

SOS Submission: Data-Driven Chapter Governance (including Wild Apricot, Power BI, and business intelligence dashboards)

This SOS will help your chapter adopt a data-driven approach to strategy and governance. There are many elements of this SOS; we encourage you to take bits and pieces as needed rather than trying to replicate our entire journey.

As a framing statement, the problem our chapter was trying to solve was that **we were trying to solve problems around our membership, financials, and volunteer pipeline based on gut feel rather than data, and we were not confident that we truly understood the problems we were trying to solve**. We built out business intelligence dashboards to better analyze our situation, determine our strategic priorities, and monitor our execution.

Data-Driven Questions

The core of this initiative was our use of chapter data to answer our business questions. The answers to these questions led to further exploration. We've included some of the discoveries from our analysis below in order to illustrate how these questions led to operational or strategic action. Your questions, analysis, and actions may be different; use this as a starting point for thinking about how your chapter can ask questions that data can illuminate.

Membership:

- We are struggling to hit our Power Membership targets. Why is that? This led to an analysis of power membership rates by member types, which identified a specific group that had low power member rates.
- Our chapter membership changes significantly during the year. Why? This led to an analysis of our turnover, which revealed that we had high churn through the year, and so it made sense for us to focus on retention rather than driving new membership.
- We lose a lot of members over the year. Why? This led to an analysis of our lost customers and identified possible touchpoints to improve our retention rates.

Engagement:

- We are constantly hunting for volunteers. Who should we contact? This led to an analysis of our frequent attendees and a prioritized list of members ready for a more personal outreach.
- We seem to see the same faces at chapter events over and over. Where are the other chapter members? This led to an analysis of our attendance data, in which we discovered that nearly half of our chapter members had not attended a single event. That promoted further questions, and we realized that many members got their membership through their employer and did not know how to take advantage of their chapter membership.

Financials:

- It's hard to tell if we are on track for membership based on just our P&L due to how power memberships are handled differently based on organizational memberships, individual memberships, and the ATD store. How can we know if we are on target? This led to a new financial metric (net member income) that is consistent across our customer acquisition paths.
- Our programming revenue is "chunky", with a couple of large events providing the bulk of our income. How can we see if we are on pace with our smaller, more frequent events? This led to an income analysis that separated out our revenue streams.

Diversity:

- How well are we demonstrating that our chapter values diversity and inclusion? This led to new metrics around the topics and speakers at our events so we can see how frequently we are giving the floor to underrepresented groups or addressing issues related to DEI challenges.
- How well are we doing at creating a welcoming environment for all the members of our professional community? This led to an analysis of the demographics of our membership and a comparison of how well we create repeat attendees from different demographics.

Data Sources

Once you have identified your business questions, you need to determine what data sources you can use to illuminate those questions. Over time, you can improve your data sources. However, even basic data can give you a direction to investigate further. In our case, the fact that many of our organizational members had never attended a single event was "hidden in plain sight" – the data was in Wild Apricot without any additional setup on our part; we just needed to look at it. You will likely identify other insights when you start digging into your own data.

Wild Apricot member exports: Every month, we exported the list of members from Wild Apricot. This allowed us to capture historical data on our membership so we could compare our rosters over time. We used a variety of membership fields to enhance our data; for instance, we added a couple of fields to the member application for demographics, we included fields with the member's ATD national ID and national start/end dates to analyze power membership, and we created a field for "involvement conversations" to track the last time that a board member or volunteer spoke to that member about becoming more involved in the chapter.

Because Wild Apricot overwrites data (e.g., if a membership expires but is later renewed, Wild Apricot only shows that they are currently active, not that they were lapsed in the past), we decided to export a new report each month and import the series of monthly reports to analyze changes over time.

Wild Apricot event registrant exports: Wild Apricot allows you to export event registrants for a given time period. We could expand the time period so that the latest report could replace previous versions of the report.

We used event tags to further classify events (e.g., orientation, social, dei topic) so we could analyze the types of events getting attendance or look at financials by event type.

QuickBooks general ledger exports: Every month, we created an export of our general ledger in QuickBooks. This allowed us to track our revenue and expenses. Our budget established categories for income and expenses by member types or event types, which was useful in connecting our financials to our attendance data.

Other sources: Over time, we expect to include additional data to answer additional questions. For instance, we are currently planning to integrate event survey data to answer questions about what topics drive the highest ratings or biggest attendance, what events are underperforming, what areas of the capability model tend to be higher rated, etc. We also are considering including National's data on members in the area to better understand our membership prospects.

Remember that you do not need perfect data to create value for your chapter. Your membership data may reveal that you have higher churn among a specific type of member. You don't need the data to tell you why that is—knowing where to look is good enough to drive follow on action (such as focus groups or surveys).

Business Intelligence Tools and Setup

Our chapter decided to use Microsoft Power BI to do the actual business intelligence analysis.

The greatest benefit to Power BI compared to other tools is that Power BI has dramatically better data cleanup tools than Google Data Studio. We have changed our Wild Apricot member fields over time, and Power BI allowed us to integrate a variety of spreadsheet exports with different column names and file structures. If the person's ATD national ID was column C in one file but column E in another (and didn't exist at all in exports before we added that field), Power BI allowed us to harmonize the sheets smoothly.

Power BI is free with a Microsoft nonprofit license. We applied for a Microsoft 365 Business Basic (Nonprofit Staff Pricing) license through TechSoup, and then set up a standalone Power BI (free) license within the O365 admin interface.

For the TechSoup application, we asked our CRM for a copy of ATD's IRS determination letter, which identifies our chapter as a "participating subordinate organization" under the 4/2/2003 letter issued to ATD National. This classifies us as a 501(c)3 nonprofit, **not** a 501(c)6. That distinction is important because the TechSoup application asks if you are a professional or trade association, which is the 501(c)6 classification. You can answer no to that question if you are a 501(c)3, which may make it easier to get the Microsoft license.

Because the rest of the board's collaboration happens through Google Workspace, we decided to only have a couple of members updating and building the dashboards. They publish the dashboards to the PowerBI.com service. The other board members all access the dashboards

through Wild Apricot. We created a website page that is restricted to board members, and on that page we put an embed code that allows anyone viewing the page to view and interact with the dashboards.

In Power BI (or any business intelligence tool), you will need to import your data, clean it up, and build a data model, then define the calculations to perform on that data, then create the visuals to display and explore the data. The details of your process will vary based on your data. (Terminology note: Microsoft Power BI can refer both to the full Microsoft business intelligence application or the part of the process focused on the visuals. Power BI the application also includes the Power Query tools, which are used for importing and cleaning up data, and DAX, which is the language for writing the calculations performed by the visuals).

We identified the following tricks to make our process easier:

Decide whether to replace or aggregate reports: Wild Apricot's event registrations data includes the date of registration, so a single export can allow you to figure out what the registration data looked like at a given point in time in the past. By contrast, the member data contains fields that are overwritten with new data, so just looking at the latest report will obscure past data.

Look at your data sources and determine if you can replace an old report with a new report (which is generally easier), or if you need to keep a collection of historical export files and aggregate them together (which gives richer data, but makes for larger/slower tables and can create challenges if the data layout changes over time).

Put each report type into a separate folder: Power Query can import data from an entire folder on SharePoint or OneDrive. By creating a separate folder for each report type, it is easy to either aggregate all the reports of that type or select the most recent file in the folder so you are pulling the latest update automatically.

Use helper tables: Power BI (and most data analysis tools) allow you to add slicers based on a specific column. For our reports, we realized that many of our columns had values that should be consistently grouped together.

For instance, we had five different Wild Apricot membership levels for organizational members (based on how large the group was). Instead of having to select/unselect all five groups whenever we wanted to drill into organizational membership, we created a helper table that mapped all the Wild Apricot membership levels into logical categories for slicing (individual, organizational, sponsor, and special).

We also used a helper table to integrate our Wild Apricot and QuickBooks data. We had separate QuickBooks budgets for regular events, special events, socials, etc., and we used Wild Apricot event tags to come up with similar groupings. The helper table allowed us to slice by,

e.g., “regular events” and filter to the relevant budget categories and event registrations—instead of having to filter both financials and registrations manually.

By adding the helper tables to the data model, we could easily toggle between meaningful categories of data. We used helper tables throughout our data model: to group membership types, to collate budget categories, to define “buckets” for histogram aggregations, etc.

Data Analysis and Data Visualizations

Once you have curated your data, you need to define the data analysis calculations you will use to investigate your data. Your calculations will be unique to your data. It is helpful to think about how you might want to visualize your data when crafting your calculations. For instance, we knew that we wanted to see our month-to-month member gain and loss numbers as a line chart, so we needed to write calculations that would work when filtered to a single report file date (so each report date on the X axis would give a meaningful data point).

We will be candid: writing your business intelligence calculations is the hardest part of this entire process. Microsoft’s DAX language has several bizarre “gotchas” that will surprise you unless you have a deep understanding of both how DAX works and your data model. It is incredibly important to test your calculations and be willing to dive in when you get numbers that appear odd.

The good news is that data analysis is a hot skill, so there is a lot of career value in growing your abilities with these tools.

As we built our dashboards, we realized that the ability to drill into the data was one of the key benefits of business intelligence tools. On most of our dashboards, we included tables that allowed us to look at the underlying selected data. The visualizations helped us see areas that were worth exploring further. By clicking on the relevant area of the visualization, we could dynamically filter the table and see where those numbers were coming from.

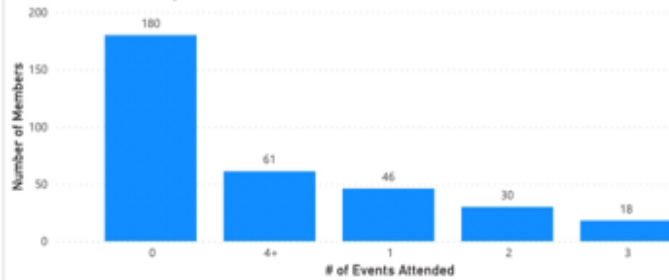
(This functionality may sound similar to what you can do in Excel with a PivotTable. What is different is just how fast and creative you can be. The difference between business intelligence tools and PivotTables is analogous to the difference between using a PivotTable and calculating the PivotTable aggregations manually. It’s a difference in kind, not a difference in degree, of ease. You end up exploring questions that you wouldn’t bother to ask with the less-sophisticated tools because it’s so effortless. Want to see if the events attended by members who attended four or more events in the last year are a different grouping of events than the events attended by members who only attended one or two events? You can find out with two clicks on a histogram.)

A Full Example of Data to Strategy to Execution: Our Member Lifecycle

Our chapter’s engagement dashboard is a (still evolving!) example of how this process can add value for your chapter.

Members Engagement

Number of Members by # of Events Attended in Last 12 Months



Most Events Attended in Last Year

Last Name	First Name	Events Attended	Last Contact	Renewal
	Megan	18		8/31/2022
	Tricia	18		12/12/2022
	Susan	17		4/16/2022
	Nikki	16		10/31/2022
	Melissa	13		6/1/2022
	Camille	12		11/17/2022
	Heather	12		6/30/2022
	Sheri	12		3/31/2022
	Victor	10		5/31/2022
	Colin	10	Wednesday, December 29,	3/25/2022
Total		33		

Members That Have Not Completed Onboarding

Last Name	First Name	Count of User ID	Member since
	Mark	1	1/24/2022
	Stephanie	1	1/24/2022
	Kaitlyn	1	1/11/2022
	Dana	1	1/11/2022
	Megan	1	1/24/2022
	AJ	1	1/25/2022
	Lisa	1	1/19/2022
	Dawn	1	1/11/2022
	Lauren	1	1/14/2022
	Casey	1	1/11/2022
Total		10	

Members Not Contacted For Volunteering In Last 180 Days

Last Name	First Name	Last Contact	Renewal
	Ann		2/28/2022
	Renita		2/24/2022
	Almeé		2/16/2022
	Annie		2/7/2023
	Greg		2/1/2023
	Mark		1/31/2022
	Stephanie		1/31/2022
	Megan		1/31/2022
	Kari		1/31/2022
	Bob		1/31/2022
Total			

Members Renewing in 60 Days with No Events Attended

Last Name	First Name	Renewal due	Count
	Kathy	3/16/2022	1
	Jon	3/16/2022	1
	Carrie	3/16/2022	1
	Mary	3/16/2022	1
	Tony	3/16/2022	1
	Dan	3/16/2022	1
	Joan	3/16/2022	1
	Javier	3/16/2022	1
	Joe	3/16/2022	1
	ERIN	3/16/2022	1
	Emma	3/16/2022	1
Total			42

We began with the observation that our chapter had nearly 300 members but we only saw the same 40-50 faces at every event. Where were the rest of our members?

To answer this question, we used our member roster and our event registration data together to build a histogram of how many events each member had attended in the last year and bucketed those totals into ranges. This histogram revealed that we had a significant portion of our membership that had not attended any events. We used some slicers to identify that most of these “missing members” were from organizational members. This encouraged us to speak with several of our organizational members, from whom we learned that new members can receive poor communication about their chapter membership and its benefits.

As a board, we decided to create a member onboarding experience to improve this part of the member lifecycle. We added a table to the dashboard listing new members who had not yet attended an orientation so we could see if some members or organizations would benefit from a more personal touch (e.g., an invite from a board member).

Meanwhile, our membership dashboard included a visual that showed how many members we gained or lost each month. As we examined that data, we realized that we were churning a lot of members. Even when our overall membership was steady or slightly increasing, we still had a fair number of expiring members; we just had slightly more members coming in at the same time.

Again, we used the member attendance histogram to learn more about these lapsed members. We discovered that many of these members had not attended any events in the last year. Since

we hoped our orientation would address our organizational members, we sliced into our individual membership data and learned that many of these members had been active in the past but no longer were.

This insight inspired us to create a “save opportunities” element in our engagement dashboard. We used our data to generate a table showing members who were up for renewal within 60 days and hadn’t attended an event in the last year. Our membership team could reach out to those members and discuss why they hadn’t leveraged their chapter membership. These conversations could give us insight into missing aspects of our member experience or misaligned programming offerings and could also give us a chance to save these members.

As we thought about our member lifecycle, we also realized that the other end of that histogram—the members who attended the most events—would be a prime target when looking for new chapter volunteers. So, we added a table that listed members ranked on how many events they had attended in the past year so we could quickly identify possible candidates.

As we discussed the volunteer recruitment process, we realized that almost all of our chapter volunteers had come from a personal conversation rather than a mass “call for volunteers.” We decided to track that outreach as a new data point, and added a Wild Apricot field for when a member last received a personal discussion about their professional goals and potential volunteer interest. We added that field to our “highest attending members” chart, helping us to prioritize warm contacts or realize that we might need to warm up the relationship before making the ask. We also decided that we could improve our volunteer pipeline if we strove to have these conversations with chapter members once a year. So, we added a table that listed members based on how long it had been since they received one of these conversations (excluding new members, who would hopefully find the orientation touchpoint more meaningful).

The current state of the member engagement dashboard shows this full life cycle. Our goal is to reduce the number of “missing members” with no events attended in the last year. The three tables provide a prioritized list of who could benefit from a personal contact—to attend an orientation, to discuss how to become more involved, or to discover why they were no longer engaging with the chapter—so we could support our members through their entire onboarding-volunteering-retaining lifecycle. And, our most involved members chart rounded out the strategy by giving us insight into who might be interested in taking on more responsibility in the chapter based on their current activity level. We further set accountabilities and KPIs around this data: number of members attending an onboarding event, number of members per month contacted about becoming involved, etc.

Recommended Resources

The book *DAX Patterns* by Marco Russell and Alberto Ferrari contains dozens of common analysis questions and the corresponding DAX code, which will help you get started. Our

calculations around member churn were just the customer retention pattern applied to our data. This entire book is also available online for free at DAXPatterns.com.

When you are ready to dig seriously into DAX, we cannot recommend enough *The Definitive Guide to DAX* by Marco Russell and Alberto Ferrari. The book is not an easy read, but it is incredibly thorough. Chapters 4 and 5 on the CALCULATE function should be your first source for troubleshooting when a formula does not work as expected.

At a higher level, *How to Measure Anything* by Douglas Hubbard is a great resource for thinking about how to measure intangibles. Part I will have the most value for your chapter, but you may have business situations that benefit from some of the more robust techniques in later parts.

Time Commitment

How much time this initiative will take depends on how complex your data analysis is. On an ongoing basis, it takes one board member approximately 15 minutes per month to generate the updated reports and refresh the dashboard data. The one time setup process for getting the Microsoft licenses and publishing a blank dashboard to Wild Apricot took about two hours of work

It's hard to estimate how long it will take to clean up each data source, build the data model, and write the appropriate calculations. Getting the initial Wild Apricot membership data into Power BI took a couple of hours; adding the event data was less than 30 minutes. Creating the power member percentage calculations was less than 15 minutes; the member churn data took several hours before we found the customer retention pattern, and then we were quickly able to replicate that analysis. If you are not familiar with Power BI, you should budget anywhere from 5-20 hours for getting your initial data up and running.