Awesome Analytics

Case Study:
Bots to the rescue

Industry/Sector:
Cosmetics

Services Offered:

Automation (via custom bot)

Our client is a leading cosmetic brand in India. With decades of experience in products & services spread across 400+ service locations across 125+ cities they have served 4 million customers.

The client is responsible to maintain a consistent level of service across all locations. The client also requires that data for 400+ locations is downloaded & consolidated daily to track various performance indicators & future appointments. Currently this activity was being done manually and their management requirement for daily tracking was not fulfilled because client personnel could not complete data download daily. To address this the client approached us to automate the data download for various reports of multiple locations.

Challenges:

• Multiple reports–the raw data portal had multiple reports that the client wanted to be downloaded on demand by the user.

• Multiple parameters–for each such report there were multiple parameters that the user would select so that the report required for specific business case could be generated

• Multiple locations–depending on the user login different locations would be available for download

• Separate download button – the portal had a separate download button for each location that would be generated after selecting the location

📞 **9167623566**   ✉ **info@awesomeanalytics.in**

Our Solution:

After performing a detailed study on the portal, we identified the variable and fixed parts of the website by observing user interaction while they performed their regular function.

We built a bot that would perform the above tasks with ease.

User would provide the variable inputs from a configurable panel thus giving them desired flexibility for report selection & location selection.

The bot would then proceed towards automatically downloading all the data by replicating user steps for the desired locations. Since there were too many parameter combinations of each user, report and location, the bot was written in a way to identify elements on the screen for its decision making on further steps of downloading file or loading parameters.

Benefits & Impact:

• Self-Serviced Bot: The bot is now run & managed by internal IT team where they run the downloader bot in evening after receiving user inputs, if any.

• Data Ready - Throughout night the bot downloads entire dataset so that it is available for the users the next day for further analysis

An activity like this would have not been sustainable if performed manually for a longer time period, using custom bots allowed the client to easily select the required report parameters and let the bot handle the rest.

Case Study :
Needle in the haystack

Services Offered:

Digital Forensics

Our client is a leading MNC that took over another company operating in one of the segments they wanted to expand in. The acquisition was underway when the Global CEO requested to get an audit conducted on all business processes on a suspicion of conflict of interest.

Challenges:

1. Data Extraction- The process of replicating user's data in a discreet manner was a challenge as it was critical to maintain utmost secrecy on the actual task being executed.

2. Data Size – Roughly 11 Tera bytes of data was to be scoured through for evidence of process lapse

3. No Specific Direction – There were no specific set of systems, people or processes set as targets.

Our Solution:

Our team successfully extracted the data from the systems in a legally compliant manner admissible in court. A lot of information about processes and shadow processes was derived via casual interaction with people.

Using this information, we arrived at keywords & preliminary areas of investigation.

Using scripting, indexing & forensic tools we combed through the dataset to gather evidence of wrong doings & process bypasses. Our findings were consolidated in a report & shared with the management along with evidence on all substantial lapses in multiple functions of the business.

Benefits & Impact:

This information allowed the client to decide which people to absorb or let go post acquisition.

It allowed the client to confront the existing business owners on the current business affairs & enabled them to bring down the cost of acquisition on grounds of breach of trust on the agreed terms of acquisition.

Awesome Analytics

Case Study :
Past, Present & Future

Industry/Sector :
Pharma

Services Offered:

Financial Performance Dashboard

Our client provides consumers with a diverse range of diagnostics solutions, medical devices, nutritional products, & established pharmaceuticals that span the continuum of care. They faced a challenge in creating timely financial reports which combined, past data, current year financial along with rolling forecasts that are revised every quarter. Our role was to understand their existing data flow & design a report that is automated, flexible & quick.

Challenges:

1. Scenario wise Analysis: The client required analysis of various business KPIs with sku, manager & month level drill down. The scenarios were a combination of past, present and forecasted data.

2. Turnaround time: The calculation turnaround time was critical especially in the scenario of monthly budget revisions since sales & manufacturing plans depended on the report.

3. Allocation of Common Expenses: Due to the nature of some indirect expenses, they had to be allocated via a complicated logic with 3 fallback scenarios to ensure all costs are correctly allocated to the correct brand/sku.

4. Restating Previous year numbers – Due to reclassification of various skus, the current as well past data needed to be dynamic to such changes in classification of a product.

☎ 9167623566   ✉ info@awesomeanalytics.in

Our Solution:

After performing a detailed study of the dataset & requirements, our team designed custom solution using a combination of Excel, VBA & Power BI
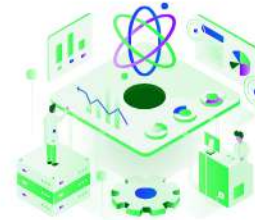
1. Scenario wise analysis: After the in-depth study of the client data, a model was developed in such a way that the user can select various scenarios using an interactive spreadsheet & able to see the Ach%, Growth% & the variances in any combination such as CY vs PY vs Plan or Next year budget vs Current year budget & so on.

2. Calculation Turnaround time: To perform the calculations manually, it would usually take around 5 days to collate, clean, summarize & formulate the data. However, using the existing the technology stack & after performing optimization at each step, current turnaround time is 30 mins.

3. Allocation of Common Expenses: The allocation of the expenses in a defined ratio is a double-edged sword. To prevent inaccuracies, exception reports are generated before the final report to alert the user of incorrect inputs, dataset, if any.

4. Using Power BI as a visualisation front end, any user can look at their required level of information from org level numbers to the detailed drill down. The Power BI Report is now used by top management to understand the overall financial status as well as use excerpts from the same for stakeholder presentations.

With this, the organisation is now capable of generating self-maintained automated reports that can be altered using various parameters in the masters/config file.

Awesome Analytics

Case Study : The Privacy API

Services Offered:

API for aadhaar

Our client is a global FMCG that runs various programs in tier 3 cities and villages that enables empowerment of women and create a source of income for them. For the incentives and amount to be credited into their verified bank accounts, they needed to link the information to their aadhaar cards while keeping the data secure.

Challenges:

• Data Collection- Client required to collect aadhaar cards using a mobile app

• AI based processing – The data was required to be read and processed by a system else it risked data being leaked or compromised in case of human intervention.

• Masking – The images captured by the app needed to be masked using an AI engine to black out adhaar card

• Past data – A mass processing for masking lakhs of past images + api for new images were required

• Image dimensions – there are lot of inherent issues with image processing in AI, those challenges were to be addressed by the solution

• Privacy – Google & Microsoft APIs could not be used since the data was sensitive and the legal team mandated keeping the data inhouse in a controlled environment.

☎ 9167623566   ✉ info@awesomeanalytics.in

Our Solution:

After performing a detailed analysis on sample dataset, our team designed and deployed a python based custom code developed from scratch to process the images:

1. Cloud Hosted – A cloud hosted solution was deployed on a company controlled hardened linux system.

2. Multiple workers on api – To ensure that the back log of images are processed quickly, the api was designed to accept multiple processing requests simultaneously.

3. No Data API – The API returns masked image of the document without saving the original image. Thus, making the API risk free as there is no data stored on the API server.

4. Integration – The client can integrate the API with any application to further reduce the chances of an image with full details ever being created.

5. Live Masking – The API also had a live masking feature where the camera would access the api to mask the image while it is being captured.

This tool allowed the client to have a risk free solution where data is neither stored nor captured and helped them comply with changes in laws related to document and information retention of Aadhaar

Awesome Analytics

Case Study : The 25 million row puzzle 🧩

📊 Services Offered:

Dashboard & Data Analysis
for Indirect Taxes

Our client is a global FMCG with around **5 billion** USD turnover in India. They serve **700 million** customers in India alone. They recently faced a unique problem where the indirect taxes team had to respond to a ₹ **400+ crore** demand from tax authorities. For this they needed to perform calculations on **25 million** rows of data at product geography, channel & day level to determine the benefit of GST rate cuts passed on to the consumer vs benefit expected to be passed on by the Govt.

🎯 Challenges:

• Logic clarity – The client was not fully sure about the logic of the calculation due to complexity of multiple levels & data sets.

• Disintegrated data – the dataset was provided in 850+ files which had to be consolidated before the calculation can begin

• Data validation – Cleaning & validation of data was to be performed via the automation to avoid duplicates in the dataset

• Data volume – The combined data reached 25 million rows in the first run & stands at 31 million rows at the time of writing of this report

• Calculation Turn-around time – The calculation turnaround time was critical especially in a situation when govt changes GST rates, same needs to be propagated to the product pricing team across categories & brands right up to the production team.

• Chained calculation - Due to change in the pricing, margins across the entire Supply chain needs to be redefined

💡 Our Solution:

After performing a detailed study of the dataset & requirements, our team designed custom solution using a combination of Power BI, SQL & Vb.Net

1. Logic definition – Using random sampling the end to end calculations were performed by our team & shared with the client for validation by various stake holders.

2. Data cleaning & consolidation – The data cleaning & consolidation was executed via a custom utility developed by us that cleans the data set & pushes it across to an SQL server

3. Data volume – A lot of calculation was performed via custom functions & procedures written in SQL to ensure speed & accuracy on the data spanning across millions of rows

4. Calculation turn-around time – the first run on the entire logic ran across each row with thorough calculation trail took 36 hours to complete on high end development systems. However, once the logic was frozen, our team brought down the core calculation time down to 45 minutes with heavy optimization on each line of code & also leveraging on the features of existing technology stack.

For private circulation only*

5. Chained calculation – The calculation for margins across the Supply chain was built in a customisable way such that it does not require the entire dataset to be re-calculated & can be performed by the user on demand, in 5- 10 minutes.

6. Organisation to SKU – Since the dataset comprised of information at channel, brand, category, geography & day level, the entire report was calculated & the lowest level of input available & built upwards to display organisation level numbers. Using Power BI as a visualisation front end, any user can look at their required level of information from org level numbers to the detailed drill down

With this, the organisation is now capable of providing detailed responses to tax central as well as state level tax authorities regarding anti profiteering norms of GST