

# Off-the-Shelf vs Custom Designed Software

## Executive Summary

Choosing between an off-the-shelf solution and a custom designed solution is the principal consideration when acquiring new software. Each choice has different consequences relating to cost and risk for each step of the project lifecycle.

At the initial acquisition stage, off-the-shelf solutions can meet primary requirements but demand greater flexibility from the business. Custom solutions offer greater flexibility and can therefore be designed to meet business needs.

At the deployment stage, off-the-shelf solutions generally have established training courses and material however place greater demands on businesses to change their existing processes. Custom solutions can be designed to mirror existing business processes, however require training material to be developed from scratch and are prone to 'requirements creep.'

At the ongoing maintenance and evaluation stage: off-the-shelf solutions are generally quite limited in terms of catering for changes to business structure and processes, however they have well developed support infrastructure and regular updates. Customised solutions can be modified to fit the changing business requirements; however businesses will need to establish their own support channels and policies to support the users of the new system.

An organisation should ideally pursue a third option that leverages the advantages of both options while minimising the disadvantages. The third option is a hybrid platform like InformationLeader that offers the flexibility of a customised system while at the same time offering the stability and maturity of an off-the-shelf solution.

## Introduction

Many choices are necessary when acquiring new technology as a solution to pressing business requirements. The principal consideration would be between purchasing an off-the-shelf (OTS) solution or funding the design and implementation of a wholly customised solution.

An OTS solution can best be described as a ready built solution that could be bought 'off the retail shelf'. These solutions have been designed to provide best-of-breed solutions for targeted industries, and are generally well supported and implemented by established software vendors. These solutions tend to have mature feature sets that have been developed over a longer period of time.

A fully customised software solution is a product that is written from the ground up to solve a specific business need. It can be developed by the staff within the business itself (called 'in-house' development) or by hired contractors who consult with the business during the product development process. These solutions offer the greatest flexibility and most closely mirrors existing business processes.

This article compares the pros and cons of both approaches at three stages of the project's life span: Acquisition and Initial Costs, Implementation and Deployment, and Ongoing Maintenance and Evaluation. The driving consideration at each stage would be the risk and cost implications of each alternative.

## Acquisition and Initial Costs

The high level of risk involved in investing in new technology makes acquiring a new software system a daunting task. To minimise these risks, organisations need to consider several key factors in choosing the software solution that would best suit their business needs. Two factors that need to be considered at the initial evaluation and acquisition stage include requirements gathering and total cost of ownership estimations. The outcomes of these factors are significantly different between an OTS system and a custom system.

One of the first tasks to perform when selecting a software solution is to gather a list of requirements that the new system must meet. These requirements can usually be broken up into three categories – 'must haves', 'should haves' and 'nice to haves'. An

off-the-shelf solution will have a more difficult time meeting all the requirements, as they often only contain features that make commercial sense to the vendor. A custom built solution will be designed from the ground up to meet the business' requirements and to mirror existing business processes.

This means that OTS systems would cover most of the 'must have' requirements, but that businesses would have to be more flexible regarding 'should have' and 'nice to have' requirements. Custom solutions are designed to cover all business requirements, with features limited only by the creativity and technical capabilities of the in house staff or the software developer contracted to develop the solution. The choice comes down to the requirements a business is willing to sacrifice when choosing an OTS system over a custom system.

Estimating the total cost of ownership is an important yet usually nearly impossible task when selecting a software solution. Businesses must consider software licensing costs, support and maintenance costs, hardware upgrade costs, training and lowered productivity costs during the transition to the new system, as well as a myriad of other business considerations. There are, however, predictable differences offered by both types of software solutions.

Estimating the costs when purchasing an OTS system is slightly easier than estimating the costs for a custom built solution. OTS systems usually have fixed pricing and vendors who competently scope the implementation can draw on past experience to provide a solid estimation. Estimating costs for a custom system can vary dramatically depending on the scale of the implementation. The high level of flexibility can easily lead to requirements creep - a scenario where software systems are weighed down by 'nice to have' requirements that are added on and changed without adding a significant improvement to the overall performance of the software system. As custom systems grow and adapt to ever changing business requirements, the risk increases that projected budgets can prove to be severe underestimations.

Ideally, an organisation would choose a system that combines the consistency and stability of an OTS while still providing the flexibility and control a custom solution can offer. This solution should feature mature, fully developed business systems that offer a great level of flexibility should the need arise. This customisation should preferably not require a high degree of specialist knowledge, allowing staff to easily make minor modifications as the installation goes into the next stages of deployment.

A product like InformationLeader delivers the stability of a mature system developed over a long period of time, while still providing the flexibility of a custom designed system to capture the appropriate information for your business needs.

## Implementation and Deployment

Once a new software solution has been chosen, new factors emerge for the business to consider. These include: training requirements, business process integration, and the time taken to develop and deploy the new system. Risk and cost considerations are factors for each of these elements.

There are numerous training requirements when implementing a software solution such as training courses, training material and user manuals. In the case of a custom system, these would have to be written and maintained from scratch. Training courses would also need to be developed, however the length of training may be shorter as the system and training would be designed to closely fit existing business processes. Established OTS systems generally have numerous published materials that users can reference, as well as established training courses and support. This decreases the risk involved in writing quality training materials that prove to be effective in ensuring high workforce productivity with the new system. However, this material is usually quite generic, meaning that users need to then apply this to the business scenario which can slow the learning process.

An important factor in any major new software deployment is its integration with existing business processes. Large scale implementations of OTS solutions invariably mean changes to existing business processes in order to adapt to the new system. The degree of change can vary depending on the nature of the new software system. The same problems do not plague a custom solution as it can be designed from the ground up to capture existing business processes. This means that there is a greater potential risk of an OTS implementation not integrating successfully into an organisation, especially if existing processes are heavily ingrained.

The time to develop and deploy a software solution is a major component of the overall project cost. Custom built solutions are designed and developed from the ground up, requiring extensive scoping, designing, and development time. Depending on the business scenario, milestones may or may not consist of usable deliverables, meaning that returns on investment are not realised until the project is finally complete. Large, complex scenarios can require months of initial development and years of further

refinement. OTS solutions are fully developed mature systems that are ready to be installed and used following some initial configuration. This distinct advantage is tempered by the cost for the business to adapt to a completely new system. An ideal solution would: include comprehensive user manuals, have readily available training courses, be flexible enough to integrate with and complement existing business processes, and be available in a suitably developed form to minimise system development and ease the deployment process.

InformationLeader meets all of these criteria. It allows for the electronic management of auditable data while providing the flexibility to adapt to changing business and regulatory requirements. Business process management and data capture specifications can be changed by trained users without the need for specialist programmers.

Training courses are readily available for InformationLeader either at established training facilities, with targeted training courses available to be conducted at business sites across the globe. These training courses include end user courses as well as courses designed to train staff how to perform modifications to their InformationLeader system or generate new report templates without the need for any programming knowledge.

InformationLeader's industry experience has resulted in 'accelerator packs', which are industry specific pre made packs of form templates, workflow, and report templates that accelerates system development time considerably, lowering development costs and alleviating the risk involved in developing a completely customised solution.

## Ongoing Maintenance and Evaluation

Once the new system has been installed and deployed across the organisation, the focus shifts to ongoing maintenance and updates. Factors for consideration include: changing the system to cater for business structure and process changes, new product features and fixes for any software defects.

Off-the-shelf solutions are generally quite limited in terms of the flexibility to cater for changes to individual business structures and processes. Large clients may be able to influence the ongoing development of an OTS software package however software developers for OTS solutions are unlikely to spend the resources implementing new functionality if it does not improve the product for all users of their software. Specific

customisations can increase costs, and increase the risk of incompatibilities with future updates to the OTS system.

Custom solutions have immense flexibility, as any changes to the system can be made faster and designed to closely match the specific business requirements. Custom solutions can more readily adapt to changing business needs, however they are more prone to the aforementioned 'requirements creep' during this stage of the product life cycle as well as in its initial development and deployment.

When defects are encountered in the software and a fix needs to be applied, the level and speed of response is highly dependent on the service level agreement signed with the software vendor and the nature of the defect itself. An OTS system will usually have well established support channels, however the turnaround time is still highly dependent on the severity of the defect and ready access to software developers or specialist programmers. A custom system may be modified in house, with fixes being expedited due to the immediacy of business pressures. Custom system support, however, carries greater risk as the responsibility of establishing appropriate support channels and support teams falls on the business itself. This means that the risk of failure is greater for an OTS solution as defects might not get fixed within an acceptable time frame, while the potential cost is greater for a custom solution because development costs would be covered by the organisation.

An ideal solution would offer reliable system support, great flexibility to adapt to changing business environments, and combine the ability to access best-of-breed functionality while implementing business specific features.

InformationLeader has the advantage of being a mature platform with customisable electronic forms for management of auditable data in regulated environments. Its flexibility means that the software can handle business workflow control, maintain traceable data, track customer complaint and investigation scenarios, manage business reporting and perform countless other business functions. The software's inbuilt traceability and security features have seen it excel in regulated business environments, with regulatory bodies worldwide auditing and approving data captured in InformationLeader systems.

InformationLeader vendors across the globe offer comprehensive service level agreements, along with extensive training options, fast response times, and regular product updates incorporating software fixes and features developed from world wide

customer feedback while still being able to customise the system to suit business needs.

## Conclusion

Various software solutions have been developed that address a multitude of business scenarios. One important decision to make early on in the process is to choose between using an off-the-shelf system and developing a custom solution. Both options have distinct advantages and disadvantages at various stages in the product life cycle.

The ideal system should combine the advantages of both types of software solutions while minimising the risk and the cost of each solution's disadvantages.

InformationLeader presents itself as a strong option, combining the genuine flexibility and control of a custom system while still offering the speed of implementation and mature feature set of an off-the-shelf solution.

InformationLeader enjoys the same benefits of an OTS system such as a proven platform and industry experience while still delivering the flexibility and control that an organisation might expect from a custom built solution. For more information about InformationLeader and how it can meet your business needs, visit the product website at <http://www.InformationLeader.com>.

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