

Software Package Selection

A practical procedure for selecting software solutions for corporate use

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Overview

This document defines a procedure for the selection of software packages or suites to deploy for some purpose in a corporate context. This procedure is applicable when a cooperative group is working toward a common goal and perceives a need for a software solution to facilitate their work. The procedure covers the process of selecting a software solution as appropriate for the organization's use, but does not specify the process of deploying the solution. This procedure also does not apply to scenarios involving customization or development of new software solutions.

The procedure defined herein is inspired by the Decision Analysis and Resolution (DAR) model for decisionmaking. The DAR is an abstract model for corporate decisionmaking which involves defining a goal for the decision, determining the criteria of success for the resolution, gathering alternative strategies for resolving the decision, evaluating the alternative strategies against the success criteria, and finally making a decision. This document defines a procedure which applies this model to the practical scenario of selecting a software solution for a particular need within a corporation, and provides templates where appropriate.

Consider a situation where a corporation wishes to select a software package to fulfill a need in its day to day operations. In this scenario, we could apply the DAR model by following these seven steps:

1. **Declare the goal** for the software, including the needs the corporation is experiencing and the anticipated benefits of the solution.
2. **Gather suitability criteria** for the software by making an open call to relevant members of the corporation to add more.
3. **Formalize the gathered criteria** into a formal schedule listing Necessary Criteria, Preferred Criteria, and Follow-Up Concerns.
4. **Nominate solutions** which satisfy the criteria by means of a second open call to relevant membership.
5. **Build a matrix** of criteria and solutions, where each solution is marked as satisfying or failing each criterion.
6. **Make the decision** based on the matrix and the goal, and deploy the solution.
7. **Review the solution** after an appropriate period of time to determine its suitability in accomplishing the stated goals.

In the following sections, we examine each step in turn and define templates for the relevant documents as appropriate.

While the DAR model can be applied to all kinds of decision types, it is easier to understand a general concept in terms of specific instances rather than universal abstractions. For the sake of clarity, this documented procedure is tailored to the particular decision type of the selection of a software package.

The procedure can be readily adapted to other decision types as needed.

1 Declare the Goal

The decisionmaking process should begin with a clearly stated goal. This is the most important step. As with a rocket whose trajectory must be most carefully controlled at the beginning of its flight to minimize cumulative error as it travels to its distant destination, the group must establish a frame of reference for the destination and continually monitor their current position relative to it as they proceed through the decisionmaking process. The purpose of the goal statement is to establish that frame of reference.

The goal should make clear the context wherein a problem or deficiency is perceived and concisely describe the desired effects or benefits of a solution. A goal statement relates not to the solution or decision being sought after, but rather the business motivation for finding a solution in the first place. A strong goal statement focuses on the business benefits and long-term gains that the organization anticipates the outcome of the decision will yield.

The goal statement must not be any form of “The goal of the decision is to make a decision.” For instance, when seeking a software package for some purpose, one would not write the goal statement as “To select an application for such-and-such.” The purpose of the statement is to establish a frame of reference for success; therefore, it must take into account the business objectives that the decision is intended to improve the association’s stance relative to and enumerate ways the solution will ameliorate the current difficulties or risks in the relevant business operations. A statement of the form “The goal is to make a decision,” regardless of what it says about the benefits of the resolution, establishes too narrow a frame of reference, being focused on the decision itself rather than the broader business concerns that render a change necessary in the first place. The focus of the goal statement must be on the business, not on the decision itself.

The structure of a Goal Statement is specific to each scenario, so it cannot easily be templated. An example goal statement is provided here instead of a template.

As we are evaluating the GBA’s documentation storage and collaboration practices, we are considering new approaches that will improve the security, visibility, and control over who has access to GBA internal documents, as well as to limit the GBA’s exposure to outages or policy changes from outside the corporation, all while ensuring that the solution chosen is friendly to and convenient for the GBA members who rely upon it for their day-to-day operations within the corporation.

Observe how the goal statement makes the business realities and anticipated benefits clear without any further context being necessary. An ideal goal statement will exhibit these qualities.


2 Gather Criteria

Once the goal is defined, it is time to gather the criteria for suitability of a solution. Ideal criteria may be binary in nature, denoting a clear “yes” or “no” for the applicability of a given

resolution strategy. Alternatively, criteria may be gradential in nature, such that they establish a clear ranking of alternative categories. When applied to the specific problem of selecting a software package for a particular purpose, the criteria for success of the decision may be thought of as the requirements that the software must satisfy.

At this stage of the decisionmaking process, the criteria are not yet formally defined. To define a formal list of criteria, we first gather an informal list from a wide audience and then refine it. Review the goal statement, then begin by writing down as many criteria as come readily to mind, in order to get an initial set together and provide guidance for the wider audience.

Next, determine the audience from whom criteria should be sourced. This audience should be comprised of stakeholders in the final decision: the people who will use or be affected by the software package selected. Finally, send an open call to gather criteria from the stakeholders.

The call should begin with the goal statement. It then briefly describes the purpose and function of the sought-after solution; next, it gives direction for how criteria are to be submitted along with a deadline for submissions; and finally, it lists the initial set of criteria that have been gathered so far. A template for the call for criteria has been attached to this document to facilitate drafting the call. Click or double click here to access the file: 

3 Formalize Criteria

Once the deadline for criteria submission has passed, the criteria must be reviewed, consolidated, and formalized into a final schedule. Begin by reviewing the goal statement to ensure that the long term objectives are fresh in mind. Next, prioritize and sort the criteria into categories of *necessary* criteria, which a potential solution must satisfy in order to be considered as a candidate for selection; *preferred* criteria which it is desired that a solution will satisfy in order to be regarded favorably; and *follow-up concerns* which should be evaluated after a solution has been in deployment for a time to determine its suitability and effectiveness.

The schedule of criteria must include the goal statement followed by the categorized lists of criteria. Organize the criteria under category headings, ensuring that they are all clearly stated and readily understandable by readers who may be reviewing the document even after time has passed and may no longer remember the discussions. Criteria which are redundant or irrelevant may be discarded. The finalized schedule should be posted for review and archived for future reference.

Criterion Categories

The below category headings provide a template which may be populated to define the final schedule of criteria.

Goal Statement

Reproduce the goal statement at the top of the schedule.

Necessary Criteria

These are criteria which a potential solution must satisfy to be considered.

Preferred Criteria


Solutions which satisfy these criteria will be regarded more favorably.

Follow-Up Concerns

These will be evaluated after the solution has been in service for a time.

4 Nominate Solutions

With the final schedule of criteria in hand, it is time to determine what solutions are available on the market to satisfy the criteria and achieve the goal. This begins by nominating solutions and compiling a list of nominations. Suitable nominations name candidate solutions, for example an open source project which can be downloaded and installed onto a server for use and would satisfy all necessary criteria. A software solution which requires code modifications to satisfy a necessary criterion would not be suitable for nomination.

Whatever solutions come readily to mind may be nominated up front, and then further nominations should be gathered in a second open call to the relevant membership. The call should briefly state the type of solution being searched for, making reference to the recent call for criteria; state the purpose of the call for nominations; and provide direction for nominations to be submitted, along with the deadline for submissions. The final schedule of criteria should be appended to the message as well. A template for the call for nominations is attached. Click or double click here to access the file: 

5 Build Criterion Matrix

Once the period for nominations passes, the nominees must be examined for suitability. This process can be research intensive and some subjectivity is involved, but the effort invested here will not only expedite the arrival at a final decision, but also it provides greater confidence in the decision reached.

Construct a matrix as a table with a column for each Necessary and each Preferred criterion and a row for each nominated solution. Populate the table cells with a checkmark if the corresponding solution satisfies the corresponding criterion, or an X if it does not. Some investigation may be required to determine whether the solution satisfies the criterion or not. It may be helpful to contact the member who nominated the solution to learn if they know whether it satisfies the criterion. Solutions which fail a necessary criterion can be removed from the matrix and listed below it with a comment about which criterion it did not meet. An example of a criterion matrix is provided below.

	N1	N2	N3	P1	P2	P3	P4	P5
S1	✓	✓	✓	✓	✓	✓	✓	×
S2	✓	✓	✓	✓	×	✓	✓	×
S3	✓	✓	✓	✓	✓	✓	×	✓

6 Make the Decision

It is now time to review the information gathered in consideration of the stated goal, and make a decision. While in some cases it may be suitable to simply choose the solution which satisfies the most compelling criteria, there are always other factors to consider as well such as cost (always bearing in mind that the greatest costs are seldom financial), ease of use, maintenance, and of course, subjective factors including the appeal a solution holds for members and whether

one solution seems more likely than another to fulfill the stated goals or to better position the corporation for the future.

Whatever the factors considered and the options weighed, make a choice and put the selected solution into practice. When deploying the solution, remember that certain members of the organization will be responsible for onboarding the rest of the organization into the new system, and that those members may not have been engaged with the selection process to this point. As a result, it is important to contact these members and work with them to establish their requirements for the solution, in order that they will be willing and able to invite the rest of the company into the system. Ensure that the solution, as deployed, meets these requirements so that it can be readily adopted.

Once the solution has been implemented and the organization has begun using it, mark a calendar with a date a few months out, after a period that seems appropriate for getting acquainted and familiar with the chosen solution, to schedule a follow-up review.

Congratulations! You've now moved forward and given the corporation a stronger footing than it had prior. Well done.

7 Review the Solution

Now that the solution has been in service for a while and members have had time to get used to it, it's time to ask some questions. Locate the schedule of criteria and look at any follow-up concerns listed there, and also ask for general feedback from the members. Do they like the solution? Is it adequate to their needs? Also look for members who still utilize other alternatives rather than the chosen solution – would a different solution be able to serve them better? And most importantly, review whether the solution has fulfilled the stated goal.

If the solution is a success, then this procedure is completed. If the chosen solution has not satisfied the membership, however, or if it has failed to attain the stated goal, consider whether the solution can be better instrumented to meet the group's needs. If not, then it may be appropriate to revisit earlier steps in this procedure, whether to deploy a different solution from the nominations list, or to look for new solutions or ones that may have been missed in the first nomination process, or to refine the requirements based on the lessons learned. If any of these options should prove useful, take heart: in many cases, there is no way to learn what is required except to try and fail. The experience gained in trying and failing builds strength and is more valuable by far than finding a good solution on the first try.

However the situation shapes up, go forward in strength and confidence. Good luck!