INKEY
Better Vision. Better Solution.

Case Studies for Power BI

1. Operational Process Improvement for a group of dental hospitals

The Challenge

The client wanted to improve their operational processes to make use of Power BI reports to identify the pitfalls of the processes, take steps to overcome the pitfalls identified in order to maximize their revenue. They also wanted to capture certain traits related to patients, such as which topographical region showed most patients.

The Solution

We developed a bunch of reports related to their assessment process. Questions like, Who did the initial assessment, intern, doctor or specialist? Was there a necessity to refer patient to a specialist? How many more assessments were required for a patient? We helped them infer an assessment index based on the above information. This traits of this index helped them identify where they were lacking in their assessment process and they improved it to a considerable level. Also, they could now predict when and how many interns to hire.

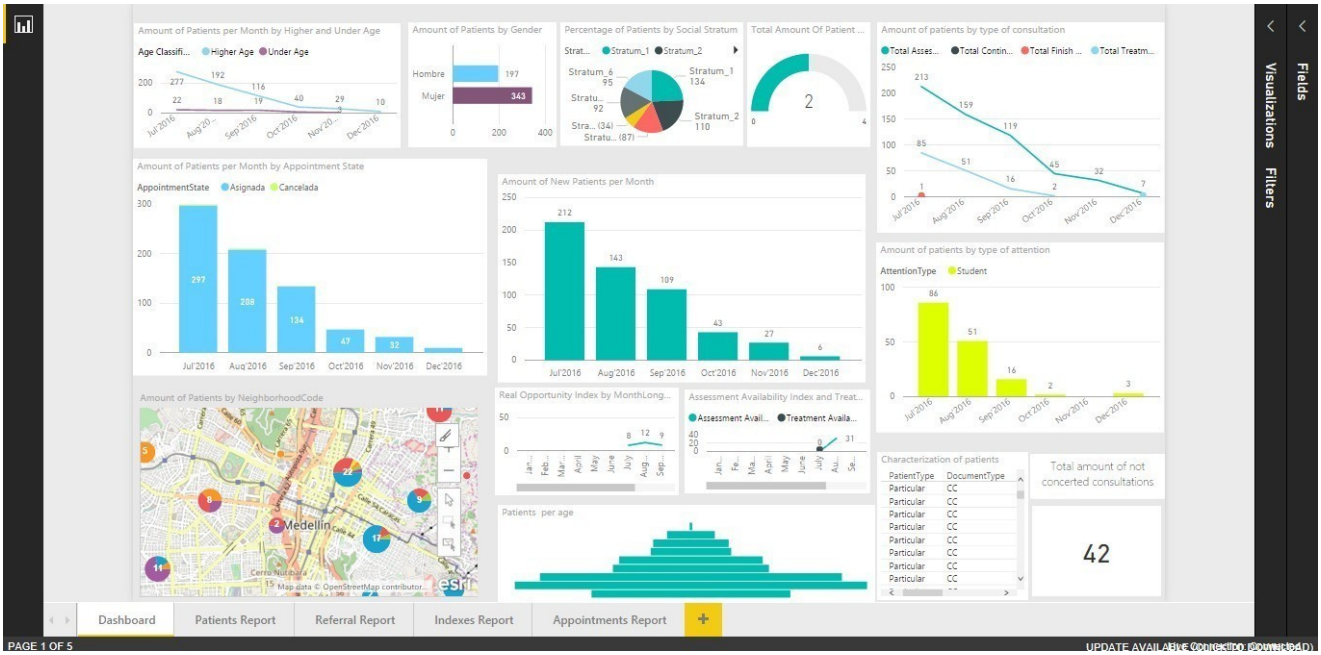
Other most import factor was treatment. We developed the reports that helped them study the treatment process. This included analysing the following parameters,

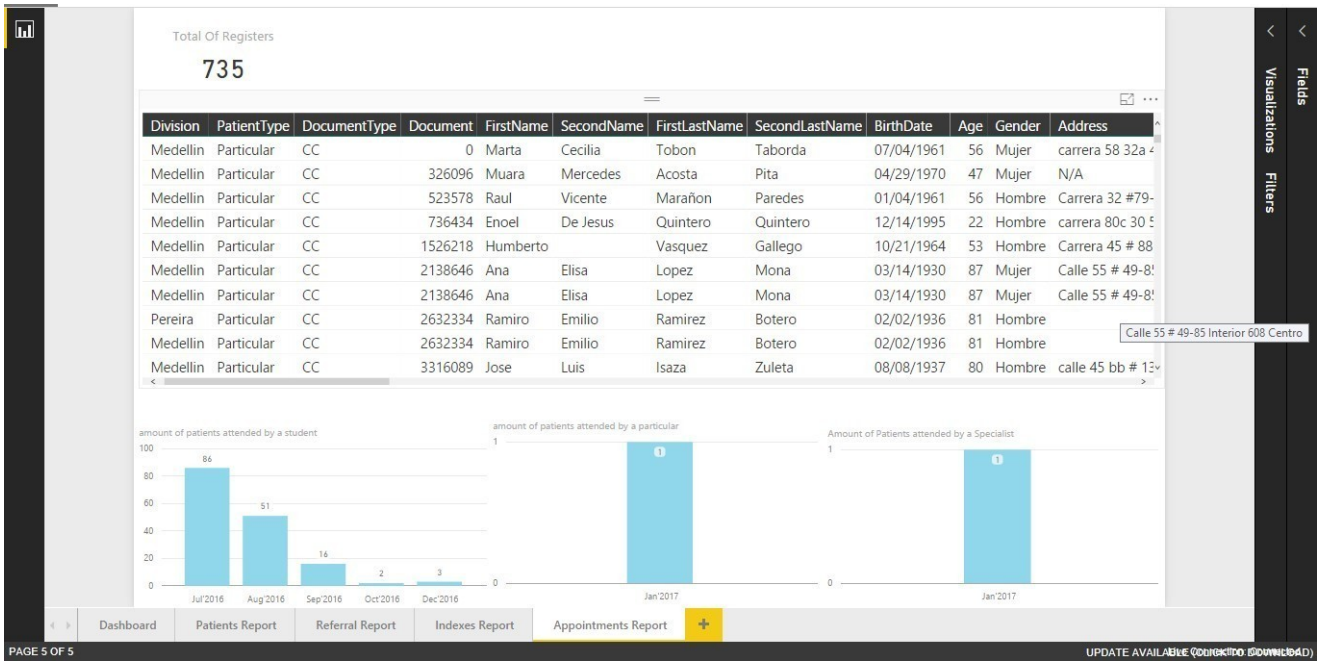
- What was the diagnosis made?
- What treatments were incorporated?
- What medications were involved?
- What were the instruments required for the treatment?
- How many patients were allergic to the treatments?
- What number of patients were in what stage of medical condition?

We helped them infer several treatment indexes by converting the information we captured into various quick-to-infer charts and graphs. These indexes led them to improve their diagnosis capabilities, identify what training to provide to interns and doctors, what medicines to use and keep an appropriate number of instruments in the hospital.

Several other reports, such as a map showing topography of the patients, regularity of employees, year-year and quarter-quarter revenue, branch wise revenue etc. were also developed.

A glimpse of reporting





2. Power BI for a City Council

The Challenge

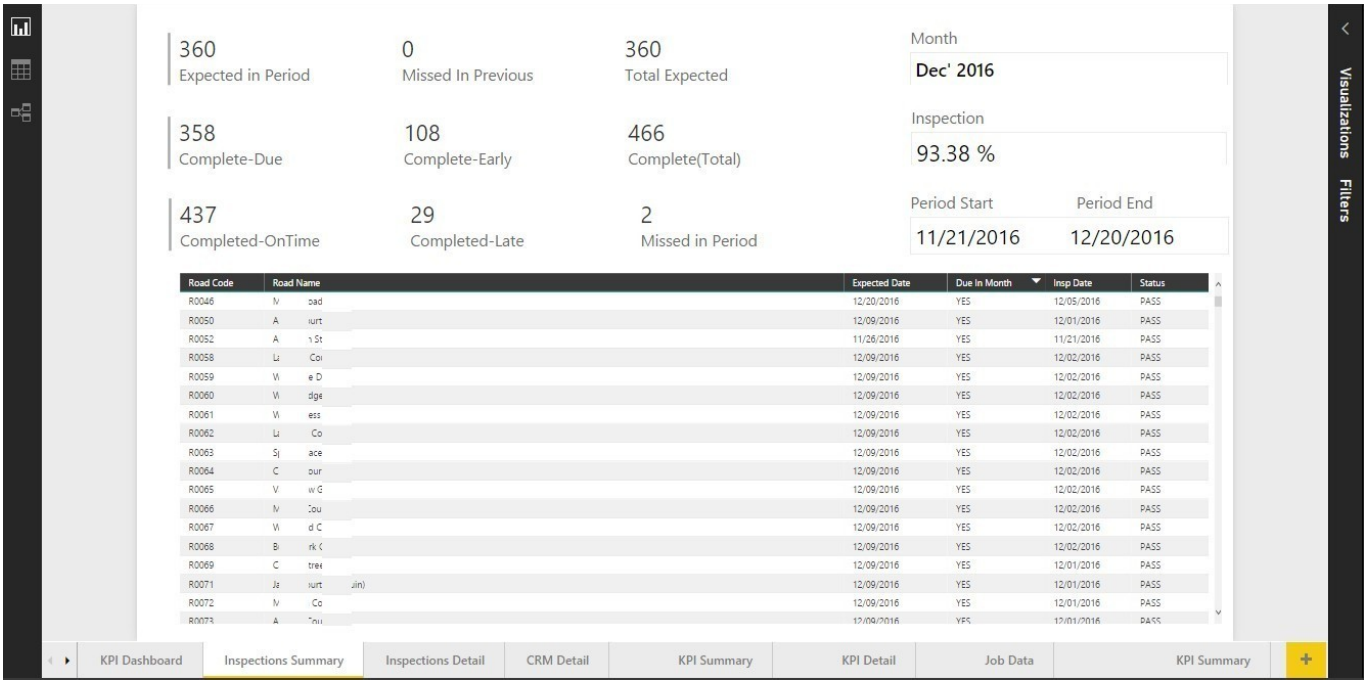
Our client contracted the task of road inspections. They wanted us to develop Power BI reports that would help them monitor the road inspection compliance by the contractors so as to stay rest assured that the road inspection process is going on track at any point of time.

The Solution

The client categorized road on more than one basis. One of the category being urban roads and rural roads, another category being based on material used in the road and so on. We developed reports that would provide **inspection compliance** indicator to the client. These client could generate the *inspection compliance indicator based on* ***categories of roads*****,** ***contractors*****,** ***frequency of inspections and the like***. Hence, client would get to know what is the compliance level of each contractor and identify how well each contractor is performing.

One separate report was developed for job compliance, or compliance of emergency / forceful inspections. These were the inspections that needed to be done urgently on demand basis such as removing fallen trees from the road and repair the road after floods. The report showed how well the contractor performed in relation to job compliance. Thus client could keep an eye on the entire road inspection process on the go by simply viewing the reports we developed.

A glimpse of reporting



3. Helping HR in recruitment process

The Challenge

Our client used to follow a manual paper-work based recruitment process. He had to manage a lot of data in excel sheets. The process was tedious and error prone. On the top of that, they could not afford to spend time in manually analysing the valuable information they captured. As they assigned us the task move towards shifting to new technologies and automating the data capturing and analysing process, they also wanted us to develop useful reports which would help them predict future trends.

The Solution

To keep the automation process in line with other tools used by the client, we suggested them to go with Power BI for reporting purpose.

We developed a number of reports for them. The visuals used were eye catching. The reports were easy enough to understand and even a lay man could grasp useful information by just a glance at a report. The reports contained useful indicators like total recruitment over time and average CTC offered to & is expected by the candidates. All the reports contained default filters like period (Apr 2016 - Mar 2017). We also provided a separate report that allowed to compare candidates based on the aspects like salary, qualification and experience. Drill down reports were included whenever required.

The client could now easily get to know top 10 sources of recruitment and top 10 reasons that made the candidates leave their previous company. The same data helped them to modify their existing policies and reduce employee attrition rate. They could now forecast a lower limit of written test score for selecting candidates. Number of reports included trends built up from the information. Trends like the salary expectations @ a certain experience level with a specific technical expertise helped then a lot in deciding the annual salary hike of their existing employees. Now they also have numbers of candidates who were expert in a specific technology. And the list of benefits goes on.

The client is more than satisfied with the ease of use and value of information they can capture using Power BI.

We tried to decipher the data and tried to come up with the ideas that will be helpful to the organization:

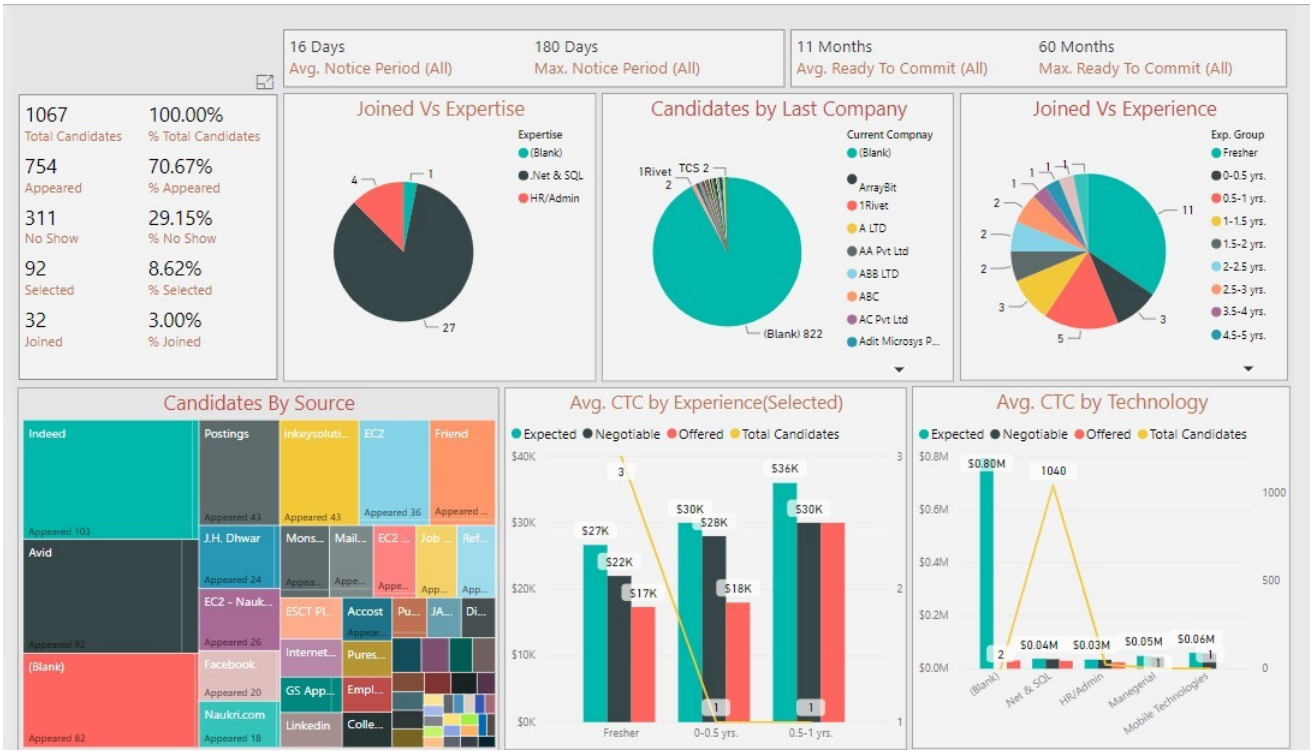
- Information of the candidates that are applying/appearing/not appearing/selected/joined for the interview.
- Information about the sources that has helped the candidates to apply for interview.
- Information about last companies that the applied candidates were working at.
- Details of the candidates by their expertise when appeared in an interview
- Which are the top 10 sources that candidates have found the organization?
- Which were the top 10 reasons for the candidates to leave their last company?
- Information about the hired candidates and their experience.
- Information about the scores by their quality and their experience.
- Information about the notice period by their experience.

The Extra Mile

- Information about the CTC by their experience and their expertise (technology).
- Trends of CTC by their Expertise and hike according to their experience.
- Forecast of CTC by their Expertise and hike according to their experience.
- Information about the time that the candidates are ready to commit.

Please find the sample report here:
https://www.inkeysolutions.com/ms-power-platform/microsoft-power-bi/helping-hr-in-recruitment-process

A glimpse of reporting



4. Power BI in Healthcare

The Challenge

A hospital wanted us to help them with predictive analytics and forecasts for various aspects of the healthcare sector. Power BI was their first choice because of versatility of reports offered.

The Solution

The vastness of health care sector demanded lot of reports to be developed. We did this task for them. The first few questions that come to mind regarding health care sector revolve around patients:

- How many patients come for OPD?
- How many get admitted?
- In which age group they fall?
- To which race do they belong?
- What is the average time of their stay at hospitals?
- What is the mortality rate?
- What is the rate of cure?
- Which disease is most caused and in which age group?
- Which medicines are most consumed by the patients?

They also needed information about the nurses working. Hence, we gave insights as follows:

- How many nurses are currently hired?
- How many and which nurses work on weekdays and weekends?
- How many and which nurses work at specified time and if they are free?
- Work timings of nurses.
- Which nurse handles how many and which patients?

We developed reports that contained indicators that helped hospital management find answers of these questions using the reports and forecast important things like number of doctors and other staff required in a particular period of a year, predict expected medicine stock in a particular period, and requirement if any, to call specialist doctors from outside. Various reports regarding cost of resources and profit earned were developed. A couple of reports were dedicated to payers and blood donors. An area ignored most of the times is epidemics. We also developed a report for trend analysis of epidemics and forecast demand of resources/employees.
A mix of visuals were used to make the reports that were easy to understand. An eye soothing colour scheme was used. Particular care was taken to refresh reports so that hospital management were presented the latest information all the time.

5. Power BI in diamond industry

The Challenge

One of our clients who happens to be from the diamond industry wanted us to leverage the power of Power BI for trends and forecasting in their business. We were required to develop reports to give them insights of their business including but not limited to investment and resultant profit.

The Solution

We developed an overall sales report that showed them the profit per Lot/Packet based on cost of manufacturing/cost price and sales price. The report included filters like time period, the Shape/Size/Colour/Clarity and Cut of diamond. The report allowed drill down to explore the details. Various useful indicators that answered various questions were included e.g. is the pricing done is in-line with the market price, which customer was good enough to be retained/rejected and what shape was the most sought after. Another report focused on who is the best assorter based on analysis of who gave the closest opinion to the actual sales price of a diamond.

The client found the reports very useful and could take valuable decisions that boosted the profit by 37% to 45%.

6. Resolve the existing CRM report problems

The Challenge

One of our client was facing couple of issues in their existing CRM reports. The first problem was to the analyse the time spent in the process by their users. Their existing report doesn't show it accurately and in expected format. Another point was each time when higher authorities arrived at the site and asked for the reports, they need to do the complete report execution process again to show them the expected output as the report cannot be accessed for a particular set of records outside CRM, which is very time consuming.

The Solution

Keeping in mind the issues faced by the client, we suggested them to have reports developed in Microsoft Power BI, which gets connected to their CRM Online instance and fetch data according to the requirement and then publish those reports to the web. After the reports are published a link is provided which can further be used by the end users to view the reports online from outside the CRM and the same link is used to attach the Power BI report to CRM Dashboard which can be used by CRM users.

The suggestion provided by us was very helpful to them and both the issues, which were being faced by the client were resolved. Our suggestion and work both were highly appreciated by the client.

Words of appreciation from the client

"Your cooperation has helped to keep our operation run smoothly and has led to a profitable relationship between us"

"We look forward to many more years of working with you, and wish your company the success that it deserves."

7. Analyse the performance of insurance policies

The Challenge

One of our Insurance domain client wanted to keep track of his business being executed at different locations. They also demanded that the report should not be difficult at all to understand. They wanted a report that helps them to know that which regions, branches and policies are doing more business and which are doing less based on that they could take appropriate actions for increasing their business.

The Solution

We provided them an ample of information through which their managerial authorities and the particular branch authorities are able to see the data according to their roles (i.e Director should be able to see data of all the branches while the Branch Manager should see data of his/her branch only).
Also, we have used SSAS as they had very huge data over a period of 10 years.

- Which branch is situated at which location?
- Which branch incurs how much income and falls in which Income Group?
- How much amount is funded in these branches?
- How much amount is invoiced in these branches?
- How much is the total premium amount by branches?
- Total number of insurance policies.
- How many clients have how many insurance policies?
- What is the trend of Income over a year?
- How many policies are there according to the Client Class?
- Total number of clients.
- How many managers are active/inactive?
- Where does these branches stand in their region or their Income Group according to the Total income or Brokerage?
- Rolling Average Income over Months.
- How many clients have Mobile Phone or Home Phone or both?
- How many clients are from which location?

8. Human Resource Planning

The Challenge

Human resource planning is a process that identifies current and future human resources needs for an organization to achieve its goals. It should serve as a link between human resource management and the overall strategic plan of an organization.
HRP starts by assessing and auditing the current capacity of human resources. Hence, we were asked to take up the job of transfiguring the mystifying numbers of the current capacity of human resources to captivating visuals which puts across each and every information with utter clarity.

The Solution

It caters to the dignified organization's following concerns:

- On which days their resources are wrapped up in work?
- On which days the organization has a great deal of work or they have considerately less work/no work?
- Which of their resources have the most occupied period?
- Which period is busy for the different professionals(skills) ?
- Which resources has a lot on their plate or has no work at all?
- Which projects needs how many hours and what kind of professionals?
- It should give daily/weekly/monthly/quarterly/yearly insights for required resources by projects or different professionals.

The Extra Mile

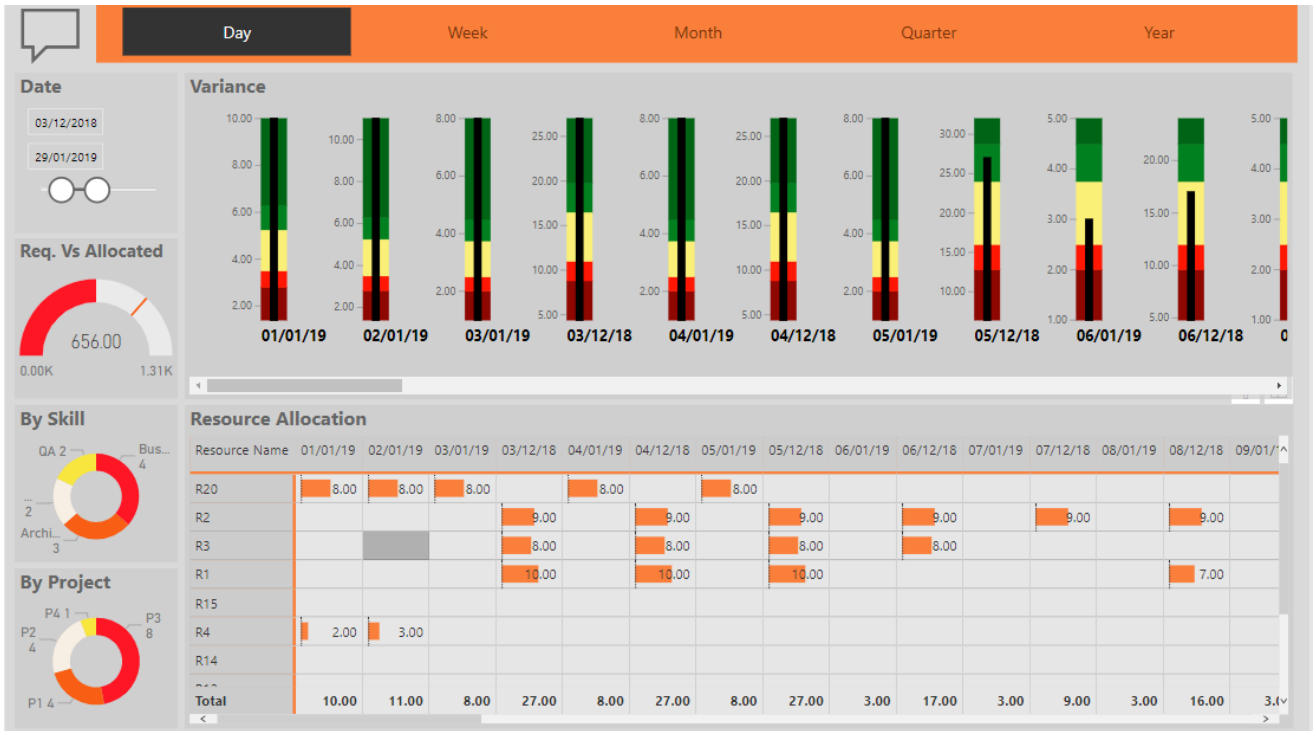
After giving a deep thought to the data, we handpicked some other visuals that gives more detailed information about the current resources of the organization. Below are some:

- Which professionals(skills) with the selected professionals are free or are giving how much time per day? Are they giving all of the hours that they have or they are needed somewhere else but are not available or they are available but doesn't have skills they need to?
- Which resources are capable of earning how much of the organization's income?
- What are projects that are at risk in terms of the shortfall of resources?
- Which resources are the most and least capable of captivating organization's income?
- Which projects are the most and least capable of captivating organization's income so that they know how much hours to be given to a particular project?
- It also gives an option for the users to ask questions if in case not shown in reports through Q&A.

Please find the sample report here:

https://www.inkeysolutions.com/ms-power-platform/microsoft-power-bi/human-resource-planning

A glimpse of report



9. Campus Recruitment Analysis

The Challenge

Campus Placements/ Campus Recruitment drives are conducted in various educational institutes for providing job opportunities to the students who are pursuing their particular academic courses.

As much as it is important to the students, it is also important to the institute as it gives a chance to contemplate about the process. This data includes students from various colleges.

The Solution

What every management team wants to know:

- How many companies appeared?
- How many students appeared?
- Which companies have hired the most of the students and from which college?
- How many students accepted the offer?
- Were the companies beneficial in accordance to their vacancies?
- How many students were selected by the companies?
- What was the ratio between students applied and the vacancies available?
- Which college were the most preferred by the students?
- Which technologies were the most preferred by the students?
- Which colleges were benefitted by this recruitment in terms of the selection?
- Which colleges did not perform up to the mark?
- Which colleges were involved the most in terms of the students registered?
- Which companies were beneficial in accordance to their vacancies?

The Extra Mile

- We gave users a menu driven page where they can navigate to the page of their interest.
- Overview of companies with respect to the technologies.
- Overview of students with respect to the technologies, companies and colleges.
- Overview of selected students with respect to the technologies, companies and colleges.
- Insights on basis of the students' priority and the offers given to them.
- We have given extra information apart from what is need about every area of interest.

Please find the sample report here:

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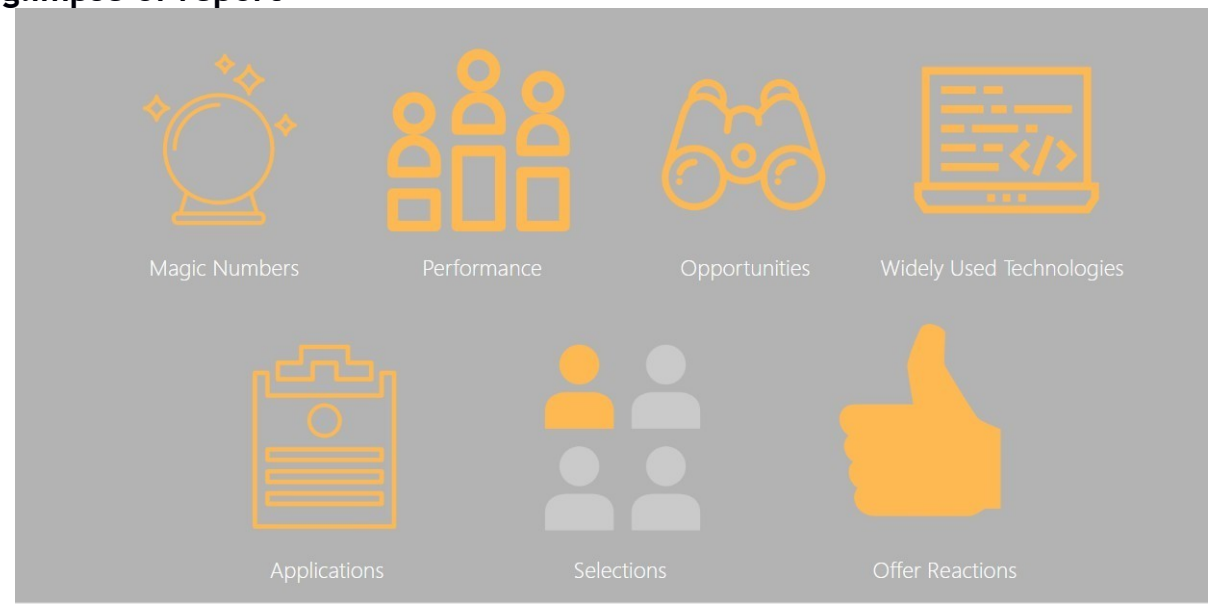
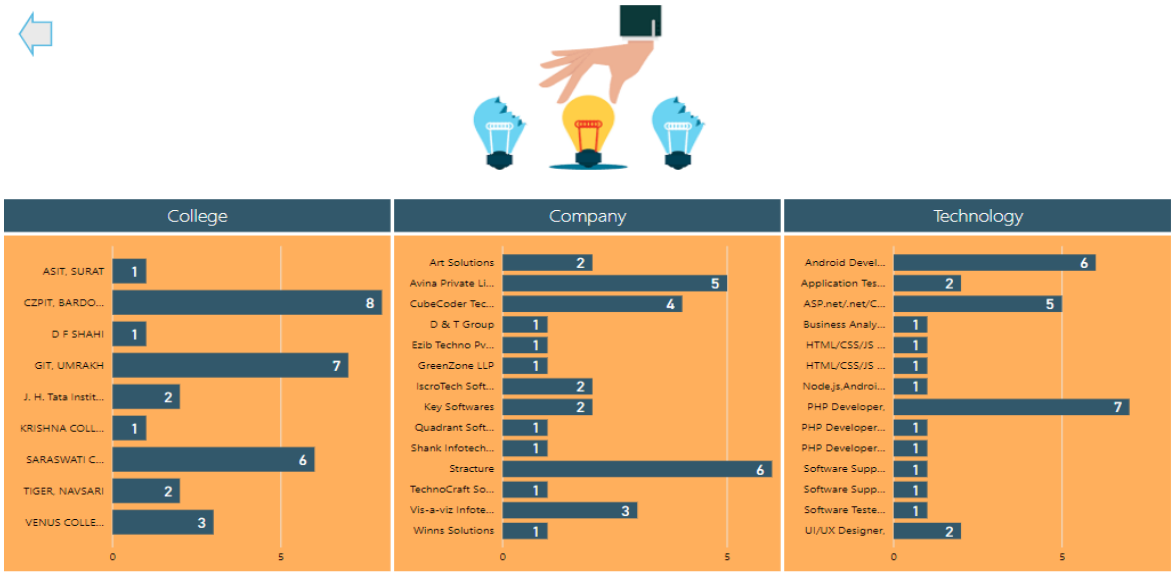
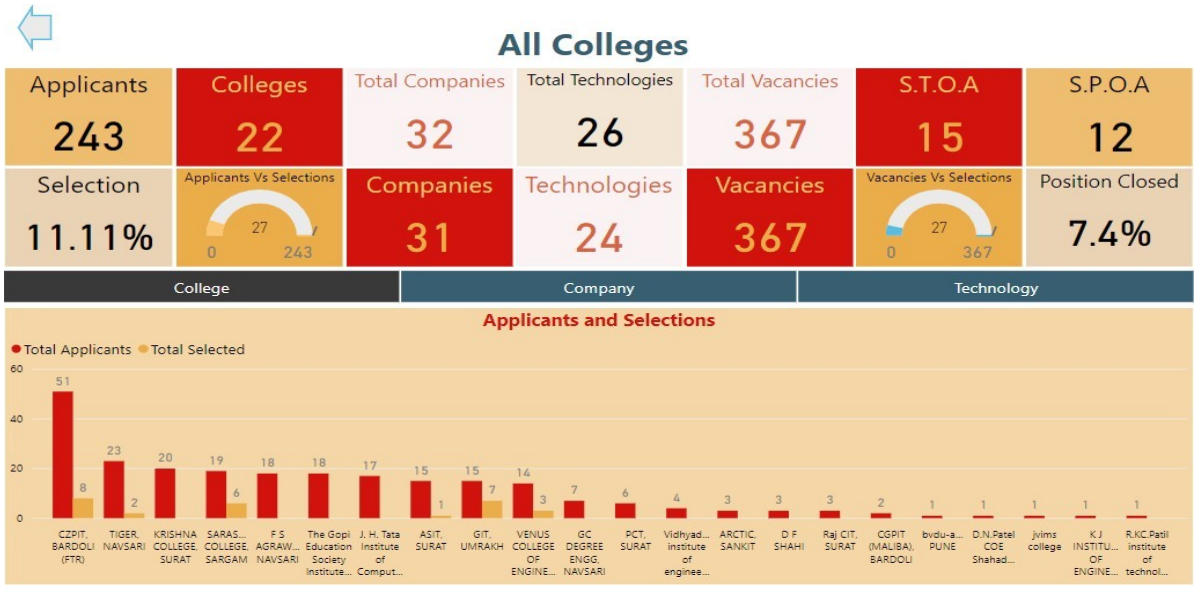
A glimpse of report







10. Sales Analysis

The Challenge

A sales analysis report shows the trends that occur in a company's sales volume over time. In its most basic form, a sales analysis report shows whether sales are increasing or declining. At any time during the fiscal year, sales managers may analyze the trends in the report to determine the best course of action. Managers often use sales analysis reports to identify market opportunities and areas where they could increase volume.

The Solution

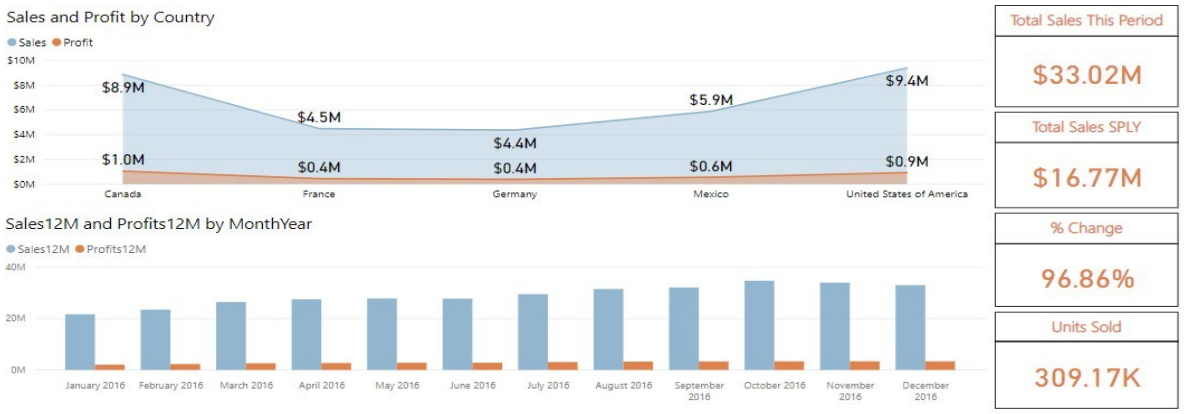
- Information about profits and sales by Product and custom Date Period.
- Ranking of Products and Countries by their Sales
- How many Units are sold according to countries and months?
- Sales and Profit by Country
- Sales and Profit by different entities such as Segment and Products
- Daily insight of units that are sold

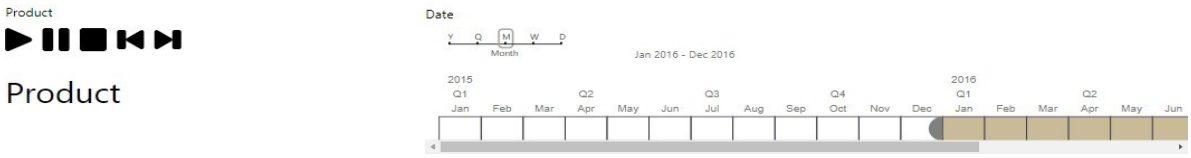
The Extra Mile

- User can directly navigate to information about sales and profit by selecting the country.
- User can drill through to Details of a particular country.
- User can just play for Product Filter on second dashboard and see the visuals showing data as per the product.
- User can select any time period, whether quarter, day, month or year.
- We have provided maps for sales and profit so that they can differentiate that which country has least/most sales or profit.

Please find the sample report here:
https://www.inkeysolutions.com/ms-power-platform/microsoft-power-bi/sales-analysis

A glimpse of reporting





11. Campus Result Analysis by College Authorities

The Challenge

Campus Placements/ Campus Recruitment drives are conducted in various educational institutes for providing job opportunities to the students who are pursuing their particular academic courses.

As much as it is important to the students, it is also important to the institute as it gives a chance to contemplate about the strengths and weaknesses of their students and their overall performance in Campus Recruitment.

Hence, the idea of the visual representation of the Campus Recruitment data is to give synopsis of the overall process and strengths and weaknesses of their students. It should only focus on the performance of their students.

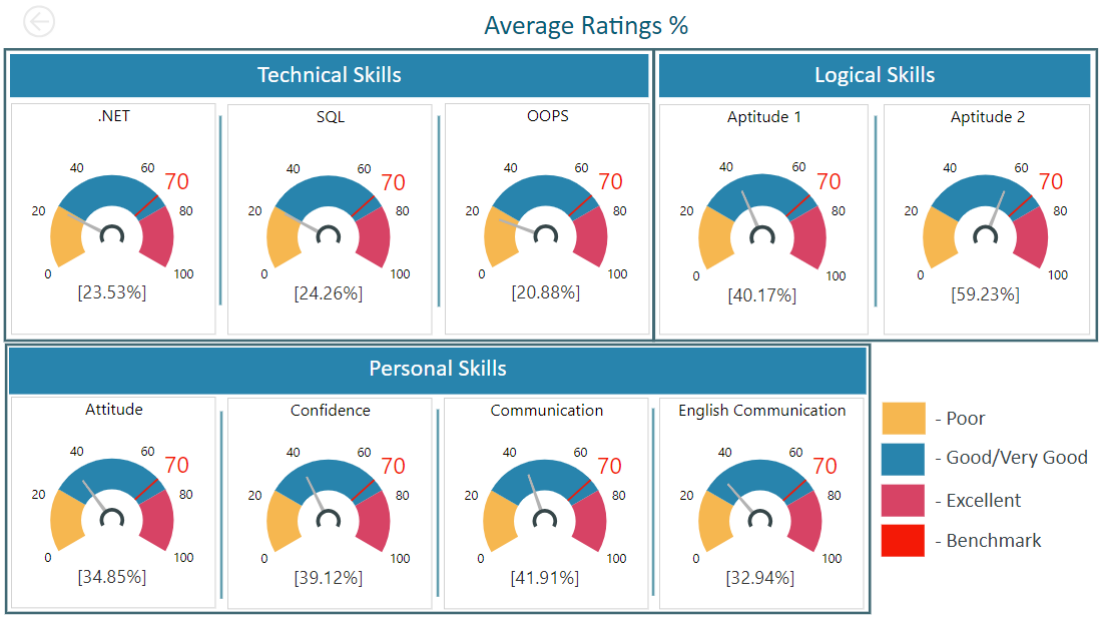
The Solution

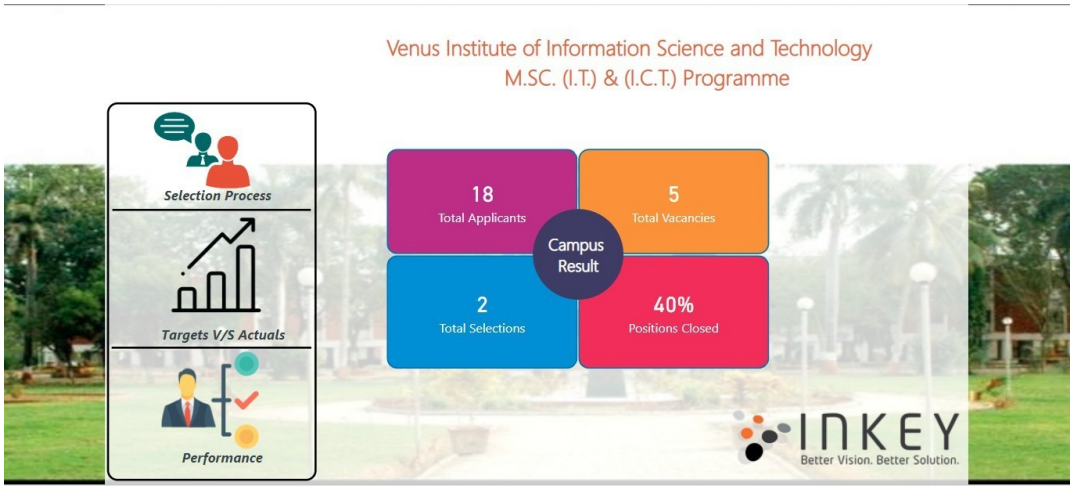
We have tried to cover almost every information, as below that is useful for the authorities of the institution:

- It gives selection between information about what one wants to learn the ropes.
- How many students have cleared how many rounds?
- What are the students' strengths or flaws?
- Which non-technical skills/technical skills their students needs to pull their socks up?

Please find the sample report here:
https://www.inkeysolutions.com/ms-power-platform/microsoft-power-bi/campus-result-analysis-by-college-authorities

A glimpse of reporting





12. Accident Cases Analysis

The Challenge

An accident analysis program is equally important as accident prevention in establishing trends and curbing future accidents.

The Solution

After analysis of the data present, we devised the following questions that could be answered and can be easily interpreted.

- On which days and which time interval the accidents happen the most/least?
- How is the accident occurred and what are the most types of collisions occuring?
- Which accidents are at which stages?
- Which reasons caused the accident?
- Which part of the country faces the most/lease number of accidents?
- Which model had the most/least accidents?
- Trend of accident by months and weekday

Please find the sample report here:

https://www.inkeysolutions.com/ms-power-platform/microsoft-power-bi/campus-result-analysis-by-college-authorities

A glimpse of reporting

13. Real State Analysis

The Challenge

The real estate sector is one of the most globally recognized sectors. Emergence of nuclear families, rapid urbanisation and rising household income are likely to remain the key drivers for growth in all spheres of real estate, including residential, commercial and retail.

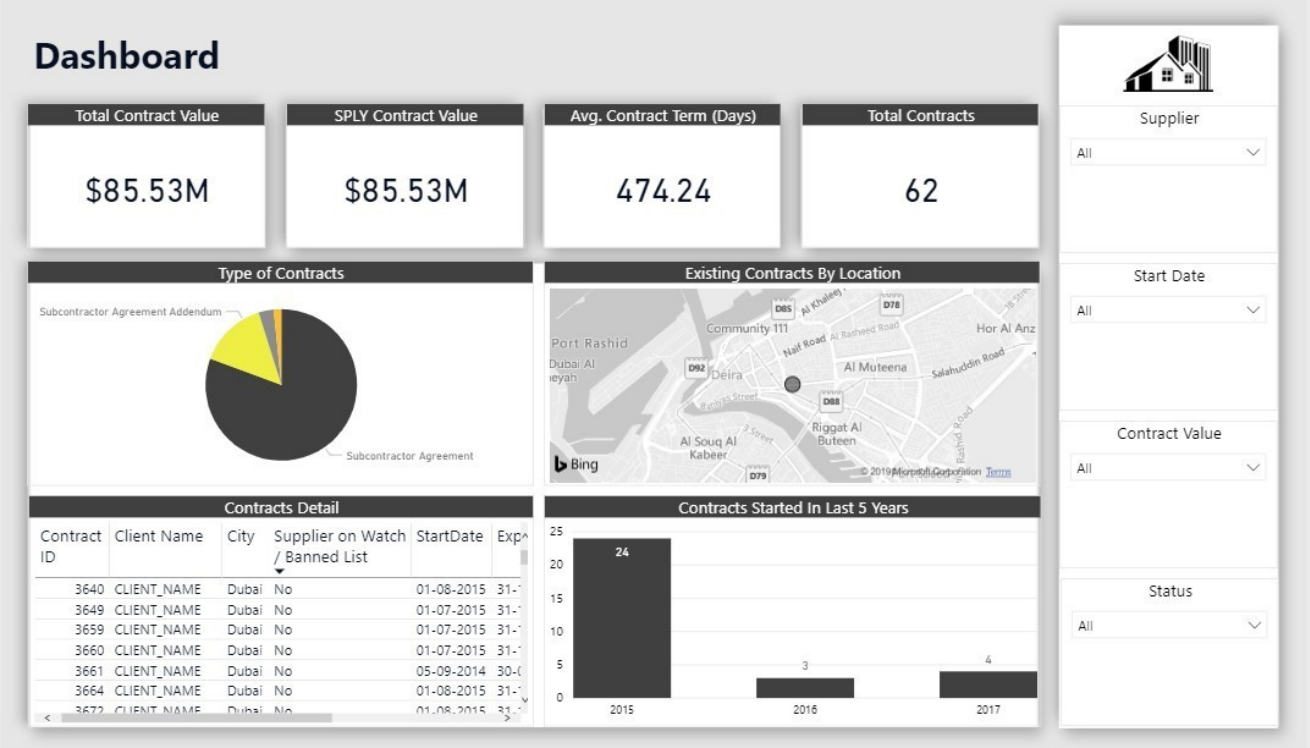
Hence, it has become very crucial for the real estate agents to reflect upon their work and their corresponding repercussions.
It will be beneficial to the real estate agents if visuals answer their questions at just a glance.

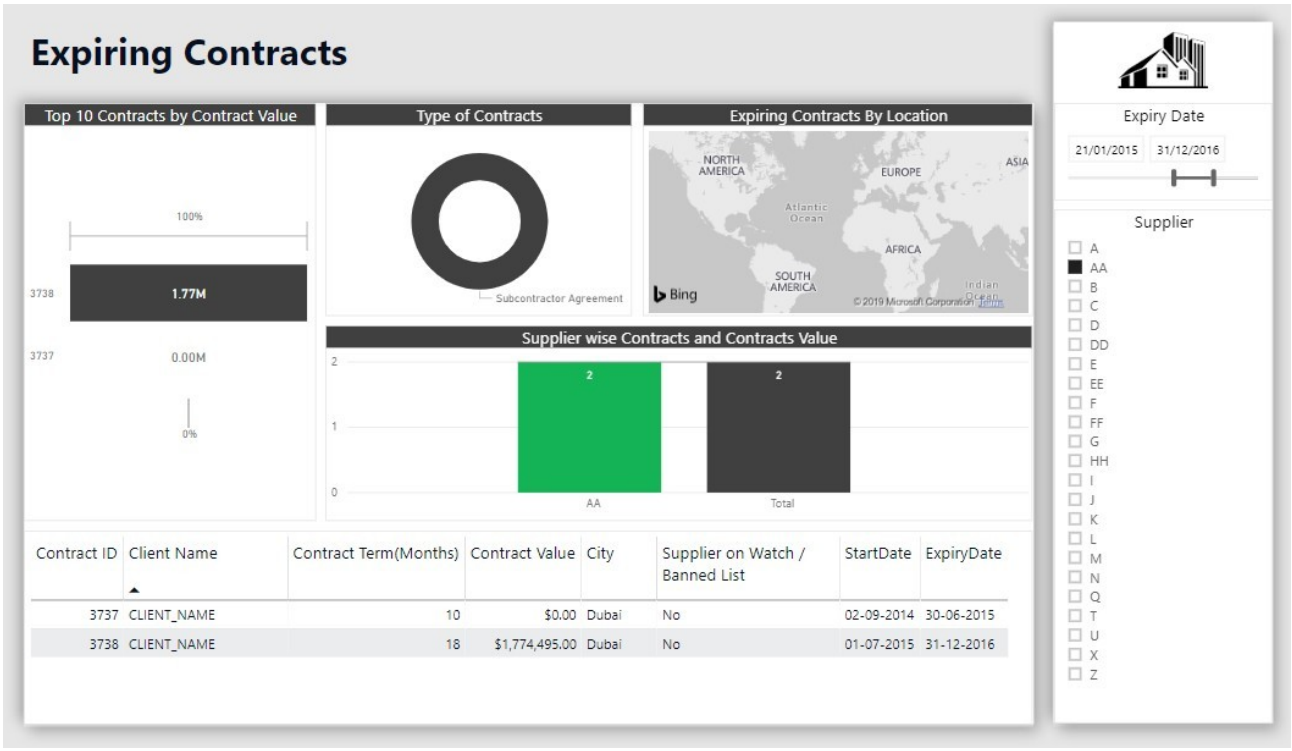
The Solution

- Number of contracts
- What is the average duration of a contract?
- Total money spent for a contract.
- How many contracts are taken by their type?
- Where are the existing contracts located?
- How many contracts were signed in what years?
- How many contracts have expired and who were their suppliers?
- What is the money spent by the expired contracts?
- Number of loaded contracts classified by their duration.
- Number of loaded contracts by thir country and supplier.
- Details of contracts by their billing frequency and payment methods and its duration.
- Details of contracts by their average cost, by tender type and quotes.

Please find the sample report here:
https://www.inkeysolutions.com/ms-power-platform/microsoft-power-bi/real-estate-analysis

A glimpse of reporting





14. Country Fair Analysis

The Challenge

The event authorities wanted to learn what are the aspects that has been stopping people form visiting the fair or which aspects attracts people, but they weren't able to decipher the data easily. Hence, we converted the data into pretty and informational visuals, which shows the facts easily and clearly.

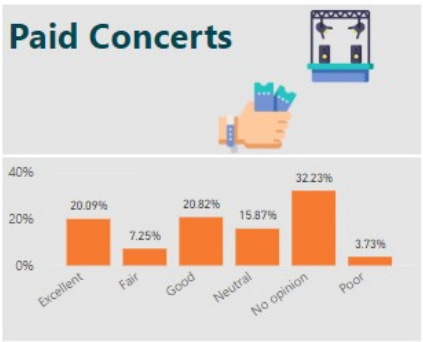
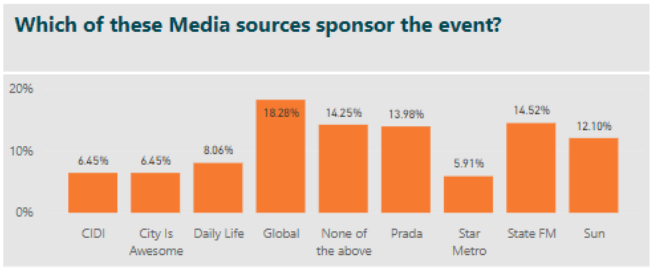
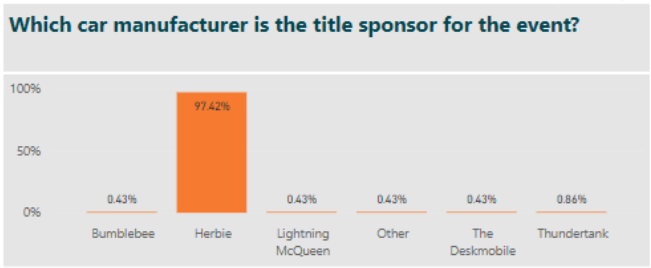
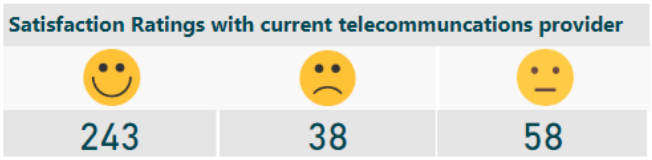
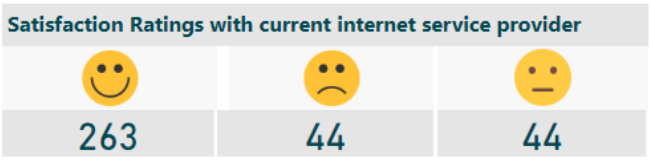
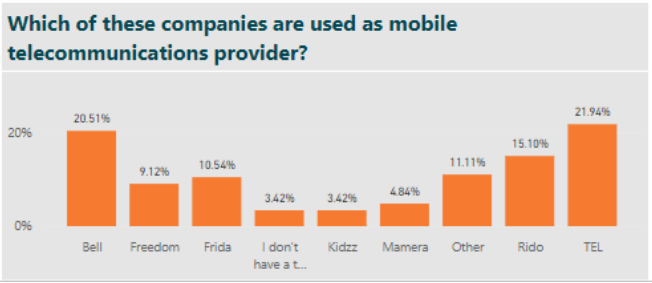
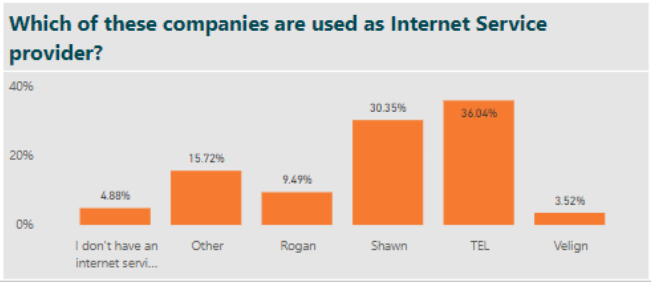
The idea is to study interests of people using which they learn about different aspects about organizing the fair next time.

The Solution

The task of giving the data a visual graphic was allocated to us. We thought about the information that can be useful to the event management authorities. We thought about the following:

- Demographic profile of people who attended the fair, i.e which age range were attending most or which gender were interested most, from which income group most people visited, cultural background etc.
- The survey included various questions about their enjoyment and their visits to such fairs, which was pictured into graphs so that they can get the information easily.
- Ratings about various aspects of fair, i.e rides, food, shopping, paid tickets, etc. and ratings of the stalls that belonged to these aspects.
- Percentage of people who knew the sponsors participated in the event such as media sponsors, automobile sponsors, radio partners, financial partners, etc.
- Information about how they came to know about the fair and about their frequencies of attending the fair.
- With whom most people like to accompany for State Fair visit and for how many years they had been attending this fair?

Please find the sample report here:

https://www.inkeysolutions.com/ms-power-platform/microsoft-power-bi/country-fair-analysis

A glimpse of reporting