



THE IMPORTANCE OF OBJECTIVE SCORING IN PRODUCT EVALUATION: A LESSON FROM THE OLYMPICS



Introduction

In any organisation, selecting the right product or solution is a critical decision that can have far-reaching consequences. Whether it's choosing a new software platform, an integration tool, or even hardware, the decision-making process must be thorough, objective, and aligned with the organisation's goals. To ensure that the best product is selected, an objective scoring system that includes non-functional requirements such as scalability, security, interoperability, and adherence to corporate standards is essential. The Olympics, with its rigorous and transparent scoring systems, offers a compelling analogy for why such an approach is necessary.



The Olympic Analogy: Why Objective Scoring Matters

The Olympics is the pinnacle of athletic competition, where the world's best athletes compete for gold. What makes the Olympics so revered is not just the talent on display but the fairness and objectivity of the competition. Imagine if judges were subjective, biased, or inconsistent in their scoring—chaos would ensue, and the integrity of the games would be lost.

In much the same way, organisations must approach product evaluations with a similar level of rigor and objectivity. Just as Olympic athletes are evaluated based on precise criteria, so too must products be assessed against a comprehensive set of criteria that considers all relevant factors. This ensures that the best product, not just the most popular or the cheapest, is selected.

Key Non-Functional Requirements for Product Evaluation

While functional requirements (the specific features and capabilities of a product) are often the focus of evaluations, non-functional requirements are equally important. These requirements determine how well a product will perform in the real world and how it will integrate into the existing ecosystem. Here are four key non-functional requirements to consider:

Scalability

Can the product grow with your organisation? Scalability is crucial for future-proofing your investment. A product that performs well under current conditions may fail if the workload or user base increases significantly.

Security

In today's environment, security is paramount. Evaluate the product's ability to protect sensitive data, comply with regulations, and resist cyber threats. A breach could lead to significant financial and reputational damage.



Interoperability

How well does the product integrate with your existing systems? Interoperability ensures that the new product can communicate and work seamlessly with other tools and platforms in your organisation, reducing the risk of silos and inefficiencies.

Adherence to Corporate Standards

Every organisation has its own set of standards, whether related to technology, governance, or culture. A product that aligns with these standards will be easier to adopt and manage, ensuring a smoother implementation process.

Developing a Scoring Criteria: Example for an Integration Platform

To illustrate how these non-functional requirements can be incorporated into an objective scoring system, let's consider the example of evaluating an integration platform.

I am using a very old scorecard I created in 2014, so please forgive some of the antiqued functionality.

Scoring Criteria for an Integration Platform:

In this example, each criterion is assigned a weight based on its importance to the organization. Evaluators then score each product on a scale from 1 to 10 for each criterion. The score is multiplied by the weight to give a weighted score, which is then summed to give a total score for the product.

As expected, we start with a rigorous list of **expected features and functionality**. Features should be as complete as possible to your organisation's needs. Start by breaking down features into clearly identified parts to have a more objective scoring.



Feature	Requirements Criteria	Level of Desirability
Application Adapters	The integration platform solution contains a module that allows the integration platform to interface with the following applications: • Windows Communication Foundation • Legacy API • SAP PO • Etc. The adapter is able to translate all information received from these applications into an immediately usable format. Additionally, the integration platform can send outbound requests to the applications, allowing for updates and export ability.	Mandatory
Automated Failover	The integration platform solution is capable of routing data, in the event of a fault or failure, to a secondary location for processing. This allows for continuity of service and superior performance.	Mandatory
Automated Load Balancing	The integration platform solution is capable of routing data based on usage levels and the availability of memory and processing power. This load balancing occurs in real-time and is proven to improve performance.	Mandatory
Content-Based Routing	The integration platform solution is capable of routing information based on the content of the information packet or message, instead of static or deterministic routing. The content-based routing criteria can be defined and adjusted by a system administrator without in-depth programming knowledge.	Desirable
Debugging	The integration platform development environment supports the use of breakpoints, step-in, step-over and resume operations within mediations.	Desirable
Federation of Integration Platform	The integration platform solution is capable of deploying local integration platform at remote sites.	Desirable
Java Management Extension (JMX) Integration	The integration platform solution is capable of running a JMX client that enables JMX MBeans (managed bean) monitoring and management. An interface exists for administrators to view performance information computed by the JMX client.	Not Applicable
Log Maintenance	The integration platform solution is capable of computing a logfile the records events that occur as the integration platform runs. The logfile is sufficiently detailed to be useful when auditing system performance or for deducing a sequence of events in real-time. The logfile is viewable through an integration platform management interface.	Mandatory
Log Parsing	The integration platform solution is capable of parsing the logfile and pulling specific information as required by the administrator. This information is viewable through an integration platform management interface.	Not Applicable
Mediation Fault Detection	The integration platform is capable of using mediation to monitor performance and runtime via collecting statistical information on integration platform components, such as sequences, proxy services and endpoints. Mediation monitoring statistics can be configured to collect data on specified sequences, proxy services, and endpoints, and all information is viewable through an integration platform management interface.	Desirable



Message Transformation	The integration platform solution is capable of receiving information in one data format and translating it to another data format prior to further routing. Specifically, the integration platform can manage: • Comma Separated Value (CSV). • Tab Separated Value (TSV). • Fixed Width. • Electronic Data Interchange (EDI) • Emergency Data Exchange Language (EDXL) • Extensible Markup Language (XML). • Hypertext Markup Language (HTML) • JavaScript Object Notation (JSON).	Mandatory
Metadata Querying	The integration platform solution is capable of querying specific metadata and organizing requested information into an easily understandable format.	Desirable
Metadata Reconciliation	The integration platform solution is capable of supporting geographically disparate and federated metadata. This metadata is easily compiled and distributed.	Not Applicable
Metadata Repository	The integration platform solution comes equipped with a metadata repository, a file location where a database that describes the structure of data within the integration platform and service components. The metadata repository is editable and viewable by an administrator.	Desirable
Metadata Version Control	The integration platform solution saves a copy of the previous state of the metadata, and provides the administrator with mechanisms for managing metadata change.	Not Applicable
Policy-Based Routing	The integration platform solution is capable of routing information based on network and server policies. These rules, which can be set and adjusted by a system administrator, include the ability to change whether routing is dependent on the source address or the destination address.	Mandatory
Protocol Transformation	The integration platform solution is capable of receiving data on one protocol and translating it to another protocol prior to further routing. Specifically, the integration platform can manage: • File transfer protocol (FTP) • Hypertext transfer protocol (HTTP) • Hypertext transfer protocol secure (HTTPS) • JMS and message oriented middleware • JDBC and/or ODBC • .NET • Simple mail transfer protocol (SMTP). • Secure shell (SSH) • Transmission control protocol (TCP).	Desirable
Publish and Subscribe (Pub/Sub)	The integration platform solution is capable of routing data from active data event "publishers" to active data event "subscribers." For example, data can be published on the integration platform so that any number of data consumers with active listeners can retrieve the data.	Desirable
Rule-Based Routing	The integration platform solution is capable of defining complex routing rules that govern the flow of information. This includes the ability to program multiple routing contingencies that allow workload balancing and failover routing to occur.	Mandatory



Service Mapping Description (SMD)	The integration platform solution is capable of storing the information pertaining to the services available at particular endpoints in a machine-readable [JSON or insert other format] format. This information includes the location of the service, routing information, failover protocols, and load balancing protocols. The service registry is editable by a system administrator.	Desirable
Service Orchestration	The Integration platform solution has the capability to orchestrate stateless flow of information and request/reply conversations across services and between applications in the SOA.	Mandatory
Simple Network Management Protocol (SNMP) Support	The integration platform is capable of supporting SNMP for monitoring the network. SNMP allows the integration platform to detect device failure or underperformance, and administrators can be notified as needed.	Desirable
Static Routing	The integration platform solution is capable of routing information according to manually-configured entries. These routing configurations can be input and adjusted by a system administrator and will not be subject to change in the event of network or architecture change or reconfiguration. Static routing can be used to define default routes, such as exit points and target services.	Desirable
Testing	The integration platform development environment supports automated unit testing.	Not Applicable
Transport Monitoring	The integration platform is capable of collecting information on the efficiency of transport operations over time. The metrics used to evaluate transport efficiency include bytes received, bytes sent, faults received, faults sent, timeouts received, and timeouts sent. All information is viewable through an integration platform management interface.	Desirable
Usage Monitoring	The integration platform is capable of collecting information on the integration platforms usage level and load over time. The metrics used to evaluate usage include request count, system uptime, response time, message volume, and memory usage. All information is viewable through an integration platform management interface.	Desirable

Next we take a look at the **Architecture** requirements, i.e., how well it will fit into the organisation's enterprise architecture. In this section of the evaluation template, you should have clear framework of how system integrate into your existing environment. For example, if the ERP in use is an Oracle ERP, make sure adapters are available for that system, likewise if you are using SAP or Microsoft Dynamics. The example here is still fairly high level and can be further broken down (for example the SSO used, is it SAML or OAuth compliant, etc.).

Feature	Requirements Criteria	Level of Desirability
Service Oriented Architecture (SOA)	The ESB solution is designed to support a service oriented architecture (SOA). The ESB facilitates integration by decoupling business services from implementation services. The ESB allows for multi-facetted service distribution, such as allowing one enterprise application to interface with multiple services and allowing multiple enterprise applications to interface with each other.	Mandatory



Access controls	Defined users groups and permission requirements.	Mandatory
Integration: .Net Framework	Components are able to exchange data and interoperate with existing enterprise systems - .Net Native adapters	Mandatory
Integration: Oracle ERP	Components are able to exchange data and interoperate with existing enterprise systems - Oracle ERP	Desirable
Integration: WCF	Components are able to exchange data and interoperate with existing enterprise systems. Windows Communication Foundation	Desirable
Database Servers Supported	Database servers are natively supported and/or used by the ESB solution, for on-premise deployment.	Desirable
Client OS Supported	Client operating systems supported by the ESB solution. Specify if 100% browser-based.	Not Applicable
Server OS Supported	Server operating systems supported by the solution, if on-premise deployment is supported.	Not Applicable
Volume	The ESB solution is capable of supporting 1000 messages per second.	Desirable
Scalability	The number of concurrent users (agents and customers) that can be supported on this system and whether the system can be scaled across servers.	Mandatory
Reusability	The integration elements of the ESB can be reused to facilitate the integration of future business services with enterprise applications.	Mandatory
Extensibility	The ability to easily extend the system in the future with new functionality or modifications of existing functionality.	Desirable
SaaS	Identify if this is a software-as-a-service (hosted) solution or a traditional desktop or on-premise application or both (CHOOSE DESIRED OPTION)	Desirable

Another area of evaluation that is often given too little attention is the area of **Technical Support**. I would highly encourage a deeper evaluation of the vendor's ability to provide the level of support you need and when you need it. This is much more crucial to organisations that are lighter on engineering strength where Level 2 and 3 support are reliant on the vendor. You got to ensure the timeliness of response for business operations. For example, if the tech support is based in the US, while the IT operations of the organisation is in Asia, would the response time be acceptable? Even if they are staffed 24/7, the night shift is usually staffed lighter than the day, would the vendor be able to respond in time? Are the training manuals and documentation in the language you require (if you have an international IT team)?



Feature	Requirements Criteria	Level of Desirability
Customer support	Provides toll free customer support 24 hours, seven days per week.	Mandatory
Data management	Provides data management design that supports integration and sharing of data among all applications.	Desirable
Implementation support	Provides complete turnkey on-site implementation and project management support.	Mandatory
Training	Provides on-site training to technicians. (in India)	Mandatory
Software updates	Provides future software releases and updates to all applications as part of regular software maintenance fees.	Mandatory
SQL Support	Supports SQL (Structured Query Language) to query, update, and manage system databases.	Not Applicable
Technical documentation	Provides technical documentation for support staff including system overviews, design, flowcharts, and file layouts.	Mandatory
User manuals	Provides complete set of user manuals for all software applications to document and explain system features and functions.	Mandatory
Local - Singapore	Have local support in Singapore	Desirable
Local - Bangalore	Have local support in Bangalore	Desirable
Partners - Bangalore	Implementation partners available in Bangalore	Mandatory

Then there is the **cost factor**. Very often the cost revolves around the cost of the product itself, but there are many hidden costs to be considered. Make sure to cover cost factor such as consultant cost (in needed) and supplemental staff with the skills to get the new technology up and running.

Name	Description
Hardware	Cost of each piece of hardware that is required to optimally run the software.
Software Licensing	Application licensing fees associated with the proposed software.
Third-Party Software	Any third-party software fees associated with the proposed software.
Server Licensing	Server licensing fees associated with the proposed software.
Documentation & Training	Any documentation and/or training fees associated with the proposed software.
Maintenance	Maintenance fees associated with the proposed software.
Installation	Installation costs associated with the proposed software.
Integration	Any integration fees associated with the proposed software.
Legacy Data Loading	Any labour, equipment, or other costs associated with importing legacy data from current systems into the proposed solution.
Project Management	Any project management fees associated with the proposed software.



Don't forget to create a summary page to aggregate all this data and apply the appropriate weightage for each criteria as part of the scoring system.

I am sure there are many more factors are crucial for your environment and you should expand on the criteria to help achieve the most objective scoring system for your environment. This detailed scoring not only helps you find the best fit for your organisation, but it can play a big part in any audit exercise too.

Conclusion

Just as Olympic athletes are judged on a wide range of criteria to determine the best in their field, so too must products be evaluated on a comprehensive set of functional and non-functional requirements. By developing an objective scoring system as shown in the example above, organisations can ensure that they select the product that best meets their needs. This approach not only reduces the risk of choosing a product that fails to deliver but also aligns the selection process with the organisation's long-term goals and compliance objectives.