

# BUY, BUILD, CUSTOMIZE IT'S COMPLICATED!



Today's current economic considerations aside, gaming and hospitality companies must continue to look for ways to work smarter, not harder when it comes to selecting, upgrading, supporting, and implementing technology solutions. Efficiency and ridding an organization of costly redundancies is critical.

The current economic climate has challenged many operators, large and small, to rethink their technology portfolio. In evaluating how to streamline the application portfolio and maintain the level of support required by the business; management has to evaluate the associated costs of supporting the solutions as well as the business requirements of the solutions.

One example of ways to streamline the portfolio is to closely examine the enterprise's reporting and business intelligence needs. Historically, many software vendors packaged an OEM solution with their application for reporting and business intelligence. These OEM solutions included SAP Crystal Reports, IBM Cognos, Oracle's Hyperion and MicroStrategy® to name a few. Many businesses determined that it was not feasible to support multiple solutions. In response, most business solution vendors now interface with most commercially available reporting and business intelligence solutions. Picking the one(s) that best meets the overall needs of the organization can significantly lower the operating and support costs for such systems.

So how do you decide to buy, build, or customize? The first step of the process should be a strategic system selection process which starts by identifying the key business requirements. The business users must clearly define the key functionality that the solution must provide. Once the functional requirements are identified, they must be prioritized to enable a balanced evaluation of possible solutions. The scoring method should identify the "mandatory / must have" functionality (required by regulation or MICS), "required" functionality as defined by business process and "nice to have."

The process should also identify any 3rd party solutions that may provide functionality not provided by the COS solution, but with whom the COS vendor has a strong relationship and proven interfaces or integration. The following is an example of a functional requirements matrix.

- Business Function Business Requirement Functionality
- Standard, Enhancement, 3rd Party or Not Available Priority
- Mandatory, Required or Optional
- Inventory Definition Supports at least 20 digit alpha numeric part number
- Inventory Control Supports real-time update of inventory transactions
- A 3 year Total Cost of Ownership (TCO) and the expected ROI that the solution will provide (either in increased revenue or cost savings) should be evaluated as part of the overall decision making process.

## When to Buy

The vast majority of business requirements for gaming and hospitality companies can be achieved through commercially available, off the shelf solutions (COS). There are many reasons that major gaming companies (Caesars and MGM to name a couple) have significantly downsized their software development departments. One of the key reasons is that COS solutions that are specific to our industry have evolved and now meet the majority of business requirements. In evaluating commercially available, off the shelf solutions the following are key considerations that must thoroughly reviewed:

- Vendor Management / Vendor Support: What level of support does the vendor offer? Does the vendor offer various service level agreement models (SLA) to ensure 24/7/365 support? Will the vendor be your partner? This means that the vendor becomes part of your team. They will work with you to ensure that their product roadmap incorporates your changing business requirements. The vendor should also provide a dedicated account manager who will schedule regular meetings or conference calls to review open issues, enhancement requests, and review changes to the business plans and technology road maps of both the vendor and the business entity.
- Enhancement Requests: Explore the vendor's track record on enhancement requests. How many enhancement requests does the vendor currently have pending? How

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does the vendor prioritize and determine which enhancement requests to build into the next software release? Do custom enhancement requests / projects for individual customers become part of the base code in future releases? As part of the evaluation process, you should also speak with current customers to understand their level satisfaction related the vendor's response for enhancement requests.

- **Implementation (vendor provided / 3rd party provided):** Does the vendor provide the implementation services or is a 3rd party vendor required to do the implementation. In some cases, vendors offer a choice (Teradata, MicroStrategy and Infor to name a few). The cost of the options should be carefully considered. Speaking from experience, the vendor resources may be more expensive on an hourly /day rate basis, but less expensive in the long term because these are the vendor resources and these resources are up to date on the product and most likely have more experience implementing the product. In many cases they may be able to advise you on the best practices for their software in your specific industry. The "right" implementation will pay benefits or incur additional costs for the life of the system.
- **Total Cost of Ownership:** How much is this going to cost? How much revenue will the solution generate? How much is this going to save over a three year period? Take into consideration any staff reduction if a custom solution is being replaced. Also consider that besides having an internal project manager for the duration of the initial project that ongoing vendor management may also be required which may be a necessary cost to insure proper adoption and that expected benefits are achieved over the long term. A vendor manager / business system analyst, internal to the business, must be working hand in hand with the vendor to ensure that the issues list is managed, that patches, bug fixes and enhancements are applied, that the test bed is configured for the current installed version and that upcoming versions are properly configured for testing well in advance of the upgrade. Upgraded SLAs, annual software maintenance, major product upgrades (which may require professional services and upgrades to O/S, DB or hardware) and regular vendor provided training are all costs to include in the TCO calculation.



**When to Build**

This is an endeavor that must be carefully considered and should only be undertaken by large /enterprise organizations. The reasons are many, starting with the fact that custom solutions are expensive to build and more expensive to maintain. Today you will typically find custom / proprietary solutions specific to casino management systems (examples: Caesars Entertainment, Isle of Capri and Station Casinos) and customer relationship management solutions (examples: Caesar's Entertainment Total Rewards and Station Casinos' multi-tier Boarding Pass).

It should be mentioned that even small software programs, custom developed by internal resources leave the organization vulnerable to many points of failure. Many times these "small, one off" programs are not developed using best practices, industry standard tools and methods and have no documentation and reliable source code control. Before small companies or stand-alone casino / resorts undertake a custom development project, they should discuss their requirements with their current vendors. The functionality may exist in an upgrade or may be on the vendor's product roadmap.

Other important considerations when determining if you should build buy or customize:

- **Staffing:** Does your organization have the internal resources (both human and financial) to build and support a custom solution? Custom solutions require detailed documentation and ongoing maintenance and support to ensure that they are viable when the systems that they interface or integrate with are upgraded or replaced.
- **Intellectual Property:** Is your organization prepared to file for the patent or otherwise protect the Intellectual Property that they have paid dearly to develop? This is an important question because the cost and time required to protect Intellectual Property is not a trivial consideration. Have you ensured that any new development work you are doing does not infringe on any existing patents?
- **Ongoing support:** Who is going to support the custom solution? Does your organization have a deep bench of skilled technicians who understand the system architecture, the source code and the integration /

interface requirements? Or if this is a custom solution that has been built as a work for hire by a 3rd party, does that organization have the bench strength and the track record to ensure continuity in service and support?

- **Total Cost of Ownership:** What is the solution going to cost your organization over a 3 or 5 year period? This would include the cost of the software, professional services, hardware (including O/S and DB upgrades), annual maintenance and associated upgrade costs.

## When to Customize

Many companies have commissioned custom modifications to existing COS solutions. These customizations may be proprietary to the company that commissioned the modification or they may become available as part of the base code of the COS in a future release. It all depends on the contract that the original customer negotiates with the vendor. If the customization is exclusive, particular care needs to be taken to ensure that the customization does not interfere with upgrade path for future releases of the underlying COS.

Customization in many cases is the “secret sauce” that differentiates one company’s marketing strategy from another. This type of customization may require a custom solution or a custom module built by the current commercial vendor specifically and exclusively for use by the requesting company. Working with a Vendor who has designed software with ease of customization in mind can make this decision more desirable.

The organization also must consider the staffing, intellectual property and ongoing support costs when evaluating the TCO for all customizations.

## Staffing and Support Considerations

Staffing and support considerations vary depending on whether you are a build, buy, or customize shop. If you are a “buy” shop, staffing requirements must include a review of the overall software portfolio, platform, database and interface / integration requirements. Most companies prefer to limit the platforms and databases that they support to ensure adequate depth for staffing. Instead of software developers, the business analysts and vendor managers are the key resource and interface to the vendor and the business user community.

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If you are a “build” shop, even if only for a few key applications, your staffing requirements will increase to ensure adequate support and ongoing product development. Programmers and DBAs will be required full time resources to ensure ongoing documentation, database integrity, and end user training.

## The Interface and Integration “Gotchas”

Interfaces and integration are critical to many software solutions, whether they are COS, or custom built solutions. Interfaces and integration are also the key points of failure that must be carefully considered and thoroughly tested when performing upgrades or replacing systems.

Current examples are the interfaces that exist between financial, human resources, casino management systems, the point of sale systems, the hotel / property management system, the customer relationship management system, reporting systems and the website customer portal.

The difference between an interface and integration requires explanation.

An interface is typically a point to point connection between two systems. One system queries the other system for specific information and returns a result to the system making the query. An example is debiting a player’s points or comp balance at the point of sale. The point of sale system queries the casino management system to see if the player has the available balance to complete the transaction. The points are then debited from the casino management system and the cash value is transferred to the point of sale system as the tender amount and tender type.

In business computing an integrated solution is one that contains all products and services in one delivery that meets a specific function or provides one solution or system to solve multiple problems. In the gaming and hospitality industry an integrated solution can be defined as one where the COS vendor may have multiple modules (for example: HR / Payroll), a 3rd party solution (address standardization or TIN Checking) or a custom solution that is integrated into the COS and provides a seamless / transparent experience for the business user. With a truly integrated solution, the hand off between systems is seamless and transparent to the business user. The business user does not have to “toggle” between applications. The primary application will “call” the integrated solution, the business user completes the transaction, and the integrated solution then hands back to primary application. HR and Payroll are examples of solutions that may be integrated, sharing a common database, but performing different applications.

When considering custom modules or the integration of third party solutions, a Service-Oriented Architecture (SOA) is the best practice. As defined by SearchCOA.com:

*A service-oriented architecture (SOA) is the underlying structure supporting communications between services. SOA defines how two computing entities, such as programs, interact in such a way as to enable one entity to perform a unit of work on behalf of another entity. Service interactions are defined using a description language. Each interaction is self-contained and loosely coupled, so that each interaction is independent of any other interaction.*

*Simple Object Access Protocol (SOAP)-based Web services are becoming the most common implementation of SOA.*

Vendors in the gaming and hospitality space have been slow to adopt the interface standards that have been adopted and published by HTNG (Hotel Technology Next Generation) and the Gaming Standards Association (GSA). Many interface standards already exist and it will take a concerted effort on the part of gaming and hospitality operators to influence the adoption of these standards.

Several gaming and hospitality software solution vendors are developing SDKs (Software Development Kits) and / or are evaluating ESB (enterprise service buss) options which will also streamline integration with COS options. Ask your vendor if they offer SDKs that will allow you to easily interface or integrate 3rd party or custom application modifications.

### Regulatory Compliance Considerations

Adding another layer of complexity to the strategic planning and decision making process of whether to buy, build, and / or customize are the regulatory compliance considerations. Proprietary casino management systems must now be tested and approved in many jurisdictions (Examples: Nevada and New Jersey). Interfaced solutions may also require lab certification if the solution writes to the regulated system's database. Systems that are defined as "associated equipment" will still require lab certification however the testing process is not as rigorous as a system that counts the money.

### Conclusion

What is the best approach when considering to buy, build, or customize? As the title of this article stated, it's complicated. The basic issues are still the same, but the details of today's world are new and different and much more complicated than ever before as companies have more options to choose from and things change faster than ever before.

A thoughtful planning and due diligence process must precede any decision to buy, replace, build or customize a solution. Different jurisdictional requirements, staffing considerations, vendor support, and the TCO must be carefully examined before deciding what the "right" solution will be for your organization. Having a partner who already understands your business needs and knows the functionality of potential vendor systems can be invaluable in this process and insure that critical details are not overlooked and unexpected gaps are avoided.

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