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Saaty Metrics for smarter budgeting decisions

Each fiscal year, Washington State Government spends over \$900 Million on information technology. There are about 100 state agencies looking for a piece of that budget pie. The Office of the Chief Information Officer (OCIO) is charged with ensuring every IT dollar advances the governor's policy objectives. Projects must either improve revenue or reduce costs and have a direct and positive impact on citizens or public safety, and. And, the analysis of the complex IT projects needs to be boiled down to easy-to-read recommendations that even technophobes can understand the risk versus benefit equation.

The Challenge

In 2013, State agencies proposed 86 different projects that were either level 2 (medium risk/complexity) or level 3 (high risk/complexity) IT projects. Projects ranged from settling tax boundary disputes to tracking marijuana from seed to sale to Medicaid shopping plans.

In the past, agencies would develop an IT plan using their own importance criteria and risk assessment. Then, they would mine their personal contacts for support and figure out a way to get the attention of someone in the Office of Financial Management (OFM). The goal was to make sure their project got on OFM's budget proposal that would go to the governor.

To say this put IT budget decisions all over the map is an understatement. Each agency has a different business issue to solve and a different technology approach to solving it. Legislators, who evaluate the final budget proposal, understand policy but may not have the technology background needed to assess these diverse and complex projects.

The legislature looks to the OCIO to help them answer the question, "Does this technology approach make sense?" So, instead of trying to puzzle through the project proposals for the 2013-2015 biannual budget themselves, they asked the OCIO to create a prioritized list that ranked the projects as high, medium or low. The legislature didn't identify specific budgeting criteria. They gave that task to the OCIO.



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Prioritization Version 1.0

Governor Inslee is very clear about the importance of a transparent, effective and efficient government. “Washingtonians expect their tax dollars to be put to the best possible use. That means investing in state services that are the most important to them, providing those services with excellence and then making results easily available to the public.”

With this goal in mind, the OCIO got to work on their first version of a prioritization tool. They built a fairly unsophisticated Microsoft Excel model that looked at some basic bottom line numbers. In theory, it sounds like a straightforward process. In practice, it was the opposite. The prioritization request from the legislature came *after* agencies submitted their Decision Packages (DP) so the information the OCIO needed was not in those requests. Because the legislature was already in session, the team had an extremely short timeframe to determine the criteria, meet with as many agencies as possible to understand their needs and then rank the requests. The team was developing criteria and prioritizing at the same time. Every time a criteria changed, the team had to go back and rescore the eclectic set of requests.

Lessons from Round 1

In theory, it sounds like a straight-forward process. In practice, it was the opposite.

The OCIO learned a quite a bit from that first prioritization exercise. First, if they were asked to prioritize projects again, they needed to get criteria to agencies before they submitted budget requests. Second, they needed a better tool.

The Excel model they built was just not sophisticated enough to reflect everything that was important in evaluating projects. Minor changes in the model could have major implications but it was hard to identify which changes were causing issues. The tool did not give enough control over the color of money (appropriation categories). There was also no way to check priorities against an ever changing budget and there was not a clear understanding about what happens when a particular project—especially a large project—was moved to the top of the priority list.

For the second version, the OCIO also wanted broader community input on the process. The OCIO retooled the process for weighting the criteria to include not just members of the OCIO but input from the Office of Financial Management and input from members of the Technology Services Board (TSB). The TSB is an oversight board that includes members from the Legislature, State Agencies, Labor and three representatives from the private sector.

Overall, the criteria were more detailed and nuanced. And, each agency had to start their request by looking at how their project fit into the big picture by answering the following questions:

1. How well does the project align with the priorities of the Governor?
2. How well does it align with the mission of the agencies?
3. Does it contribute to increased revenue or reduced costs?
4. How risky is it?
5. How well does it align with the State's IT policy and direction?

While sharing the governor’s focus on creating an effective, efficient and accountable government, the OCIO also wanted to ensure agencies planned IT investments using certain key drivers.

Current CIO, Michael Cockrill explains, “The original challenge was how to deliver a prioritized list of technology projects. The more interesting problem—and the one we set out to solve—was how to build a highly transparent and efficient process that would align agency IT plans to the overall IT strategy of the state. When agencies are planning projects, we want them to be thinking about building them in the cloud, implementing strong cybersecurity measures, using agile development techniques—really thinking about how technology can fuel further efficiencies and innovations.”

Version 2.0 looked very different

In the last cycle, 27 of the top 30 projects on the OCIO list were fully or partially funded by the legislature.

In the search for a new budgeting tool, the OCIO researched analytics and decision-making theories. They wanted a more sophisticated tool that could not only analyze and rank complex project scenarios, but also allow the team to understand immediately the potential ramifications of making changes to the rankings. The field of Saaty Metrics presented a structure that mapped well to some of the challenges inherent in budget-making decisions. The metrics are based on Thomas L Saaty’s analytic hierarchy process which analyzes complex decisions using both mathematics and psychology to determine a ranking hierarchy. The team found a SaaS product, DecisionLens, based on the metrics. The Washington State Department of Transportation (WSDOT) was actually using the tool to prioritize capital projects. Although the product hadn’t been used as a legislative budgeting tool, the team was confident that the product would work well.

Results of Round 2

In the last budget cycle using the OCIO’s input, the legislature funded 27 of the top 30 projects on the OCIO list. The three that were not funded were not supported by the governor’s office for reasons that were independent of technology.¹

Outcomes

Governor Insee has challenged all agencies to do more to ensure a faster, smarter and more accountable state government. In his words, “Better information leads to better decisions which ultimately lead to a better government.” The OCIO’s Saaty Metrics initiative is a real life example of this philosophy. The project has transformed the important, yet highly inefficient and inconsistent IT budgeting proposal process into a

¹ For example, the OFM decided to spend money at the AG’s office to increase salaries rather than on a new document management system. We did not have the funds for both.

streamlined one that allows lawmakers to quickly understand and compare major IT project requests.

The process has had a significant influence on how agencies define their projects. Agencies know the criteria the legislature will use to review funding proposals and can consider the criteria—and the questions about alignment to the big picture strategies—before they submit projects. If an agency approaches a legislative member now about new projects, one of the first questions the legislator asks is, “Where do you rank on the OCIOs list?”

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With Saaty Metrics handling the underlying architecture, the OCIO can focus their efforts on refining the prioritization program. They continue to rework the criteria to make them as simple and appropriate as possible. To continue improving collaboration efforts between different branches of government, they are getting agencies more directly involved in defining the criteria. By directly involving the agencies, the OCIO has also found that the criteria and the rationale behind them is understood at all levels within an agency.

The tool is a huge success, providing stakeholders insight and unprecedented transparency into the budgeting process. The OCIO has delivered training and access to the tool for House of Representatives, Senate, and the Legislative Evaluation & Accountability Program Committee (LEAP). As a result of the success, the OCIO established a statewide master contract with DecisionLens that makes the tool available to *all* State agencies, Cities, Counties, and non-profits.