

The (Higher) Power of SAS®

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ABSTRACT

Are there spiritual benefits to using SAS®? One synagogue in Chicago thinks so--and has its own all-volunteer informatics committee! The flexibility of SAS® software is well-known for business applications, but SAS® can also be used to improve membership data and evaluate programming, leading to a better congregant and community experience.

INTRODUCTION

Organizations with limited resources and talented communities have long realized that they can optimize their impact with creative utilization of volunteer skills. Congregation Rodfei Zedek, in Hyde Park, Chicago, IL, is adjacent to the University of Chicago, and many congregants work in data-driven disciplines. A group of volunteers expressed interest synagogue data, and their findings are being used to build a stronger relationships and simplify community decision-making. In this paper, we'll highlight three categories of data projects that have improved community engagement and created insight into better management of human and financial resources.

MEMBERSHIP MANAGEMENT

Religious organizations have very particular (and somewhat offbeat) needs for membership databases. For example, members may need to be recognized as part of multiple family units—maintaining ancestry records can be important, or children may need to be associated to multiple households when their guardians do not live together. Additionally, in a Jewish organization, the membership database must be able to interface with both the Gregorian and Hebrew calendars.

Many “membership management database systems” exist, but the most basic systems offer little querying functionality; designing more complex queries is difficult in even the more complex systems. Many systems are difficult to customize and may not store transactional data—so understanding changes in members or households, over time, is often an overwhelming task.

Our informatics committee was charged with improving representation in the High Holidays services, including a more varied pool of congregants in a wider range of roles. This required that we:

1. Identify current members, removing duplicate records. Because we wanted to maximize the number of households included, it was crucial that “families” describe individuals living together.
2. Flag individuals with special skills (like the ability to lead a reading in Hebrew) and note those with limitations (for example, physical challenges that preclude carrying a Torah scroll). These flags helped to ensure that congregants were offered roles that they felt comfortable accepting.
3. Note other significant life events or considerations, which were used as part of a scoring system.
4. Design the system to update each year. Updated membership records are imported each year, compared to the previous years' records (records are examined at this step as a QC of the current membership data) and the relevant member information is updated.

We were only able to obtain data with one record per household, indicating first name and age for each member of the household. From this, we used DATA steps to break that data into a database of individual community members; character functions in SAS® proved particularly valuable for de-duping records and standardizing transliterations of names. This demographic information was then linked to files provided by rabbi, cantor, and senior community members, which indicated special skills and needs, “guaranteed” roles (for example, the synagogue president always gives the Yom Kippur address), and other special reasons to honor a member.

The clergy also helped to build a data set of roles, which is updated each year to reflect changes in liturgy. The record for each role indicates any special requirements (musical skills, Hebrew fluency), so that members are only matched to roles they have the skills to perform.

Using the membership file, members were ranked for their priority for role assignment. The scoring program included fields for “years since last role assignment” and a randomization variable, to ensure that members with lower priority still had chances to participate. Another program matched members to roles in order of rank, controlling for the special skills and needs.

In the three years that the “automated” High Holiday role assignment has been in place, almost all members have been offered a role in those services. The equity in assignment has been appreciated, and offering these roles to a variety of congregants has opened dialogue about other means of community engagement (one person asked to join the informatics committee after enjoying his first High Holiday role!).

PROGRAM EVALUATION

With the popularity of free online tools like SurveyMonkey, collecting feedback about congregational programming has become much easier. However, survey design capabilities within the free versions of these tools are generally limited, and there is generally little functionality for manipulating response data. However, most sites allow an export of survey data, which can then be read into SAS® and mined for deeper insights.

One of the informatics committee’s first projects involved online survey data collected after a synagogue community retreat—the organizers noticed that a surprising number of respondents had indicated that they enjoyed the retreat but weren’t sure they would attend the next retreat. We compared groups of respondents and discovered that responding “it was great, but we might not do it again” correlated with answering questions about the child care services offered—and those answers indicated a concern with babysitting services offered at the retreat. In response, the retreat committee created more structured programming for children at the next retreat.

The informatics committee was later asked to design a survey to assess satisfaction with holiday programming. At the request of leadership, the survey included several free-text fields. There were no plans to use these fields in the main analysis, but when a political event encroached upon a holiday program, the committee was asked to look for any evidence that the event created negative associations with the program. Using the character search functions in SAS®, we were able to mine free-response sections of the survey for references to the event, and determined that only a minority of the respondents (less than 10%) felt strongly enough about the event to reference it in the anonymous survey.

PREDICTING ENGAGEMENT

Resource management is a persistent challenge in communities; when there are multiple constituencies within the community, each with different needs, it can be difficult to tease apart assumptions and actual outcomes.

The dissatisfaction with childcare in our retreat survey wasn’t a particular surprise—we also had trouble managing childcare programming, which is intermittently offered during some congregational programming. Babysitters staff two distinct spaces in the building—a nursery room, which was intended for quiet play for a small number of young children, and a gym for older children’s large group activities. For six months, babysitters kept records of the number and age range of children in their care, updated hourly. The informatics committee added fields to indicate various types of special programming and attempted to model the number and average age of children who could be expected to attend child care in each space. These attempts failed to create a reliable model; upon further examination, we were able to determine that our assumptions were largely flawed:

Room	Average age range for children
Nursery	1.5-8
Gym	3.5-10

Table 1. Comparing age ranges for childcare rooms

	% of events
Nursery has same number or more children than gym	40%
Gym has more children than nursery, but not twice as many as nursery	30%
Gym has at least twice as many children as nursery.	30%

Table 2. Comparing utilization of childcare rooms—it had been assumed that the gym was only used by elementary and middle school aged children, and that the number of children in the gym was at least double the number in the nursery room.

This data pointed to the need for a board game and reading nook for older children, to relieve congestion in the nursery area and allow the space to cater to younger children’s needs.

Our next project has implications for both member participation and congregational finances. The congregation has a tradition of serving lunch after each Shabbat service—and a tradition of completely misestimating attendance! Upon reflection, we realized that individuals in different roles had different expectations about the factors that would cause congregants to stay for lunch, which yielded inconsistent recommendations for food orders and table set-up. We’re now keeping a record similar to the babysitting log to build a “lunch count” model—early analyses suggest that we overestimate the effects of speakers during lunch, but underestimate the popularity of lunches hosted by special-interest groups.

CONCLUSION

You can use SAS® to save the world, but it’s also valuable for enhancing your own community. Don’t dismiss the “small-data” capabilities of SAS®--it’s a great tool for the greater good!

CONTACT INFORMATION

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