Qualtrics Data Automation Project

The overarching goal of this Project is twofold. The primary objective is to automate the retrieval of response data from Qualtrics. Subsequently, the obtained data is to be systematically stored within MEL folders, and further integration with REMG's data hub is to be established. The secondary objective aims to leverage the stored data within MEL folders for data analysis through a designated program. This approach serves to streamline and expedite the analytical processes, thereby mitigating the time-consuming nature of similar/repetitive tasks. Lastly, an additional aspect of the project could involve the automation of Qualtrics reports. This entails configuring settings within the Qualtrics platform to facilitate a more automated generation of reports.

Part I: **Automating Qualtrics Response Retrievals**

To implement this part of the project there are two API-based alternatives to consider. The first option entails enhancing and utilizing the pre-existing Qualtrics API program developed by Henry Feinstein in 2020 using Python. The second option involves using an R package due to the existence of a dedicated Qualtrics package designed for automated retrieval of data. Opting for the latter may offer a more streamlined approach due to its simplicity. The following sections delve into an explanation of both methods.

Qualtrics API documentation: <https://api.qualtrics.com/>

Henry Feinstein’s Python API Program

The functionalities in this program are designed to necessitate critical parameters, such as API token ID, survey ID, data center ID, and organization ID (which are all found in the Accounts Settings within the Qualtrics IDs Tab). These functions execute the creation of survey exports, the configuration of file formats, error verification, and subsequent downloading and decompression of files into the designated MEL folder i.e., the Qualtrics Data folder.

Link to program: <https://ourpublicservice.sharepoint.com/:u:/r/programs/Research%20and%20Evaluation/Monitoring,%20Evaluation%20and%20Learning/Qualtrics/Qualtrics%20Data/0.%20API%20Program/Qualtrics%20APi.py?csf=1&web=1&e=ZkHQZ5>

More Python program examples can be found with the rest of the project items.

R qualtRics Package

The qualtRics R package implements the retrieval of survey data using the Qualtrics API and aims to reduce the pre-processing steps needed in analyzing such surveys. This approach may prove more advantageous for our goal of automating MEL’s data analyses.

Documentation on the qualtRics package can be found here: <https://cran.r-project.org/web/packages/qualtRics/vignettes/qualtRics.html>

A sample R script file is included with the rest of the project items.

Part II: **Automating MEL Data Analyses**

Previously, all MEL data analysis procedures were conducted in Excel, employing Macros to generate tabs delineating each corresponding metric (primary survey metrics discussed below), and PivotTables for computing averages and additional calculations. Transitioning this manual process into an automated one via programming necessitates a comprehensive comprehension of each metric and its expected outcomes to ensure effective implementation.

Opting for the utilization of R's qualtRics package will facilitate the seamless execution of this phase of the project. An analysis program can be incorporated alongside the program designed for automatic data retrieval from Qualtrics. A key prerequisite for this could be the existence of standardized survey scales. To eliminate an extensive data-cleaning process, survey questions should be consistent across programs. Tailored versions of the program can be designed as needed for distinct programs. In the event of standardized surveys, program development becomes straightforward, predominantly involving the calculation of averages of specific survey questions serving as metrics.

Note that survey question formatting includes the denotation of related questions in the form of Q1\_1, Q1\_2, Q1\_3, etc. For instance, if these questions pertain to the objectives metric, averaging would include all relevant questions, namely Q1\_1, Q1\_2, and Q1\_3 from the previous example.

The primary survey metrics employed are as follows:

Objectives (AVG)

This metric is relevant to inquiries aimed at assessing the program/session's alignment with its objectives. The metric is constructed by calculating the averages of all pertinent questions concerning objectives. Retrieving questions related to objectives is straightforward, given their distinctive identification containing the term 'objectives,' which facilitates programming.

Example questions may be formulated as follows:

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Likewise, to formulate the metrics for Prework, Activities, Benchmarks, Customer Service, Customer Engagement, NPS, and Facilitators the questions are characterized by specific identifying terms corresponding to each metric.

Prework

This metric assesses the effectiveness of pre-session materials in preparing participants or reinforcing the content of the session. Respondents are prompted with questions like, "Please rate how effective the following pre-work/material was for reinforcing the session content."

Activities

This metric is employed to evaluate the effectiveness of materials or activities associated with the session. Respondents are prompted to assess the effectiveness with inquiries such as, "Please rate how effective the following activities and materials were for reinforcing session objectives."

CS and CE

These two metrics are utilized to gauge the Partnership's overall customer service and engagement across the sessions.

Facilitators

This metric is employed to evaluate the effectiveness of session facilitators or coaches in various areas, including participant engagement, time management, applicability of session material, etc.

Applications

The Application metric is used to assess whether participants are applying lessons learned from previous session materials to enhance their work. Participants are prompted with questions such as, "Have you applied lessons learned from the previous session to your job?"

This metric is calculated differently as it is structured as a binary yes/no question. The computation involves tallying the count of "Yes" responses and subsequently dividing it by the total count. An essential consideration for all metrics is the calculations should be filtered by facilitators when multiple facilitators are involved.

Example:

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Description automatically generated

Net Promoter Score (NPS)

NPS is employed as a tool to evaluate customer satisfaction, and in this context, it is utilized to assess participant satisfaction with the sessions. Participants are prompted with a question such as, "On a scale from 0 (not at all likely) to 10 (extremely likely), how likely are you to recommend Preparing to Lead to a colleague or friend?"

To compute the NPS metric, three distinct versions are necessary. This includes the NPS average, the 7-10 NPS Avg Scale, calculated by summing the percentages of promoters and passives, and the overall NPS percentage score.

Benchmarks

The Benchmark metric serves to assess and rate the benchmark speakers featured in the session. Given the distinct structure of Benchmark questions, the metric calculation involves initially acquiring the names of the benchmark/guest speakers from the specified Benchmark questions. The names are then used to filter the average calculations by their respective names.

Example

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A screenshot of a computer

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Comments

All qualitative feedback from the surveys is consolidated under the comments section for seamless retrieval in subsequent stages. During the programming, it is imperative to aggregate all comments into a unified table. Additionally, it would be advantageous to include facilitator and benchmark names as the first and second columns in the table for potential filtering needs.

Upon automating the data analysis process, it would be advantageous to present the results in a format consistent with MEL's master spreadsheets (Sessions, Facilitators, and Benchmarks). This approach could facilitate automatic updating of the analyzed data in the master spreadsheets. Aligning the output format with the master spreadsheets enhances data connectivity and ensures a streamlined process for database updates.

Part III: **Automating Qualtrics Report Generation**

To achieve successful automated report generation in Qualtrics, it may be necessary to initially develop a template that can be applied across various types of survey reporting. For instance, if future surveys share a consistent format and contain similar questions by each program, creating template reports by programs becomes feasible. After establishing these templates, the next step involves configuring automated exports of reports. The Qualtrics configuration settings allow for regular automated emails to be sent from Qualtrics with a copy of the latest survey results.

Qualtrics Report Templates: <https://www.qualtrics.com/support/employee-experience/creating-ee-project/dashboards-tab/ex-report-template/report-templates-overview-ex/>

Steps to configure automation in Qualtrics:

Go to Reports Tab -> Share Report -> Schedule Report Emails -> (input required recipient & sender info, then configure the date & time of the exports, select the file formats, and save)