

1.1: Decision Guide: Is a COTS System Right for You?

If your team has decided to develop a new data system, consider whether you should use a commercial off-the-shelf (COTS) system or build a new one. Generally, COTS data systems refers to systems already built and used for a similar purpose that can be modified to meet your specific needs; whereas custom data systems are built for a specific program.

# Benefits of Using a COTS Data System

Using a COTS data system can offer a number of benefits over a customized one.

Reduced Risk**.** COTS systems are sold “as is” and typically have a large number of existing users (also known as a user base) that can find and report problems quickly. The user base is typically much larger than one of a custom data system. Thus, developers are able to identify issues earlier in the development phase that may have otherwise been missed. What does this mean for you? It means most of the “kinks” within the system have already been reported and fixed by the time you start using it.

Reduced Initial/Maintenance Cost**.** COTS systems avoid the large, initial expense of designing and developing a new one. With an existing user base, COTS data systems benefit from lower maintenance costs. New updates to fix “bugs” are rolled out to all customers at the same time, which effectively spreads costs across a larger user base.

Easy to Implement**.** COTS systems are often designed to be installed across a variety of operating programs with minimal preparation and effort. Easier installment means more time and energy saved!

# Limitations of Using a COTS Data System

There are also limitations or drawbacks to using a COTS data system, which are important to keep in mind.

Not Meeting Program Requirements**.** COTS data systems may not meet all your program requirements, which could mean missing some “must haves.” For example, highly detailed custom reporting may be hard to achieve with some COTS systems, as they have been built to produce generic reports to be used by a variety of users. Although many COTS data systems claim they can be customized, the degree of customization can vary greatly. Sometimes the desired customizations can be difficult or impossible to implement.

Ongoing Expense**.** Although buying a COTS data system can be less costly than designing and developing a new one, there are other costs to consider. For example, COTS systems will charge a fee for each user license, and there may be times when the system is down for needed upgrades. Both of these should be considered when comparing the cost of a COTS system with the upfront cost for a customized one.

# How Do I Know If a COTS Data System Is the Best Fit?

Depending on program needs, the pros and cons of a COTS are important to consider. To summarize, using a COTS may be right for your program if—

* You would benefit from a large user base that can find and report problems quickly.
* You need to keep upfront costs low.
* You need a system that is quick and easy to implement.
* You don’t need heavily customized reports or interfaces.
* You need to minimize long term ongoing costs.

# COTS Data System Assessment

When considering whether a COTS system is a good match for your program, use this COTS Data System Assessment to assist your team by first examining the status of your current data system and the desired features.

Once your team has completed the assessment, each answer should be reviewed and compared to the considerations information in the third column, which includes descriptions of how/if a COTS data system will accommodate the specific functionality. For example, if the team places high priority on features typically found within COTS data systems, then a COTS system may be the best choice in terms of resources, costs, and time. Alternatively, if the features the team considers high priority are not found in COTS systems, a custom one may be a better fit as it will likely allow your team to build these needed functions.

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| Your Current System | Yes/No | Considerations |
| 1. Are you currently using an electronic data system? | Yes  No | *If no, skip to Desired System Features Section.* |
| 1. Does your current data system save data to a server? | Yes  No | COTS systems save data to a server. |
| 1. Does your current data system save data to a local computer? | Yes  No | Some COTS systems save data to both the local system and the server. |
| Your Current System | Yes/No | Considerations |
| 1. Does your current data system allow you to export data? | Yes  No | Most COTS systems can export to standard data types (e.g., comma delimited or Excel). |
| 1. Does your current data system back up your saved data? | Yes  No | COTS systems typically have a backup feature to ensure data integrity. |
| 1. Does your current data system require an internet connection to use? | Yes  No | Internet access is needed for full data access in most COTS systems. |
| 1. Are you able to run reports from your data system? | Yes  No | COTS systems usually offer built-in reporting or connections to add reporting applications. |
| 1. Can you customize reports in your data system? | Yes  No | COTS systems typically require additional resources to customize reports. |
| 1. Can you customize forms in your data system? | Yes  No | Most COTS systems allow only minor changes to forms (e.g., field names). |
| 1. Is your database managed by you? | Yes  No | COTS systems do not typically allow direct data management or design changes. |
| 1. Are your data managed or accessed by an external vendor? | Yes  No | Some COTS systems will allow shared accounts for external data access. |
| 1. Do you have a single data system that captures all necessary grant reporting information? | Yes  No | Specific data capture does not typically come built into a COTS system, but it can be customized with extra resources. |
| 1. Does your current data system interoperate, “talk,” with any other systems? | Yes  No | Interoperating and data sharing with other systems is a feature in some COTS systems. |

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| Desired System Features | Priority | Considerations |
| 1. Data/databases need to be managed by the tribal program directly. | Low  Medium  High | COTS systems do not typically allow direct data management. |
| 1. Data should be stored in the cloud. | Low  Medium  High | COTS systems commonly store data on their own servers accessed via the internet. |
| 1. Data should be stored on local servers instead of the cloud. | Low  Medium  High | Some COTS systems offer user-administered servers for their databases. |
| 1. Data should be backed up to the program system. | Low  Medium  High | A COTS system can often be designed to back up the way the program requests. |
| 1. Data should be exportable in a common format (i.e., Excel, CSV, text). | Low  Medium  High | Most COTS systems offer export to standard data types (e.g., comma delimited, Excel). |
| 1. Data will be available offline (without internet access). | Low  Medium  High | Offline system access is available in some COTS systems. |
| 1. Data system should have the ability to import data from other data systems. | Low  Medium  High | Most COTS systems allow importing standard data types (e.g., comma delimited, Excel). |
| 1. Data stored should be encrypted. | Low  Medium  High | Data encryption, both for storage and transmission, is a standard feature in most COTS systems. |
| 1. Data system should meet other specific federal/state data collection requirements. | Low  Medium  High | COTS systems are usually not designed to meet specific federal or state requirements but can be customized. |
| Desired System Usability Functions | Priority | Considerations |
| 1. Data system should be accessible on mobile devices, such as a tablet. | Low  Medium  High | Some COTS systems offer a mobile enabled view or are accessible via mobile Web browsers. |
| 1. Data system should be accessible via a Web browser (the internet). | Low  Medium  High | Browser-based interfaces are a standard feature in most COTS systems. |
| 1. Data system should interact or share data with another system. | Low  Medium  High | Data sharing with other systems is an available feature in some COTS systems. |
| 1. The staff should have the ability to alter or customize the user interface. | Low  Medium  High | Some COTS systems allow administrative users to make changes to the user interface. |
| Desired System Reporting Functions | Priority | Considerations |
| 1. The staff should have the ability to change reports and report parameters frequently. | Low  Medium  High | COTS systems generally allow the administrative users to change the frequency of reports and data reported as needed. |
| 1. The staff should be able to automatically send scheduled reports electronically. | Low  Medium  High | Some COTS systems offer scheduled report sharing functionality, usually via email or Web upload. |
| 1. The staff should be able to create visual representations in reports, such as charts, graphs, etc. | Low  Medium  High | Some COTS systems display charts and graphs within reports or dashboards. |
| Desired System Licensing Requirements | Priority | Considerations |
| 1. Licenses for users in the data system should be per user. | Low  Medium  High | The fees for licensure will depend on the specific service agreement/ contract signed by the agency and its vendor. |
| 1. The staff should be able to make changes to the database. | Low  Medium  High | COTS systems are typically managed by the vendors who build them. |
| 1. The staff should be able to make changes to data collection forms. | Low  Medium  High | Some COTS systems will allow administrative users to make changes to data collection forms, such as changing field names. |
| Data Privacy and System Security | Priority | Considerations |
| 1. The data system should meet HIPAA guidelines. | Low  Medium  High | Some COTS systems meet mandated privacy guidelines. |
| 1. Data system should have role-based security, such as secure user-specific profiles. | Low  Medium  High | User-specific security profiles are a common feature in COTS systems. |
| 1. Data system should encrypt the data while transmitting. | Low  Medium  High | Data encryption during transmission is a standard feature in most COTS systems. |
| 1. Program administrators will be able to maintain the data system. | Low  Medium  High | Some COTS systems allow administrative users to control the amount of data their user-specific profiles can access. |
| 1. Staff should have the ability to log in to the system while offline (no internet access). | Low  Medium  High | Offline system and data access is available in some COTS systems. |