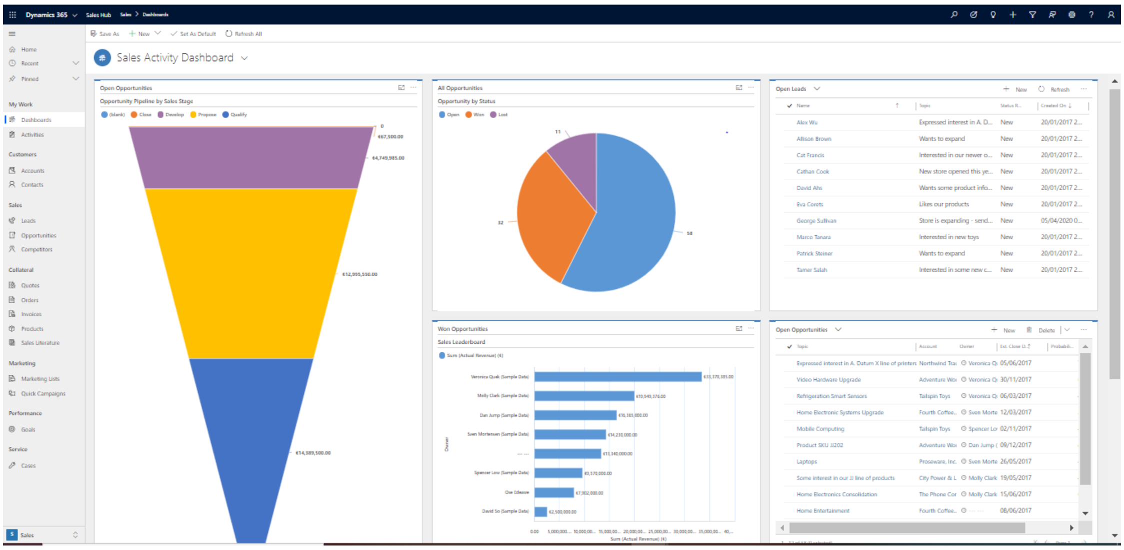
Charts in this dashboard can be used as interactive filters to dive into specific types of cases. Also, the interactive tiles group together relevant data that's associated with cases.

- ***Tier 2 Dashboard***



This dashboard can be used when agents want to dive deeper into cases. It shows a single stream that's based on active cases, instead of showing multiple streams that might be for multiple entities. Multiple tiles and interactive charts are also included for working with case data.

- ***Sales Activity Dashboard***



The above dashboard shows the overview of sales data in the system which includes leads and opportunities. The first report shows the graphical representation of sales stages of the opportunity pipeline. Other reports in this dashboard shows opportunity by status, open leads and opportunities closed as won.

11. ROLES AND RESPONSIBILITIES

<table>
<tr><th colspan="2">Business Intelligence Team</th><th>Joint Task</th></tr>
<tr><td>Name</td><td>OLUWATOBI EKUNDAYO</td><td rowspan="6">- Reporting Style
- Dashboard Design
- Overall Report Review</td></tr>
<tr><td colspan="2">▪ Dataset wrangling and transformation
▪ Specification report
▪ Implementation report (Power BI and Document Consolidation)</td></tr>
<tr><td>Name</td><td>ESTHER OSEIKHUEMEN EDEAWE-DANIEL</td></tr>
<tr><td colspan="2">▪ Company background
▪ Implementation report (Sales)
▪ Implementation report (Customer Service Hub)</td></tr>
<tr><td>Name</td><td>KAMESH MUNUSWAMY</td></tr>
<tr><td colspan="2">▪ Database design and schema structure
▪ BI visualizations and report creation
▪ Implementation report (Customer Service Insight)</td></tr>
</table>

12. TEAM-WORK REVIEW

We found this project to be very helpful in fully understanding the taught concepts of business intelligence and business analytics. We started this project by first deciding on a topic, created a road map and workload distribution matrix. We however encountered some challenges which we successfully overcame; Some of which were:

- Sourcing the right datasets to fully depict the essential concepts of enterprise systems
- Using Dynamics 365: We had to learn how use the application. This took us few weeks. Also, we had to open two accounts due to the 30 days trial period to test with the business application
- Report and Dashboard: we carried out sample tests with peers to ensure the finalised design and reporting style truly had features of clarity and quick understanding. This required searching for few people with business background.

13. REFERENCES

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