



# Assessing Total Cost of Ownership for BI

Providing organizations with the tools to evaluate mid-market BI solutions

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## Executive Summary

With the plethora of business intelligence (BI) solutions available, organizations do not always know where to start when evaluating solutions against one another and assessing overall total cost of ownership (TCO). This report provides mid-market organizations a framework for evaluating the TCO of BI solutions. This framework, comprised of the following categories, provides an overall view of the costs and benefits associated with implementing a BI solution:

1. **Features and functionality** - includes ease of use, interactivity, and data, platform, and security related functionality and is based on how vendors provide their solutions, for instance, out of the box or through customization, etc.
2. **Services and support** – identifies the types of services offered and additional costs associated with these offerings.
3. **Implementation** – looks at the time it takes to implement a solution, as well as ease of use.
4. **Licensing** – provides insight into how products are licensed, the flexibility that exists, and the average number of users within organizations.

These categories are each calculated at 25% of overall TCO totals. In addition, five BI vendors are evaluated - Jaspersoft, LogiXML, Microsoft, QlikView, SAP BusinessObjects Edge – and together, represent a microcosm of the overall mid-market BI landscape. By comparing these vendors with one another, organizations can gain a deeper understanding of the types of solutions available, the strengths and challenges of each, and how to apply TCO calculations to broader BI software evaluations.

The results of the vendor TCO framework comparison (details are broken down under the TCO Calculations section of this report) are as follows:

Total vendor TCO ratings		
Evaluated Vendors	Rating Description	Total Ratings
LogiXML	LogiXML provides features and functionality out of the box limiting the amount of customization required. In addition, their quick implementation times and licensing based on number of servers make their solutions scalable for large deployments.	330
Jaspersoft	Jaspersoft has high services and support ratings with low implementation times. Their subscription-based model allows organizations to take advantage of overall low costs.	305
QlikView	QlikView enables organizations to take advantage of low support and services costs. Product implementation times are longer than the two TCO leading vendors in this report, but QlikView bases their model on having organizations customize and optimize their internal solution before final delivery.	280
Microsoft	Microsoft offers a high level of features and functionality out of the box with broad licensing options, and services and support.	278
SAP BusinessObjects Edge	SAP provides a high level of features and functionality out of the box with a large breadth of solutions overall. General licensing follows one model creating limited flexibility. However, more services and training options are offered.	241

## Introduction

For mid-market organizations considering business intelligence (BI), it is not always easy to sift through the plethora of solutions available to identify which offering will provide the greatest business value. Many companies attempt to apply total cost of ownership (TCO) calculations to aid them in their evaluations. This includes comparing criteria such as features, interoperability, customization requirements, future expansion, training, and support with overall costs and potential savings. However, since no single TCO framework exists, organizations are left on their own to determine whether the criteria or calculation chosen adequately reflects the requirements of their business.

This report provides a TCO framework for companies evaluating BI. This TCO framework measures the following criteria:

- 1) High-level features and functionality to evaluate ease of use, interactivity, and data and security requirements.
- 2) Services and support offered by vendors and how long it takes end users to become proficient at using the solution.
- 3) Time to implement and level of skill required to maintain or to use the solution. In some cases, BI is targeted towards the developer and IT manager, and in other cases solutions are aimed at being self service models targeted to business users. Each one offers its own benefits and challenges regarding the overall TCO framework.
- 4) Licensing models and average number of users to provide insight into the size of implementations and whether licensing fees are structured in a way that is conducive to large-scale deployments.

To provide additional value to mid-sized companies evaluating BI solutions, this report compares five business intelligence vendors that offer mid-market targeted solutions. These vendors each offer different strengths and types of offerings that, together, reflect the overall environment of BI for the mid-market. They are Jaspersoft, LogiXML, Microsoft, QlikView, and SAP Business Objects Edge. By applying this framework and providing real life examples, organizations can use this evaluation as a starting point when looking for a BI solution, or alternatively apply this TCO framework more broadly to evaluate other vendor offerings.

## Assessing TCO

Although many ways exist to evaluate TCO, it is difficult to do so in a vacuum. Organizations need to understand how solutions compare and contrast in relation to one another in order to identify which solution will provide them with the most value. The ways in which comparisons and TCO evaluations are conducted contribute meaningfully to the final software selection. Because all solutions have both benefits and challenges, creating a TCO framework enables organizations to better evaluate both in relation to their business requirements and to make the best choice.

Evaluating TCO helps mid-sized companies define the type of return on investment (ROI) BI can offer. For instance, if an organization uses 2 resources each for 6 days a month to generate reports and to provide analyses to co-workers, then 12 days a month are dedicated to gaining business insights. The use of a formal BI solution can eliminate

this ongoing need and therefore, offset initial implementation costs. In addition, by extending access to employees through a BI implementation, beneficial insights that may not otherwise have been seen are now available. Better business insights and more efficient use of resources are two inherent benefits of BI that tie into the overall evaluation of TCO.

By looking beyond the initial software costs towards licensing structures, services and support, and overall maintenance, organizations gain further insight into overall costs associated with BI. For example, if a limited number of users will be accessing the system, user licenses might not be a leading consideration. However, paying user license fees could quickly become cost-prohibitive for a company that needs to deploy BI to hundreds of users.

## Research Overview and Assumptions

The topic of TCO is vast and can be evaluated in multiple ways. In no way does WiseAnalytics advocate that the framework identified in this paper is the only valid way to evaluate TCO. The purpose of this report is to provide organizations with general TCO guidelines and an understanding that can be applied to their broader BI evaluations. The use of real data and market offerings brings a factual face to the abstract world of cost and benefits analysis and provides a general overview of the strengths and challenges of the standard mid-market BI offerings.

To adequately assess TCO, each participating BI vendor was surveyed and asked to provide answers independently of one another. Also, each vendor made themselves available for additional questions related to their survey responses and product offerings. The survey questions were based on the framework outlined in the executive summary, namely:

- 1) Features and functionality
- 2) Services and support
- 3) Implementation times and ease of use
- 4) Licensing structure

All vendors, with the exception of Microsoft, completed the survey in full. The additional Microsoft related information was collected through interviews with industry consultants. General averages and perceived gaps were estimated. While these numbers may not accurately reflect overall industry averages, they are meant to provide readers with a general comparison and a starting point for their software evaluations.

## TCO Calculation

TCO was calculated based on the four categories identified above, each representing 25% of the overall rating.

- 1) High-level features and functionality. Each feature was rated using the scale below, with total amounts added together to provide overall feature and function ratings:
  - Out of the box = 3
  - Through customization = 2
  - Future release = 1
  - Not a current consideration = 0

- 2) Services and support. This category identifies the number of services that vendors provide customers. It also includes the number of customers using value added services. Costs of services are over and above software and implementation costs. The percentage above and beyond software and implementation is identified to provide organizations with an idea as to how much more (in percent) in relation to costs should be expected. The point structure for additional services costs are the following:

- 0 – 20% = 4
- 21 – 40% = 3
- 41 – 60% = 2
- 61 – 80% = 1
- 81 – 100% = 0

The percentage of customers using support services will have the same point system applied to it:

- 0 – 20% = 4
- 21 – 40% = 3
- 41 – 60% = 2
- 61 – 80% = 1
- 81 – 100% = 0

- 3) Time to implement and ease of use. This section measures the average amount of time it takes to implement the solution and ease of mastering the solution. Ease of use includes the average amount of time it takes for organizations to become familiar with the solution.

Values associated to time to implement are as follows:

- 0 – 2 weeks = 4
- 2 – 4 weeks = 3
- 1 – 3 months = 2
- 3 – 6 months = 1
- Over 6 months = 0

- 4) Licensing and average number of users. In general, the benefits of licensing will differ based on the requirements of the organization. The more flexible a solution is the more likely it will be able to accommodate larger deployments effectively. General points will be allocated for each licensing option offered, with the implications of each expanded upon.

## Vendor Comparison Overview

The vendors being compared within this report offer a glimpse into the mid-market landscape due to their diversity of offerings within the market. Although a subset of overall solutions is represented, each vendor provides unique offerings to organizations that together cover the full range of BI solutions, including reporting, analytics, and dashboards. By comparing Jaspersoft, LogiXML, Microsoft, QlikView, and SAP Business Objects side by side, organizations can begin to identify how these solutions would fit within their current environments and to get a feel for the larger market landscape, as well.

## Jaspersoft

Jaspersoft is an open source BI solution with an official community of over 100,000 registered members. Their three main products, JasperReports, JasperServer, and JasperAnalysis, cover the full range of BI solutions and organizations can choose to implement one or all of their offerings either through a free download or their commercial editions. Their partnership with other open source solution providers allows them to offer customers the full breadth of offerings including data integration and management.

## LogiXML

LogiXML offers a suite of BI products targeted separately to end-users and to developers with the ability to implement an overall BI platform or a set of front-end data visualization and analysis capabilities. Each product is offered through an easy to use interface that allows customers to develop reports and dashboards as well as share information across the organization. Their overall platform includes a data integration component that enables data capture from multiple operational sources.

## Microsoft

Microsoft offers a variety of business intelligence solutions, with the most popular being Excel. Their SQL Server, Analysis Services, and Reporting Services provide an overall BI suite of solutions for organizations looking to delve deeper into their data. Organizations can choose one or all solutions to implement as part of their overall BI strategy or use SQL Server as a backend to other front-end analysis and reporting solutions.

## QlikView

QlikView is an analytical BI vendor that provides horizontal solutions and lets end users build their own BI analyses through an easy to use user interface. Organizations can perform embedded analytics by analyzing a variety of layers of data at one time without the required technical skills to write queries. Targeted largely to mid-market companies, organizations can gain visibility into information using multiple levels of analysis without having to develop OLAP cubes or by using other multi-dimensional analysis tools.

## SAP BusinessObjects Edge

SAP BusinessObjects targets mid-market companies through their Edge series of products. Due to their breadth of solutions organizations can deploy a wider variety of operational solutions in addition to BI. Organizations using SAP products may wish to expand using the same provider. Since SAP's acquisition of BusinessObjects, there has been constant effort to integrate various solution offerings to enable customers leveraging SAP data to also take advantage of BusinessObjects. Overall, their Crystal Reports offering enables simplified reporting for organizations not requiring robust BI.

## Features and Functionality

This section provides a rating of vendor functionality based on whether vendors offer the features and functionality identified. Vendor functions are broken out into three separate areas that include ease of use, interactivity, and data requirements and ratings are allocated as follows:

- Out of the box (3 points)
- Through customization (2 points)
- Future release (1 point)
- Not a current consideration (0 points)

Ease of use of a product includes the simplicity of design and interactivity. End users require the ability to create content that can be customized, redesigned, and revised without external resources required. The easier it is to reuse content and to interact with the solution in relation to analyzing information and customizing content, the more valuable the solution will be to the organization over time.

The criteria chosen for each category below represent some of the essential features and functions organizations should consider when evaluating BI software.

Ease of Use					
Features and Functionality	Jaspersoft	LogiXML	Microsoft	QlikView	SAP Business Objects Edge
Content creation that includes reusable data view elements (such as data tables, graphs, and animated charts)	3	3	3	3	3
Drill down capability within crosstabs and charts	3	3	3	3	3
Report wizards to guide users through analytical and reporting tasks	3	3	3	3	3
Exports to common formats, including Microsoft Office, PDF, and Google Docs	3	3	3	3	3
Enable interactive drill down into multiple detail levels	3	3	3	3	3
Report prompts to give multiple selection criteria, ease of implementation (scripting and coding)	3	3	3	3	3
Multiple nested report prompts support (scripting and coding)	2	3	3	3	3
Changing graphical views in real-time	3	3	3	3	3
<b>Total</b>	<b>23</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>



The ability to create applications that interact with their environments through dashboards and online component integration is the second area within features and functionality being evaluated. With increasing requirements for Web interaction and the ability to integrate geographic and other Web-based information, dashboards, and other BI tools must provide end users the ability to take advantage of these solutions.

<b>Interactivity</b>					
<b>Features and Functionality</b>	Jaspersoft	LogiXML	Microsoft	QlikView	SAP Business Objects Edge
Performs calculations based on date and time for trend analysis	3	3	3	3	3
GIS reporting (support for ESRI, Google Maps, or MapInfo)	2	3	3	3	3
Creates personalized views for analysis (using cubes/relational data)	3	3	3	3	3
End user reporting out of relational data via Web browser	3	3	3	3	3
End user analysis out of OLAP data cubes via Web browser	3	3	3	3	3
End user dashboard building through a Web browser	3	3	3	3	3
End user report and alert scheduling	3	3	3	3	3
Creation of analytic workflow with built-in alerts and notifications	2	3	2	2	3
Row-level conditional class to identify problem areas in real-time	2	3	3	3	3
Uses dashboards to deliver personalized information across the enterprise	3	3	3	3	3
<b>Total</b>	<b>27</b>	<b>30</b>	<b>29</b>	<b>29</b>	<b>30</b>

As with ease of use, vendors generally provide interactivity features out of the box. And for vendors that do not, customization is available to allow end users to achieve the interactions they require.

The final evaluation section below features and functionality involves the way companies interact with data. This includes areas such as access to data, security, and the overall platform. Without exception, each vendor provides all features out of the box except for the ability to write back into operational data stores. In some cases, organizations can achieve this through customization, and in other cases, not at all. Whether or not data quality is an issue, the ability to change data at the source may be seen as problematic due to compliance or auditing requirements. Therefore, even though errors exist at the source level, organizations may choose to only change the information within a data warehouse, alternate data store, or by implementing a master data management solution to help identify value and correct data.

Data, platform, and security					
Features and Functionality	Jaspersoft	LogiXML	Microsoft	QlikView	SAP Business Objects Edge
Real-time access to multiple data sources per report or visualization (examples include XML Web Services, RSS/ATOM, and traditional data servers)	3	3	3	3	3
Write back capability into operational data	0	3	3	2	3
Zero footprint and multi-platform client	3	3	3	3	3
Supports user and group role-based security	3	3	3	3	3
Integration of 3rd party BI, application components, custom HTML, and JavaScript	3	3	3	3	3
User interface customization via standards (such as CSS)	3	3	3	3	3
Platform availability for integrating with existing infrastructure - multi-platform support (.NET, Java)	3	3	3	3	3
<b>Total</b>	<b>18</b>	<b>21</b>	<b>21</b>	<b>20</b>	<b>21</b>

Totals					
Categories	Jaspersoft	LogiXML	Microsoft	QlikView	SAP BusinessObjects Edge
Ease of use	23	24	24	24	24
Interactivity	27	30	29	29	30
Data	18	21	21	20	21
<b>Totals</b>	<b>68</b>	<b>75</b>	<b>74</b>	<b>73</b>	<b>75</b>

## Services and Support

The types of services provided by a BI vendor can help organizations identify what will be available to them and whether they may have to consider alternative for additional services or support. In theory, organizations may only require services during the development and implementation phase, and support on an ongoing basis. General services include:

- **Solution development/customization.** Services rendered to help the organization with the design of the solution are used within companies that have specific business requirements, design specifications, and/or that require general changed to the overall look and feel of the solution.

- **Consulting/best practices.** The use of BI does not guarantee success or enhanced visibility into business. In many cases, organizations require assistance to transform their business issues into defined metrics, to best monitor current processes, or to create forward-looking analysis.
- **Training.** This includes onsite, online, and self-directed training, as well as through-guided support.
- **Data integration.** Services that focus on extracting data from source systems and loading it into the solution. Data integration services can also include data cleansing, data quality, and data profiling, etc.
- **Documentation.** Access to solution documentation gives users a way to reference information and provides in-depth information related to the deployment and use of the system.
- **Support.** Phone, email, and onsite support are varying levels of services offered to customers. In many cases, organizations can choose the type of support they prefer. In other cases, support services are bundled and provided as a single package.
- **Consulting partnerships.** Solution providers may develop partnerships with third party consulting firms so that outside parties can provide services to customers as well.

Professional Services and Support Offered					
	Jaspersoft	LogiXML	Microsoft	QlikView	SAP Business Objects Edge
Solution development/customization	✓	✓	✓	✓	
Consulting/best practices	✓	✓	✓	✓	✓
Training	✓	✓	✓	✓	✓
Data integration		✓	✓	✓	✓
Documentation	✓		✓	✓	✓
Phone support	✓	✓	✓	✓	✓
Email support	✓	✓	✓	✓	✓
Onsite support		✓	✓	✓	✓
Consulting Partnership	✓	✓	✓	✓	✓
<b>Total</b>	<b>8*</b>	<b>8</b>	<b>9</b>	<b>9</b>	<b>8</b>

\*Jaspersoft's extra point comes from its community aspect whereby customers can get additional support and interact with peers and developers online, work collaboratively on projects, and have constant access to updates.

The following identifies types of training offered. In each case, surveyed vendors have stated that course completion and solution proficiency based on training provided can be accomplished within four days.

Types of Training Offered					
	Jaspersoft	LogiXML	Microsoft	QlikView	SAP Business Objects Edge
Onsite training	✓	✓	✓		✓
Online classes	✓	✓	✓	✓	✓
Self-directed Web-based training	✓		✓	✓	✓
Guided support		✓	✓	✓	✓
<b>Total</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>3</b>	<b>4</b>

Identifying the number of customers using value added services and their associated costs enable organizations to plan for additional budgetary requirements. In general, buyers should allocate 20% or more for services costs, though this number varies on a case-by-case basis.

<b>Percentage of Customers that Purchase Value Added Services</b>		
	<b>Percentage</b>	<b>Point Value</b>
Jaspersoft	41 - 60%	<b>2</b>
LogiXML	41 - 60%	<b>2</b>
Microsoft	61 – 80%	<b>1</b>
QlikView	41 - 60%	<b>2</b>
SAP BusinessObjects Edge	81 - 100%	<b>0</b>

By combining the additional software costs with the number of customers using additional services and support, organizations can identify the likelihood of requiring additional services and how much they may pay for those services.

<b>Services and Training Costs as a Percent of Overall Sale</b>		
	<b>Percentage</b>	<b>Point Value</b>
Jaspersoft	0 - 20%	<b>4</b>
LogiXML	0 - 20%	<b>4</b>
Microsoft	21 - 40%	<b>3</b>
QlikView	21 - 40%	<b>3</b>
SAP BusinessObjects Edge	41 - 60%	<b>2</b>

<b>Totals</b>					
<b>Categories</b>	Jaspersoft	LogiXML	Microsoft	QlikView	SAP Business Objects Edge
Professional services	8	8	9	9	9
Training	3	3	4	4	4
Value added services	2	2	1	2	0
Additional software costs in percentage	4	4	3	3	2
<b>Totals</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>15</b>

## Implementation

Identifying the average time to implement a solution helps organizations plan for resource requirements. Some mid-sized organizations want immediate results but overlook the importance of tailoring the solution to meet their specific needs and factoring in the time and resources required to do so. It is important to take into account additional factors such as customization required, ease of use, and long term goals in order to fully evaluate TCO.

Average Deployment Time		
	Amount of time	Point Value
Jaspersoft	Between 0 and 2 weeks	4
LogiXML	Between 0 and 2 weeks	4
Microsoft	Between 1 month and 3 months	2
QlikView	Between 1 month and 3 months	2
SAP BusinessObjects Edge	Between 1 month and 3 months	2

## Licensing

When evaluating solutions and associated costs, licensing structures should be reviewed for additional expenses that increase overall costs. The type of licensing offered helps organizations identify whether they will be paying a yearly amount, per user identified, by the number of servers used, per developer, etc. In general, vendors license their product based upon the type of solution they offer and their positioning in the market. As the market diversifies and as organizations demand more flexibility it becomes possible to work with vendors to create a model that works for the organization based on how they will use the solution.

Licensing Structure					
	Jaspersoft	LogiXML	Microsoft	QlikView	SAP Business Objects Edge
CPU/Server based	✓	✓	✓	✓	
Yearly subscription - individual					
Yearly subscription - group	✓	✓			
Monthly subscription					
Per user			✓	✓	✓
Developer	✓	✓	✓	✓	
<b>Totals</b>	<b>2*</b>	<b>3</b>	<b>3</b>	<b>2**</b>	<b>1</b>

\*Jaspersoft's yearly subscription fees are based on CPU/Server licenses, with developer licenses being available upon request.

\*\*QlikView's licensing fees are based on one CPU/Server based fee and access to server fees that are on a per user/developer basis.

The average number of licenses needed and end users that will use the solution help identify how broad usage is within organizations. Licensing factors to take into consideration include size of deployment, desired future expansion, etc. In general, an organization should look for solutions that can be widely deployed with licensing structures that will not constrain BI growth over time. For instance, organizations should be aware that some licensing structures are more general, as in the case of yearly

subscription fees for commercial customers (Jaspersoft), whereas others are based on individual user fees, servers used, or a combination of both (as with QlikView).

Depending on planned growth over time, organizations should factor in how use will be affected by additional end users, increased development, or new servers.

By reviewing the charts below organizations can gain a sense of average number of licenses and typical usage.

Average Number of Licenses Used	
Jaspersoft	Yearly subscription based on open source models Not applicable to open source subscriptions based on license model
LogiXML	Not applicable as licensing is based on the number of servers and development required, not on individual user
Microsoft	16 - 30
QlikView	31 - 50
SAP BusinessObjects Edge	16 - 30

For vendors that do not base their licensing structure on individual users, the chart below provides a more accurate view of how widely, on average BI is deployed.

Average Number of Users per Deployment?	
Jaspersoft	52 - 75
LogiXML	102 - 250
Microsoft	77 - 100
QlikView	27 - 50
SAP BusinessObjects Edge	77 - 100

Overall ratings for Licensing structure	
	Totals
Jaspersoft	2
LogiXML	3
Microsoft	3
QlikView	2
SAP BusinessObjects Edge	1

## Findings

The following charts reflect the overall ratings within each section and how vendors compare against one another. Getting the best results from a software implementation requires that organizations understand what their business pains are and how chosen solutions will address those needs. Part of this involves what the overall total cost of ownership will be related to support, services, time to implement, and the like.

The chart below identifies the overall feature and function ratings:

Overall ratings for features and functionality					
Categories	Jaspersoft	LogiXML	Microsoft	QlikView	SAP Business Objects Edge
Ease of use	23	24	24	24	24
Interactivity	27	30	29	29	30
Data	18	21	21	20	21
<b>Totals</b>	<b>68</b>	<b>75</b>	<b>74</b>	<b>73</b>	<b>75</b>

The following chart combines the ratings of the all comparisons related to overall services and support provided to customers. While organizations may choose to weigh one as more important than another, for the purpose of this evaluation, they are all considered equal, with higher ratings corresponding to lower TCO.

Overall ratings for services and support					
Categories	Jaspersoft	LogiXML	Microsoft	QlikView	SAP Business Objects Edge
Professional services	8	8	9	9	8
Training	3	3	4	3	4
Value added services	2	2	1	2	0
Additional software costs in percentage	4	4	3	3	2
<b>Totals</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>14</b>

The ability to implement and deliver solutions quickly is becoming more important as organizations require less time to identify potential issues and remain proactive. Implementation times differ based on integration requirements, development of solutions, resources required, etc. In some cases, solutions include automated processes or quicker implementation times than their competitors. Although, for the purposes of this report quicker implementation times are evaluated as providing overall lower TCO to customers, the ability to implement a solution more quickly does not always relate to actual project success. In some cases, it may make sense for organizations to spend more time during the implementation phase to develop solutions that identify specific business issues and provide the right capabilities in comparison with a shorter initial implementation that will require much customization in the future.

Expertise required can help an organization match the skills required with those that are available in-house. If a solution requires technical expertise to develop and/or maintain

BI, organizations looking for self-service models may be required to match their internal expertise with what is available.

Overall ratings for implementation times	
	Totals
Jaspersoft	4
LogiXML	4
Microsoft	2
QlikView	2
SAP BusinessObjects Edge	2

The licensing section also identifies the average number of licenses and users for each software provider. Although each case is different, certain solutions lend themselves better to larger deployments and usage across the organization. Based on the survey results, LogiXML has the largest average users per deployment, with Microsoft, SAP BusinessObjects Edge, Jaspersoft, and QlikView following behind (in that order).

Overall ratings for licensing structure	
	Totals
Jaspersoft	2
LogiXML	3
Microsoft	3
QlikView	2
SAP BusinessObjects Edge	1

The overall licensing ratings identify the types of licensing available to organizations.

## TCO Totals and Vendor Evaluations

The overall ratings are based on the “TCO Calculation” section above, with each total accounting for 25% of the total amount of TCO (each 25% total being evaluated out of a possible 100%). In this section, each vendor is being evaluated against each other with broader analysis on their individual performance. Therefore, each section uses calculated ratings based on 100% and is divided by 4. Final amounts are as follows:

Total vendor TCO ratings	
	Totals
LogiXML	330
Jaspersoft	305
QlikView	280
Microsoft	278
SAP BusinessObjects Edge	239



## LogiXML

LogiXML scored highest based on their ability to provide out of the box features and functions, and quick implementation times. In addition, even though between 40% and 60% of their customers use additional support and training, these services are on average just under 20% of overall spend, meaning that licensing costs are kept low. LogiXML costs are server-based as opposed to individual users – with the exception of Logi Studio, which uses a developer licensing model. Overall, LogiXML's product models enable quick implementation times and the ability to develop BI using a strong internal IT infrastructure, or through front-end reporting and analysis tools geared towards business users.

## Jaspersoft

Jaspersoft's strengths lie in its business model. By nature, open source solutions are built based on a strong interaction with the end user community. This means that solutions can be deployed more quickly because any issues regarding the solution or snags in implementation can be dealt with quickly. Overall, Jaspersoft had high services and support ratings and quick implementation times. Due to its subscription based licensing model, the ability to choose diverse licensing options does not exist. However, organizations pay a flat fee for use, meaning that overall costs can be lower for larger deployments. Jaspersoft features and functionality ratings were not as strong as the other vendors, with its main lag being the ability to write back data to operational data sources.

## QlikView

With an average of 30 – 50 users per organization, QlikView's lower support and services costs means that organizations do not have to pay large overhead amounts in addition to initial software costs, but may pay more in licensing fees due to the dual nature of their licensing structure. Because of their need to customize the ability to write data back to operational data sources and to develop built-in alerts, QlikView rates lower overall on features and functionality. However, they provide all other features out of the box. The key reason for QlikView ranking in 3<sup>rd</sup> place is their longer average implementation times. Because QlikView's offerings are horizontal in nature, organizations require the ability to customize solutions to meet their unique business requirements. Although this can lead to longer implementation times, it also means that organizations are better able to develop solutions that will better meet their needs over time.

## Microsoft

Microsoft offers a high level of features and functionality out of the box. The only gap in relation to the features offered are regarding analytical workflows with built-in alerts and notifications that they can provide to customers through customization. In addition, Microsoft has flexible licensing structures and strong services ratings. Their overall market penetration and the proliferation of Excel use for general analytics may make Microsoft a natural choice for many organizations. With natural business intelligence functionality built-in to Excel 2007, many organizations may not see the need to go further or they may choose to expand upon their current Excel use through additional Microsoft BI products.

## SAP BusinessObjects Edge

SAP BusinessObjects highest section ratings stem from its ability to offer features and functionality out of the box without the need for additional customization. In addition, its breadth of solution offerings allows organizations to use their solutions whether in-house technical expertise exists or not. Being a leading and traditional BI offering means that its solutions may not have as flexible licensing or services pricing models. In this case, most SAP BusinessObjects customers use concurrent access licenses that are modeled after the number of users requiring access to BI at any one time. Customers requiring many concurrent users may find that this model is not the most cost effective when looking at large deployments. SAP BusinessObjects implementation times are also longer than some competitive vendors as more integration is required to get the system up and running and to access data from multiple sources.

## Conclusion

The application of a general TCO framework to an overall software evaluation makes it easier for companies to develop a short list and narrow down their BI application search. Organizations can use the framework presented in this report to compare and contrast solution providers and to get an overall view of what types of targeted solutions exist for mid-market companies.

The evaluation of overall TCO requires the ability to look at many different aspects of a vendor offering to determine what will most benefit any given organization. Identifying out of the box features and functionality, support and services, implementation times, and licensing structures allow organizations to get a broader view of what overall costs will be when considering a BI implementation.

Assessing Jaspersoft, LogiXML, Microsoft, QlikView, and SAP BusinessObjects against each other enables organizations to get a feel for the overall mid-market BI landscape. Each solution provider represents a larger section of the market, whether it is open source, traditional BI, or interactive analytics. The ability to compare them to one another on a high level proves invaluable in the software evaluation decision-making process.

Based upon their quick implementation times and low overall support costs, LogiXML is rated the highest. However, each solution provides value, and organizations must balance their goals with what solution providers offer. It is possible that a solution with a lower overall rating might be more beneficial to consider in relation to an organization's needs.