Self-Service reporting

Paper proposal

Abstract

Statistics Centre - Abu Dhabi (SCAD) issues hundreds of reports and publications annually, and the number of reports produced has increased in the past years. The generation and maintenance of these statistics and reports requires a great deal of manual work and is considered very tedious, slow, and highly prone to errors, not to mention the fact that the data quality check and report revision processes to ensure accuracy are time consuming exercises, which in most scenarios delay the release of the publications on schedule.

Below details will give a better picture of how SCAD did enhance the process of reports throughout collecting the data required and creating the proper databases till the quality, functionality and Look & feel of the final product.

Introduction

To improve the timeliness of publications release, the idea of automating the reports has been suggested and implemented by utilizing the right combination of technologies. We intensely studied the content of the publications and revamped the templates to a simpler, user-centralized and cohesive layout that showcases the vital insights with an outstanding narrative data visualization that is 100% automatable. The new layout is set to remain unchanged for quite some time since the templates used for publications do not change frequently, and the content is simply updated to match the selected report data. With this in mind, we have developed a one-click report generation process with a user-friendly interface where user can select the publication frequency and data to generate reports instantly. We employed different tools such as Microsoft presentation software to create the publications templates and link it to an excel using plugins such as Think-cell, Datapoint as well as other plug-ins in order to create a dynamic template that reads and change depending on the linked excel file content. Then, the excel template source gets populated by the Alteryx tool workflow, which is used to process and transform the required data from a database. The generated report covers the latest data extracted from the database, and after evaluating the data, the text gets updated with the analyzed insights and notable changes in the data.

This operation allowed us to reduce the time consumed to create a single publication from 10 days, which includes the dissemination and review processes, to 2 minutes which is the time required for the report generation, plus 15 minutes for reviewing and finalizing and 1 day for approval and dissemination.

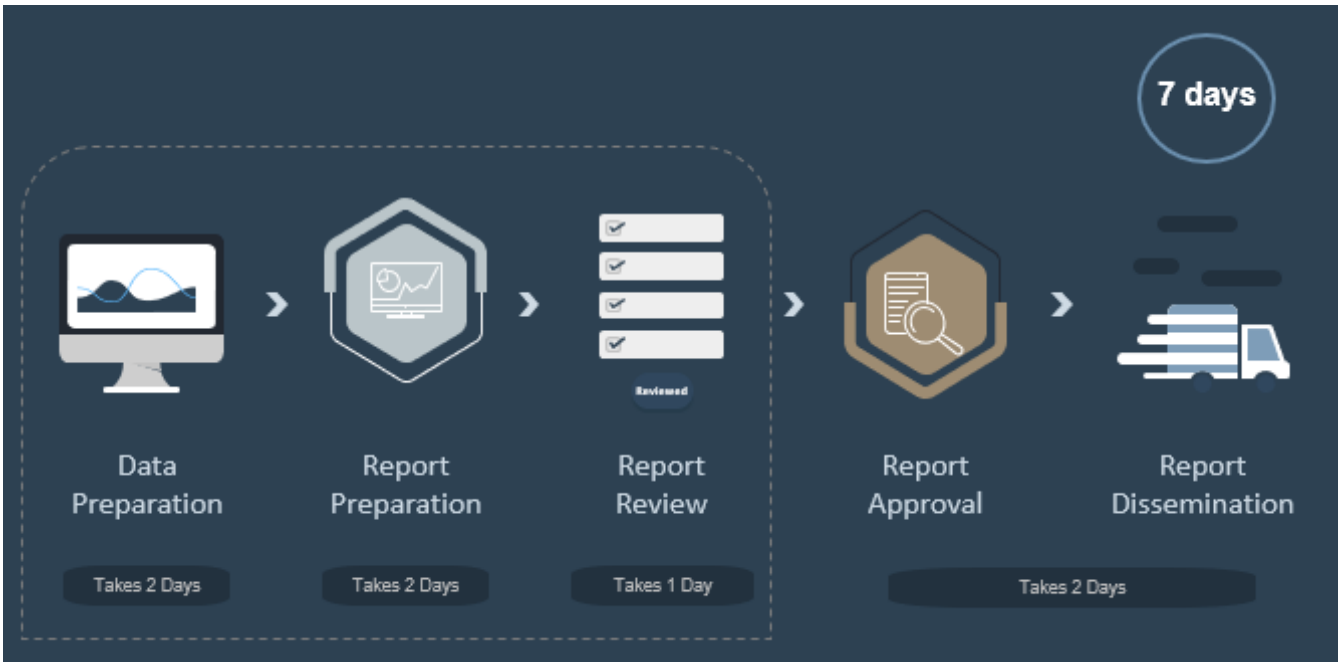
Before Automation

The process before automation was very time consuming and highly prone to human errors:

1. It took approximately 2 days to get the data prepared and ready in the right and expected format for the report to be prepared.
2. Additional 2 days were required to draft the report and get it ready for review.
3. One more day was needed for the report to be reviewed and corrected.
4. Two more days were required for the report to be reviewed and approved by the responsible stakeholders.
5. Finally, one additional day was required for the final report dissemination step.

In conclusion, it took more than seven working days for one report to be generated and disseminated as per the process described.

Moreover, the same process had to be repeated for every report being generated by SCAD through different departments/units in the center.



After Automation

The post-automation process became simpler, easier for the users, required significantly less Time and most importantly, the reports were more accurate due to diminished human interference.

When applying the new process, it took less than 30 minutes to prepare the data, generate the report and have it ready to be reviewed by the stakeholders.

The new process reduced the previously required seven days to only one day to get the report to the final stage where it's disseminated and available for the respective audiences.

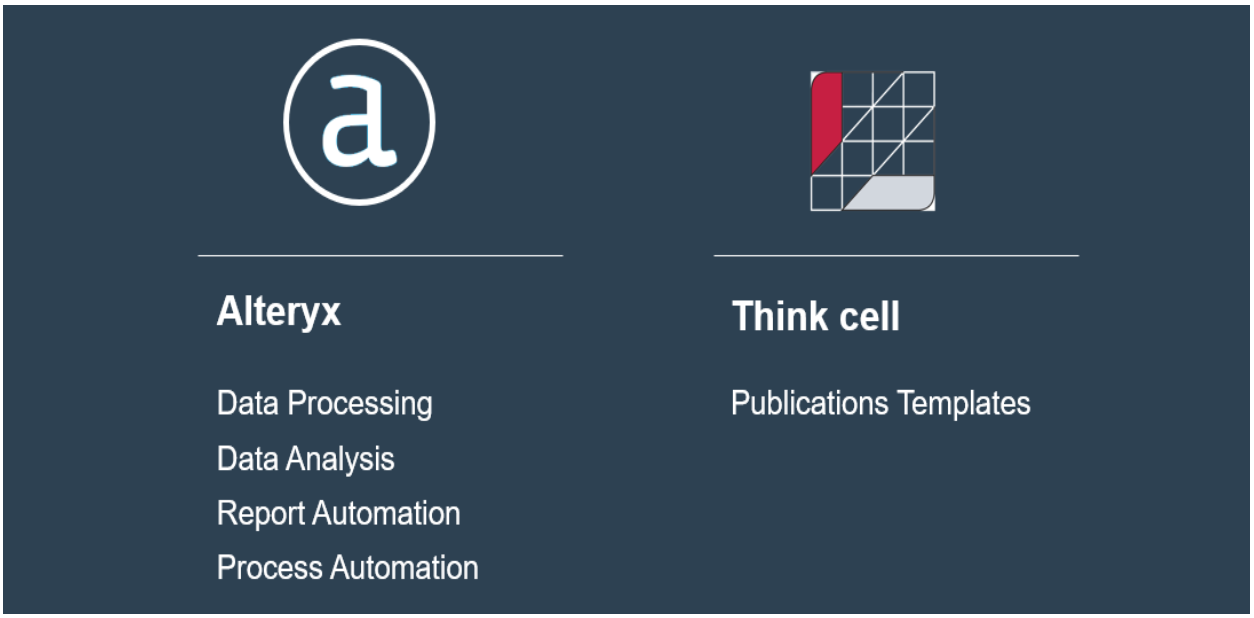
Where the old process required more than seven days to prepare the report and make it ready for dissemination and available for the respective audience, the new process reduced the required time to only one day.

Process and Technologies Used for Automation

The process of automation took a true animus and collaboration between different teams and stakeholders to design the final approach to:

1. Create a unified database to formulate a better view of the data and enhanced structure ready for automation.
2. Data processing and analysis for the required statistical indicators in each generated report.
3. Automation of the report being generated to eliminate the human errors through created by human interference.
4. Automate the whole process starting from data preparation to report generation.

Alteryx and **ThinkCell** were the golden smart tools that helped us achieve all the automation steps supported with the right skills and guidance from the team members.



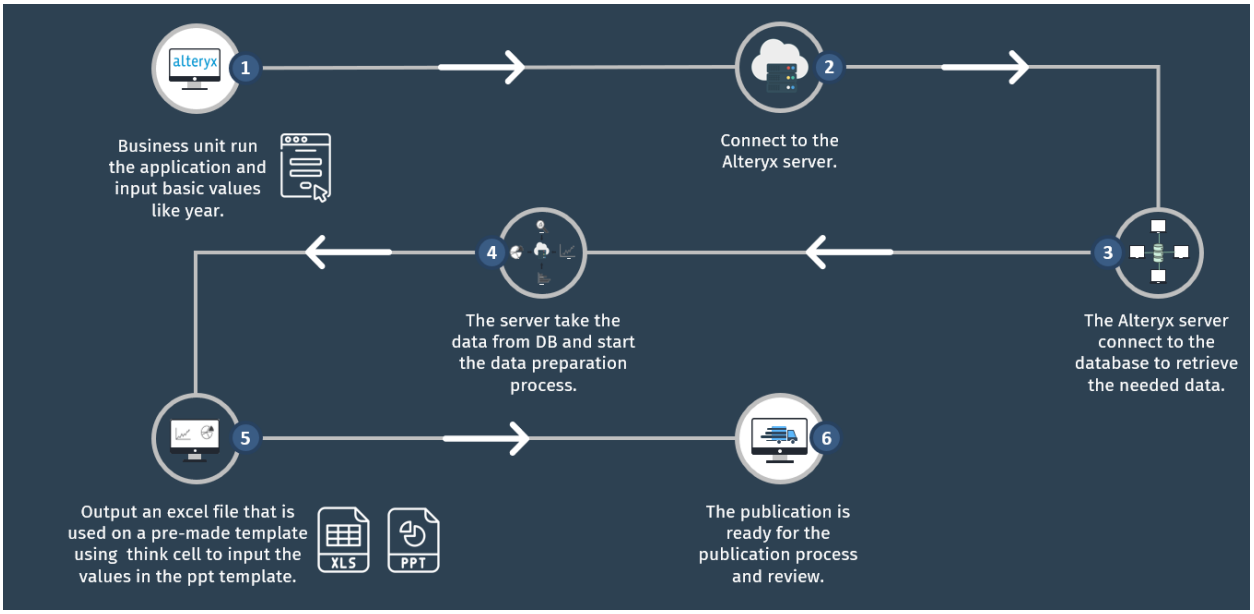
Automation Process

The automation process starts with few clicks from the business users to select few input basic values and in the background the tool is doing the complete job starting from capturing the data from the database to starting the data preparation process then creating the output Excel file that is used on a pre-made template using think cell to finally inputing the values in the ppt template.

Below is the report automation process:

1- Select the required report and the reference year and run the application.
2- The request connects to the Altreyx server.
3- To get the required data, the Alteryx server connects to the database.
4- The server pulls the data from the database and begins the data preparation procedure.
5- An Excel file is produced on a pre-designed template using think cell and automatically inputs the numbers in the PPT and Excel template.
6- The report publication is ready for review.

.



Findings and Conclusion

SCAD identity was always the motive to overcome all the publications challenges including but not limited to:

1. Producing the reports takes a lot of time, effort and resources.
2. High possibility for human errors and mistakes.
3. High possibility of delaying the publishing date for the reports.

SCAD did benefit a lot from the automation process as:

1. The new process is more consistent with SCAD identity.
2. Reduction of Production time and effort.
3. Assurance of data quality.
4. Elimination of manual tasks and human errors.