

Finally Deciding: A Case Study in Decision Management

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Often the most difficult part of solving a problem is knowing where to start. In the following case study, members of a Hewlett Packard knowledge sharing team had struggled with a technology decision for two years until they came in contact with a facilitated decision process called Bayesian Team Support™ and the *Accord*™ software¹. This case study will show any technical or non-technical team how to approach a difficult decision where the facts and trends are uncertain.

Background

In its global business model, video sharing is used at HP for getting information from technical and business presentations to the desktops of individuals far from where the knowledge originates. The existing system, VidNet, originally started in 1998 as an effort to preserve the content of technical presentations captured on video tapes whose content was decaying. Events captured as early as 1982 are still being used to educate new engineers and for legal defense of intellectual property. Not only did VidNet digitally encode this valuable reference library, it eliminated an extensive inventory of video tapes stored in locked cabinets at a dozen *learning center* locations in North America, Europe and Asia.

By 2002 VidNet supported HP's Imaging and Printing Group's (IPG) 24,000 employees, including nearly 9,000 engineers and scientists, with nearly 1,000 online assets. Upgrading the VidNet inventory was officially sanctioned as a Workforce Development (WD) group project in 2003. By 2004 the team had added 235 new assets and expects to add another 400 in 2005. The program started tracking visitors in November 2004, and in the first nine months of tracking, has had more than 250,000 visits from more than 9,300 unique users from 43 different countries.

Problem: Selecting a Technology Platform

In its early days the IPG team (not yet officially organized as VidNet) decided to offer streaming video using Real® Media Player. The decision to use *RealPlayer*™ 8 was easy in the late 1990's; there were only two widely available players, this one from Real and Microsoft's® Windows Media® Player. Because the target audience of the initial video content included engineers developing products for use in a Windows®, UNIX, Linux and Apple® Macintosh® environments, the player needed to operate in all of these environments. Since the Microsoft product exclusively supported Microsoft operating systems, the VidNet team chose to use the Real Media Player.

By 2004, that decision needed to be reexamined: VidNet's reliance on Real Media Player was appearing to be limited in functionality in getting streaming assets to its intended audience. This limitation was due to two factors: First, although the focus of development in HP had shifted significantly toward Microsoft products, non-developers (most employees) operating in the Microsoft environment were finding the Real installation process overly cumbersome. Second, those on alternate operating systems were not accessing resources in VidNet. Still, the issues surrounding the decision to switch streaming technology were daunting. Although the VidNet team frequently discussed the issues and their ramifications, no clear path forward could be seen. There were simply too many variables to consider and too much uncertainty in the technologies.

¹ Robust Decisions Inc. www.robustdecisions.com

Getting the Decision on Track

After many months, the issue of whether to change from the Real Media Player, and if so to which other technology platform, was not getting resolved. At the same time, the number of VidNet users was increasing, and the disconnect between the Real Media Player and these users was not going away.

Members of the VidNet team were aware of success in resolving similar issues using a methodology called Bayesian Team Support™ (BTS) from Robust Decisions Inc. Decision-support software based on this methodology has been in use at HP for about two years to help choose inkjet architecture and select ink chemistries. In the words of one of the product managers, “We’ve used other decision-making software and methods, and none have provided the same level of understanding of the issues, and confidence in the outcomes... [The approach] enabled us to be more rigorous, quickly brought our team members to a common plane, and better quantified the inputs and results.” The VidNet team decided to apply the methods and software to choose which technology platform to use going forward.

The VidNet team started by inviting a group of 15 people into the decision process – these consisted of the six core members of the VidNet Program, several technology partners (those who operate the physical IT infrastructure) and some managers representing key viewer populations of the streaming products. Since team members were physically located in different geographies, a series of teleconferences was used to itemize alternative platforms and the criteria to be used to evaluate them.

Once the team felt there was enough raw data to move forward, the team was gathered together physically for training on BTS and the decision support software.

The teleconferences and a face-to-face session were facilitated to help learn the structured decision management BTS process and how to use the *Accord*™ software. Under the guidance of the trainer/facilitator, the team developed two initial conclusions:

- 1) Before this effort the team didn't even fully understand the issues.
- 2) The criteria to be used for making a choice were not well articulated or agreed upon.

Although it seems evident in retrospect, under the guidance of the facilitator the team quickly realized VidNet viewers don't want to load any media players to their PC and they certainly don't want to configure any settings in order to make the online viewing experience possible. In short, they wanted the media player to be transparent.

Following this full-day session, the core team of six set out to better understand the issues. First, the problem was divided into two new issues – the technology required to capture and stream content; and the format used to archive it. Next, a new set of six criteria was created to replace the fifteen criteria in the previous exercise. These criteria were much better focused on the most important issues and provided a greater level of discrimination for examining the various alternatives:

- *Cost of storage* (for disk space, floor space, wages for staff, licensing, servers)
- *Cost of transition* (for current and future transcoding – wages, licenses, equipment)
- *Longevity of storage* (does the asset deteriorate over time?)
- *Obsolescence of format* (Is the format – such as a codec -- subject to obsolescence?)
- *Time to view* (from end-of-capture to availability of hot on-demand link)
- *Creation Cost* (Cost to create a single hour of asset)

Team members worked individually gathering data on the six criteria and then came together to review the findings; over the course of three short meetings the team steadily narrowed its options. Starting with 20 unique alternatives and supported by the *Accord* software, the group gradually eliminated candidates based upon their ability to meet the concretely-defined criteria.

Eventually, the group was left with a single alternative, using Microsoft Media Player for capture and streaming and storing our archive copies on a server using MPEG format.

The BTS process provided the VidNet team important benefits beyond the technology decision for streaming and storing its knowledge transfer assets. It also answered a host of long standing questions, created the program's first set of operating philosophies and developed a framework to revisit the operating system decision annually.

What Was Learned

The uncertainty inherent with the technologies evaluated and the original difficulty in defining decision criteria made the use of Robust Decisions an essential part of the team's success. The uncertainty inherent with the technologies evaluated and the difficulty in defining decision criteria is characteristic of many technical and non-technical decision processes.

The following six-steps summarize the decision process and describe additional lessons we learned through rapid experience with the BTS process and the *Accord* software:

- 1) **Define the issue** – while the issue was determined up front, it changed as the team learned more about the decision. The decision support software provides a free-text window in the application to capture the issue. As simple as that seems, getting the group to agree on the issues in writing and how to word them proved to be a valuable exercise in the process.
- 2) **Identify the decision makers** – in preparing for the first round, the team felt strongly about including a broad range of decision makers and influencers. However, while the end-users are important, they don't have the interest or patience for more than giving an opinion. The BTS process focuses on including the appropriate people and only those who have a stake. Initially the team erred early on the side of too much inclusion; progress came quickly as the right people participated. By listening to our customers the team gained focus on the issues but could have obtained the same information with less time on their part by simply talking with them as part of the data gathering exercises.
- 3) **Define and characterize the decision criteria** – The BTS process dictates the decision criteria be determined before discussing alternatives. In so doing, the team managed to keep pre-conceptions and prejudices to a minimum. There were 15 decision criteria in the first round. By the second round the 6 most critical had been identified and ultimately, only two of these six provided any differentiation between the alternatives. The BTS methodology emphasizes and supports identifying the discriminating criteria.
- 4) **Identify the alternatives** – at one point in the process the team was overwhelmed by the number of options available. The software was useful in keeping track of each alternative and helping the decision group remain focused upon the ultimate objective. It also weeded out inferior choices.
- 5) **Evaluate, discuss, decide** – the final decision was not the alternative that had the highest satisfaction as analyzed by the software. However, the discussion around why one alternative came out on top helped the team to understand the problems inherent in that option. The software allowed each person to work separately and then to easily integrate their work back into a common work space, allowing the team to develop a shared vision of the issues.
- 6) **Rinse and repeat as necessary** – the VidNet team entered the first phase fully expecting a decision at the end of the initial workshop. BTS has shown how to keep performing successive iterations until the whole group is comfortable that the outcome reflects the available data within the levels of certainty currently available.

Summary

The VidNet team had struggled two years without a decision before using the BTS process. The training, facilitation software and meetings all took time but now we have a solid decision with good buy-in from all stakeholders, but the guided iteration was well worth it. Further, we are much better prepared for next situation needing a difficult decision where the facts and trends are uncertain.

Consider the number of nagging persistent issues you deal with on a regular basis and imagine what a guided decision process such as described in this case study might do to lighten your load. If the process is progressive, includes the appropriate people and concludes with a robust decision, the time invested in following the process, saves time later - slow is fast. In our case, once the decision was made all participants already knew what needed to be done when they left the room and implementation was swift. In your business, taking time up front to make effective decisions will create a similar impact on the effectiveness and speed of your implementations.

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