May 25, 2010

Dear Data Use Net Colleagues,

Welcome to day two of the discussion on using dashboards to facilitate data-informed decision making. We have received two interesting posts on the topic. Please see below for specific posts and moderator comments.

We encourage you to keep your submit your questions and experiences. We will be summarizing and responding to your posts daily. Please remember to include your name, organizational affiliation and country of residence when you post. We thank you in advance for your time and effort in participating in this discussion.

May 25 2010

Post #1 Submitted by: Erasmus MOYO

Organization: UNITAR

Position: Research Collaborator (Monitoring & Evaluation Section)

I am a volunteer with UNITAR where I am helping develop a monitoring and evaluation system. The system is designed to measure reaction to and learning outcomes of the Institute's training programmes (about 300 annually) worldwide.

We are trying to develop a dashboard for the Monitoring and Evaluation Manager which gives him important data points about each programme across a range of evaluation criteria. The idea is for him to have a quick appraisal of which programme is doing well and which one is not doing so well and why. He can then use the data to alert training programme owners to improve content or scrap it based on an aggregated feedback response from participants.

The rudimentary dashboard we have developed in Excel looks a bit too complex an unwieldy and we are wondering if you can help us navigate through the following:

1. Are there software packages that can be used to generate dashboards as high level windows for training programme evaluations.

2. Is there a one stop-shop where UNITAR could acquire proficiency in designing dashboards specific to its training programmes.

We have not been able to find the link to the on-line discussion forum on this topic and would be happy if you could point us in the right direction.

Moderator comments

Are there software packages that can be used to generate dashboards as high level windows for training programme evaluations.

There are many software packages that can be programmed to your specifications that will be appropriate for the training program evaluations you are doing. However, most software tools or packages are expensive and require a significant amount of IT resources to customize. All dynamic dashboards with drill down capabilities will need a database in the back end. This allows the data to be "sliced and diced" using data queries. Most dynamic dashboards that display data in different ways are very much software dependent. (For an example of this type of dashboard see the SCA and IQCare discussion that follows. To see the actual dashboard follow the directions at the bottom of this post.)

One software tool that has promise for users without IT help would be Tableau. http://www.tableausoftware.com/ The desktop version (for one user) runs around $1000 USD and it goes up from there. I know some people who use Tableau and they find it very useful and worth the money.

If the purchase of a software package is beyond your means there are other options available however, the functionality of the dashboard will most likely decrease. There really is not an

inexpensive and dynamic dashboard program available. That said, you can still create useful dashboards they just won't be quite as dynamic as the SCA or IQCare dashboards.

To get back to your specific question – if you want to improve on your existing Excel dashboard there are ways to do this. If your current dashboard elements provide the kind of data you need/want for decision making, then I would look at your existing Excel dashboard and try to simplify it. For example, you can use hyperlinks between pages to drill down to more detail data. If you have someone in your group that knows Excel and can do Excel programming, they may be able to add some features that simplify the display. In the past we have linked sheets and used select lists to drive different views of the data. You can do a lot in Excel but will need some advanced programming skills.

If you are searching for specific dashboard tools, try these key words:" Data Visualization", "Business Intelligence", "Business Analysis", "Dashboards"

Tools Used for the SCA and IQCare Dashboards

For the SCA Dashboard we wanted a very dynamic product and began searching for tools that would allow us to create one. We first started by experimenting with inexpensive tools but quickly realized that these tools would display and work poorly. Luckily we had resources to commit to this effort and started to concentrate on finding a product that could display maps and graphs. The most impressive products cost a significant amount of money and we had to adjust our expectations on cost in order to find a suite of tools that would meet our requirements. In the end we purchased Fusion Charts, Graphs and Maps. The full tool set used for the SCA Dashboard is: SQL Server database (back end) and Fusion Charts, Graphs and Maps (user interface) all sitting on a .Net framework (the glue that holds it altogether.) The tool used for the IQCare home page dashboards is: SQL Server database, ASP pages with highly customized graphs from the .Net tool set. Every indicator has a drill down link which opens an Excel spreadsheet with more detailed data.] This combination of tools was complicated to put together and required a significant amount of programming but, it met our needs.

Is there a one stop-shop where UNITAR could acquire proficiency in designing dashboards specific to its training programmes

In my experience there is no one-stop-shop where you can go to learn how to create dashboards. To begin the process there are two steps required: first is to analyze what you need to do with your data. This is usually done by subject matter experts (that the dashboard addressed) along with an IT professional. The subject matter expert or the IT professional should then layout the dashboard visuals using PowerPoint, Excel or even poster paper. This allows you to get an idea of what the dashboard will look like and the data that will be displayed. There are many guiding principles to this process. A good book that can help you with this process is called "*Information Dashboard Design*" by Stephen Few, O'Reilly, 2006.

Once the software tools have been determined, and the dashboard layout determined the programming team must dive in and learn how to use the tools. Some software vendors provide training, but they often charge for this service. One point to note is that dashboard development can be a time consuming process so you should allow ample time to develop them.

To access to the SCA Dashboard

A demo version of the SCA Dashboard can be found at: http://173.203.68.245/sca Username: user - PW: user

The data you see has been modified (the countries and location data have been changed) but the graphical display has not changed. For instructions, please use the Help link. To view the dashboard you will need to use Firefox browser and the Adobe Flash Player Add-on.

The SCA Dashboard works best using Firefox. This is a competing web browser with Microsoft's Internet Explorer. We recommend you take a few minutes before the meeting to download Firefox if you don't already have it installed on your computer. The browser can be downloaded from: http://www.mozilla.com/en-US/

The SCA Dashboard also requires the Adobe Flash Player Add-on. The application will detect if you do not have the add-in and direct you to install it. We recommend you install it before accessing the dashboard. You can download the latest player from: http://get.adobe.com/flashplayer/ and follow the instructions in the web page.

Post #2 Submitted by: Eric Sarriot

Organization: MACRO International

Position: Public Health & Systems Evaluation Specialist

Attached are two papers where we used dashboards to support decision-making (to view papers go to http://www.cpc.unc.edu/measure/networks/datausenet/dashboards-and-data-use-forum-may-2010 and click on "See the discussion forum archive", located at the bottom of the page)

1.   The first case: Bangladesh

The dashboard had obvious limitations, but still created the room for dialogue and decision making. You can see the first dashboard in the IJHPM paper, and then some evolution of it (part of the issue is how measurement evolves as intelligence is gathered through experience) in the 3 year post-project evaluation. [There is a 5 year version, but where the dashboard did not feature anymore.]

2.   Second case: Nepal

This was done as a pilot project to inform USAID level decision making. There is a good discussion of how you would look at the information to guide discussions with stakeholders and decision making.

We have other documents on this approach, including lessons learned and a manual with detailed guidance on the building of the dashboard. The Nepal paper goes a little bit into this.

Hope this is useful – It's an interesting topic. Thanks for facilitating this

Moderator Comments

Eric, thank you for the informative examples of using dashboards to facilitate evidence-based decision making.

The Nepal example is an interesting one as it addresses a very critical and current need – the facilitation of data use for program improvement at the district level. As health systems decentralize, districts frequently struggle with accessing the many health data sources in their districts and analyzing and interpreting them in a way that informs decision making at the district level. The dashboard developed here provided decision makers with a map of progress toward sustainable maternal, child, health, and family planning results for the districts included in this pilot study. Of particular interest is your research question - whether a sustainability dashboard tool could be developed that would maximize pro-sustainability choices in USAID health programming. Your study concluded that—to the degree that its assumptions are respected—the standardized sustainability assessment is reasonably valid in terms of evaluating prospects for maintaining positive health outcomes in MCH/FP. Although the assessment was a one-time measure, the three profiles described in your paper allow for an evaluation not simply of which district is further on the road to sustaining key MCH/FP benefits, but also of where specific gaps remain and which targetedprogrammatic responses could be proposed. It is here that the dashboard becomes a powerful decision support tool. The ability for districts to consistently measure key indicators from multiple sources and quickly be able to synthesize that data and apply it to program decision making is critical program improvement and sustainability.