

Ovum Decision Matrix: Business Intelligence and Analytics for Telcos

Harnessing data is more important than ever for telecoms providers

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SUMMARY

Catalyst

Telecommunications providers see significant opportunity in exploiting the data they capture on their customers, operations, and the wider market to grow profitable businesses. Difficult market conditions have driven rapid uptake of business intelligence (BI) and analytics solutions in the telecoms industry. As a consequence, the competitive landscape has become crowded by a diverse set of solution providers, making the selection process difficult for telcos. Ovum has analyzed the market to produce this Decision Matrix report to help telcos select the right BI and analytics solutions from the leading vendors according to their business requirements. This report examines the competitive dynamics of the market for BI and analytics in telecoms, and provides telcos with analysis to inform the solution selection process, based on an assessment of each vendor's technology strengths, market impact, and strategy.

Ovum view

IT trends in the telecoms industry suggest big changes in how telcos deal with customer and operational data. Telcos seek state-of-the-art IT tools to improve efficiency, speed time to market, and reduce customer churn as they move steadily toward a software-driven service environment. Because margins are lower than they have been in the past, telcos are investing in BI and advanced analytics to improve efficiency and support business decision-making. There is strong vendor activity as technology suppliers enhance their capabilities to meet existing demands and anticipate new requirements. SAS, IBM, Oracle, and HP, along with other, smaller vendors such as Tibco and QlikTech, are among those

vendors addressing telcos' evolving BI and analytics needs. Oracle, IBM, and SAS, each with mature and sophisticated offerings, are the overall leaders in the BI market for telcos.

Yet all that glitters is not gold – realizing value from BI and analytics will require considerable investment from both vendors and telcos, particularly in interoperability and data integration. Despite their sophisticated databases, advanced analytics, and visualization tools, vendors still struggle to address the daunting challenge of integrating IT and network data. Telcos view improved quality of customer experience and service personalization as key to reducing churn, but they still struggle to achieve a holistic view of each subscriber. They aim to achieve a 360-degree view of the customer, combining customer data from various siloed applications across their operations, such as billing, customer care, and the network. But overall, a true 360-degree view seems to be a distant dream; Oracle is the only vendor that has integrated numerous elements into a single solution.

However, the best route to that type of integrated view is still unclear. Just a handful of vendors have created truly pre-built departmental models; others believe that each telco requires a certain level of customization, so they create a unique model each time. Still, whatever their approach, vendors do have clearly defined plans and are working to integrate various aspects of billing and operational data. The industry is witnessing the early adoption of a model in which data is centralized and each department can access a 360-degree view of the customer and of operations.

Overall, vendors are making tremendous progress in offering sophisticated capabilities built specifically for the telecoms industry. Because of their immense growth potential, telcos are a key strategic focus for all vendors with vertical-specific offerings. Vendors are launching products, forging partnerships, and developing advanced analytics tools to analyze various aspects of telco operations. As more vendors enter this arena, the BI and analytics selection process for telcos becomes increasingly complicated. However, the increased complexity is partly the result of stronger product offerings with broader functionality, which is good news. Ovum believes the selection challenge now warrants a longer and more detailed evaluation process of both telco requirements and vendor offerings.

When selecting BI and analytics solutions, telcos have more choice than ever before. Consequently, each telco is likely to find a solution well aligned to its own specific BI and analytics needs. Yet the diversity of the competitive landscape means that they must make important strategic decisions early on in the selection process, about, for example, whether or not they intend to expand their BI and analytics deployment enterprise-wide and how much customization they will require. A few vendors, such as IBM and Oracle, have pulled ahead of the pack due to their innovative product development strategies, but Ovum anticipates that this will continue to be an exceptionally competitive market.

Key findings

Vendors add advanced analytics techniques, such as predictive analytics, to their BI offering

To differentiate their offerings, BI vendors are increasingly developing or acquiring predictive analytics capabilities and incorporating them into their core platforms. For example, IBM acquired SPSS in 2009 with the aim of integrating predictive analytics capabilities into the Cognos BI suite. The predictive analytics market is witnessing strong vendor activity, with increasing numbers targeting telcos' CRM, sales, marketing, and billing systems with sophisticated and telco-specific offerings.

Telcos are not investing in cloud-based BI

The telecoms industry is highly regulated, with strict data security and privacy laws. In addition, telcos are very protective about their customer data – their most strategic asset. As a result, telcos are not comfortable sharing customer data in the cloud (either public or private), where they perceive themselves to have less control. No vendor featured in this report has a significant installed base for its cloud solutions. Ovum believes that while some issues may take time to be resolved, such as telco aversion to hosting confidential data on public clouds, cloud BI as a business model and consumption model can no longer be ignored. As the amount of data collected by telcos continues to mushroom, telcos may come to see private clouds as a viable option.

Most vendors do not address the issue of achieving a 360-degree view of the customer

In today's highly competitive telecoms industry, customer satisfaction has become critical to success. Telcos need to focus on the quality of their customers' overall experience, rather than the quality of separate applications. However, vendors seem to be struggling to provide solutions that address this problem for their telco customers. Vendors offer sophisticated telco-specific BI and analytics capabilities, but fail to showcase customer experience management metrics in their pre-built offerings. During Ovum's research for this report, a handful of vendors highlighted that in the past eight months they have initiated some work to achieve a 360-degree view of the customer, but there seems to be more talk than action. Vendors are still building and focusing on individual departments rather than integrating various aspects of customer and network data. Telcos critically need tools that bridge the gap between IT and network data, and vendors need to focus on the interoperability and integration of various data sources required to bridge that gap.

Vendors make investments to enhance mobile BI capabilities

Telcos' increasingly tech-savvy and geographically dispersed workforces want to access corporate data anywhere, anytime via mobile devices such as tablets and phones. Telcos consider accessibility on mobile devices as key to continually enabling workers to connect to one other and to internal BI systems. Mobile BI is poised to take off in the next three years. Vendors such as SAS have introduced browser-based reporting tools, empowering users to monitor key metrics and make informed decisions

wherever they are. Most vendors analyzed in this report have introduced mobile applications for iPad and are now working to extend their capabilities to Android devices. Mobile BI and analytics are capabilities that vendors must enhance in the next 12–18 months.

Network analytics is another critical investment area

In developed economies, vendors are successfully selling advanced analytics mainly into two telco departments – marketing and customer lifecycle management – to improve customer acquisition and retention, and to boost upsell and cross-sell. Telcos intend to extend the use of advanced analytics to other business processes such as network failure and capacity planning. Some vendors included in this report have already made huge investments to develop their network analytics capabilities. Of all of the vendors that we have analyzed, HP has developed the most comprehensive set of network analytics capabilities, which includes policy controls, authentication, and authorization. As telcos are still experimenting with network analytics, there is a huge opportunity for vendors.

VENDOR SOLUTION SELECTION

Inclusion criteria

Because BI and analytics have very broad definitions that include reporting, data management, and performance management, numerous vendors position themselves and their products in this technology area. Identifying appropriate solutions for telcos requires a very tight set of inclusion criteria. Vendors were included in the analysis if:

- they offer pre-built models and solutions for telcos
- they offer a BI "platform" in which all moving parts are well integrated. The platform offering must give telcos a way to manage and work with raw data, and allow business users to create reports and data visualizations to impact business decisions
- they must derive a majority of growth from license revenue
- their products must have a significant level of brand awareness across telcos in multiple geographies.

Exclusion criteria

Vendors were excluded from the analysis if:

- they provide horizontal offerings with no KPIs embedded specifically for telcos
- they provide point solutions only, such as only reporting, data visualization, data mining, or predictive analytics
- a significant portion of the functionality of their offerings is delivered through third-party products
- their presence is geographically limited

- they have maintenance revenue growth only.

Methodology

Technology analysis

As BI solutions cover a broad range of functionality and tools, Ovum has identified seven key areas of BI functionality:

- **Interoperability and integration:** The ease and extent with which a technology offering can exist, interface, combine, and work with products, services, and solutions from other vendors, and its ability to integrate with multiple data sources, operating platforms, and applications, both native and from third parties.
- **Offering maturity:** The extent to which an offering has developed in comparison to similar offerings on the market. BI and analytics vendors generally offer a range of discrete products and it is important to consider the maturity of the whole range as well as its individual parts.
- **Deployment options:** The capability of the solution to be deployed rapidly and maintained, and the various deployment options on offer, such as on-premise and cloud-based subscriptions.
- **360-degree view of the customer:** The solution's ability to create a complete view of the customer experience across all relevant data and interactions between departments and individuals, and to ensure that the information maintained over time.
- **Information delivery:** How well the solution supports the notion of "putting information at your fingertips." Many telcos excel at data collection, but it is through BI information delivery that this data becomes actionable. In this report we evaluate the sophistication of dashboards and graphs that the solutions offer.
- **Analytics:** The range and depth of predictive and advanced analytics functions.
- **Pre-built applications:** Retention, loyalty, marketing campaigns, network analysis, and cross-sell and upsell are just some of the pre-built applications being offered by BI vendors. This category takes note of modules, reports, KPIs, and scorecards that are designed specifically to address the needs of telcos.

Strategy analysis

We assess an offering's ability to support end users on a scale of 1–10, by considering the various points at which end users need vendor support and more generic relationship management capabilities. Ovum rates vendors' BI solutions on end-user support in six categories:

- **Product quality:** The overall functionality and aesthetic appeal of the offering.
- **Customer support:** How well the vendor engages with telcos to enhance their offerings.
- **Professional services:** Whether or not the vendor has a sufficiently skilled and available professional services team to support the solution's implementation and provide strategic advice as needed.

- Strategy and execution: Many aspects of vendors' BI strategies are assessed, as well as their ability to execute their strategies. We consider factors such as financial stability, training options, support policies, and maintenance options, as well as deployment services and implementation partners.
- Ease of use: The intuitive and self-service capabilities of the offering.
- Mobile BI: The ability to push reports and content to mobile devices easily, and the ability to use BI artifacts as collaboration objects.

Market impact analysis

We use both primary and secondary research to determine a vendor's global market impact. Market impact is measured across six categories, each with a maximum score of 10:

- Revenue: Global revenues calculated as a percentage of the market leader's revenue. The percentage is then multiplied by 10 and rounded to the nearest integer.
- Revenue growth: Each vendor's revenue growth for the last fiscal year is calculated as a percentage of the growth rate of the fastest-growing company in the market. The percentage is then multiplied by 10 and rounded to the nearest integer.
- Geographical reach: Ovum determines the number of countries in which the vendor has a presence. This number is calculated as a percentage of the market leader's geographic reach, multiplied by 10, and rounded to the nearest integer.
- BI/analytics revenues: Ovum determines each vendor's revenues in the BI/analytics space. These revenues are calculated as a percentage of the market leader's revenues, multiplied by 10, and rounded to the nearest integer.
- Telco BI/analytics revenues: Ovum determines each vendor's revenues in the BI/analytics space from the telecoms industry. These revenues are calculated as a percentage of the market leader's revenues, multiplied by 10, and rounded to the nearest integer.
- Recognition: Ovum has previously conducted several surveys in which respondents were asked to identify the BI vendors of which they are aware. The recognition percentage of each vendor in this report is divided by the percentage of the most recognized vendor; and that figure is multiplied by 10 and rounded to the nearest integer.

Ovum ratings

The value of an analytics tools is determined by the tools' ability to help telcos execute their overall performance management strategies. Accordingly, a telco's decision to purchase one solution over another should be based on a broad array of factors, including the degree of alignment between the solution's features and functionality and the specific objectives of the telco's BI and analytics strategy. Ovum's designations of vendors as leaders, challengers, and followers should therefore be interpreted only within the context of a telco's specific solution requirements.

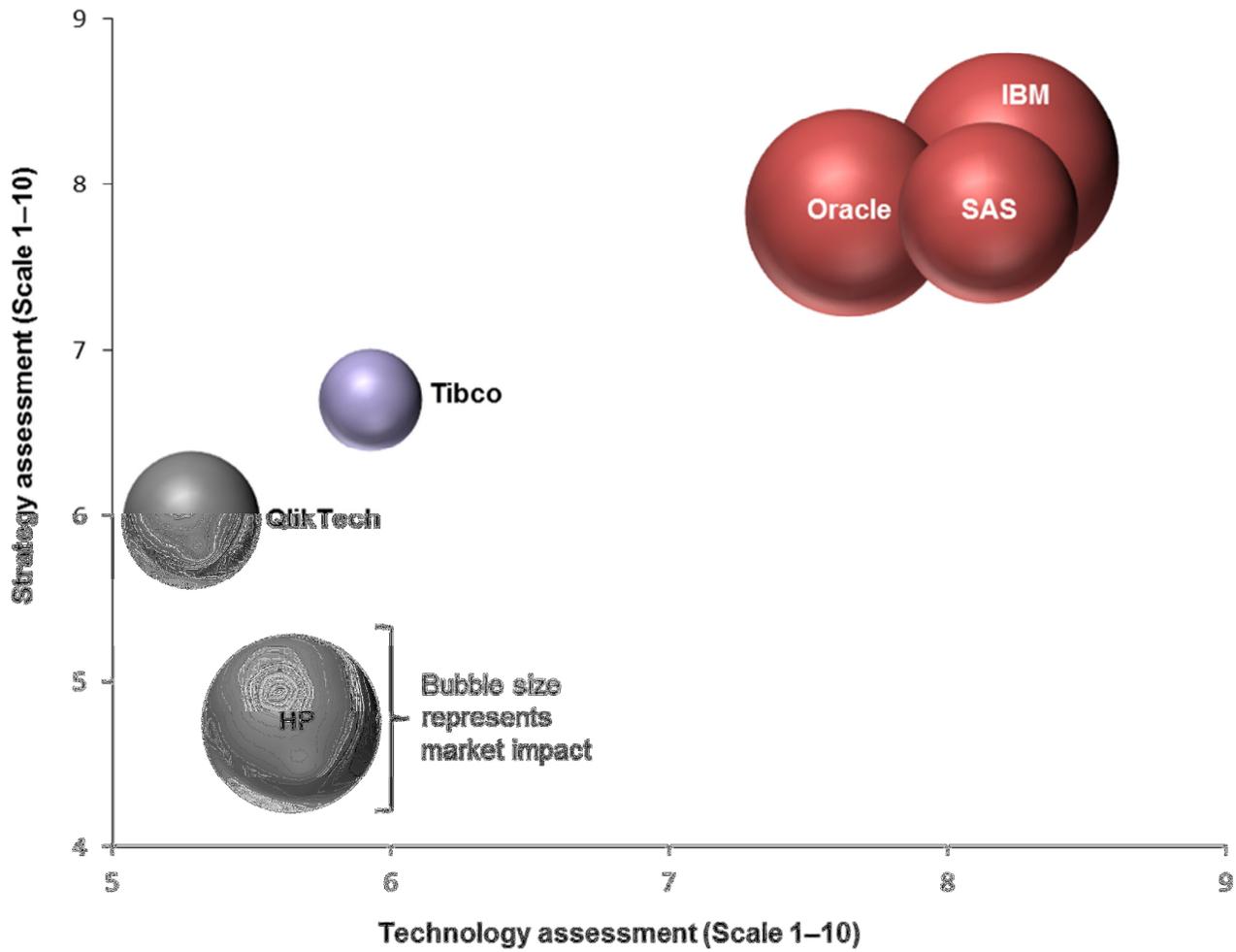
- **Leader:** This category represents the solutions that we believe deserve a place on most technology selection shortlists. Vendors in this category have established a commanding market position with a product or products widely accepted as best of breed.
- **Challenger:** Vendors in this category hold a good market position and are selling and marketing their offerings well. The products have competitive functionality and a good price-performance ratio, and should be considered as part of the technology selection process.
- **Follower:** Vendors in this category offer solutions with narrower applicability, and may have limitations in functionality or the vendor's ability to execute. However, they will still be suitable for specific requirements and may be worth exploring as part of the technology selection process.

MARKET AND SOLUTION ANALYSIS

Ovum Decision Matrix: BI and analytics for telcos

As telcos seek to improve and accelerate their decision-making, they need to invest in BI and analytics tools that can deal with the rapidly increasing volumes of data generated by both internal and external sources. To be effective, these tools must evolve continuously in their usability, integration, security, scalability, and performance. Figure 1 highlights the market position of leading BI and analytics vendors in the telecoms industry.

Figure 1: Ovum Decision Matrix: BI and analytics for telcos, 2012-2013



Source: Ovum

Table 1: Ovum Decision Matrix: BI and analytics for telcos, 2012-2013

Leaders	Challengers	Followers
Oracle	Tibco	HP
IBM		QlikTech
SAS		

Source: Ovum

Market leaders: Oracle, IBM, SAS

The large number of vendors offering comprehensive BI and analytics solutions to the telecoms industry should encourage telcos to move forward with investments in this area. IBM, Oracle, and SAS are

market leaders in BI and analytics for telcos. These vendors deliver robust, complete solutions that are able to support a significant portion of telcos' operations and have an established presence in and commitment to the industry. They offer advanced analytics and sophisticated information delivery platforms. Consequently, Ovum recommends that telcos shortlist these vendors when selecting a BI and analytics solution.

Oracle scores highest on enabling telcos achieve a 360-degree view of the customer and operations. It has introduced the Oracle Communications Data Model (OCDM), a comprehensive solution for telcos that creates a central repository for all data.

IBM offers the most sophisticated BI and analytics portfolio as a result of its recent acquisitions of Cognos, SPSS, and Netezza, among others. In addition, IBM has the highest recognition score as a result of its global footprint and leading professional services capability. It has already embedded SPSS technology into Cognos so that Cognos users can consume SPSS models directly. High-level integration across IBM Global Services, SPSS, and Cognos has created a compelling proposition for telcos.

SAS leads the BI market with a strong technology offering for this market. SAS's advantage in advanced analytics and information delivery, areas that are becoming more relevant to telcos, continues to differentiate the vendor. The latest version of SAS has sophisticated pre-built models with the best visualization layer among the offerings we have evaluated. With advanced and sophisticated pre-built models, IBM, Oracle, and SAS demonstrate a clear commitment to the telecoms industry.

Market challengers: Tibco

The large and diverse set of vendors offering BI and analytics solutions gives telcos considerable choice when selecting a solution. While Tibco Spotfire may not have scored as well as the shortlisted vendors in our analysis of its market impact, technology, and strategy, it still offers compelling solutions that telcos should consider, particularly when factoring in unique needs or contexts.

Tibco Spotfire offers an easy-to-use platform with a wide variety of sophisticated graphs and dashboards from which to choose, making it easier for non-technical users to access advanced analytical models. Currently, Tibco Spotfire only integrates with Microsoft, Teradata, and Oracle; the vendor must expand its interoperability and integration capabilities.

Market followers: HP, QlikTech

As the telecoms industry experiments with BI and analytics technology in myriad ways, there is room in the competitive landscape for many different types of vendors and approaches to BI and analytics. Ovum believes, therefore, that QlikTech and HP offer telcos important options, and that telcos should explore these when evaluating BI/analytics solutions, especially those telcos with unusual needs that may not be met by traditional products.

QlikTech focuses entirely on in-memory processing, so it should appeal to telcos in emerging markets with relatively small legacy BI investments. The vendor looks extremely promising and has grown rapidly during the last year, though it lags behind in advanced analytical capabilities.

HP is a new entrant in the market with its recent acquisitions of Autonomy and Vertica. Though HP is still building its reputation as a BI vendor, its existing relationships with telcos will help it grow its market position.

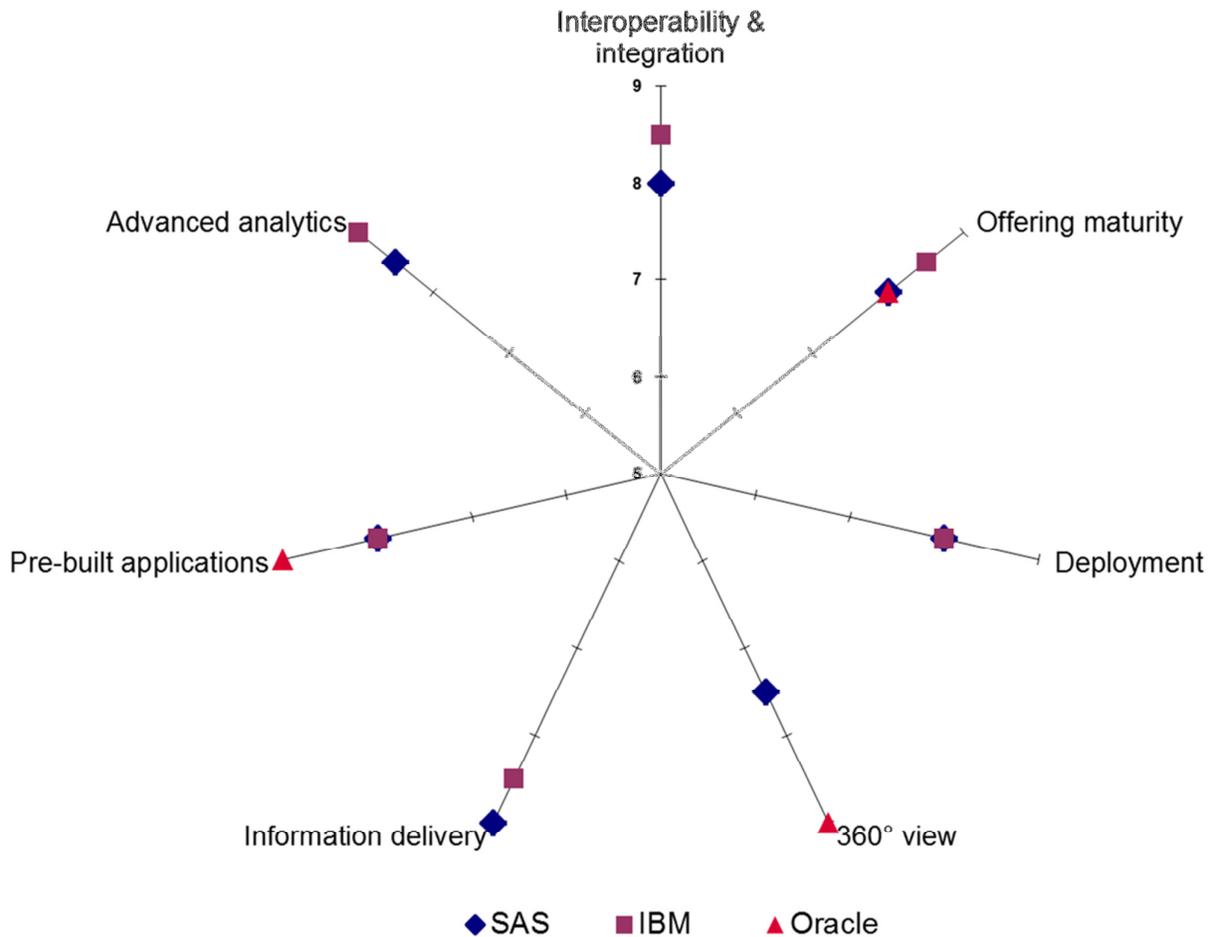
MARKET LEADERS

Market leader comparisons

The vendors analyzed in this report vary in focus and strength. This section looks at the underlying patterns in the market by comparing the top vendors in each of the criteria that contribute to the technology, market impact, and strategy assessment ratings. Telcos must consider the context and comments behind the scores to see which product might best suit their individual needs.

Market leaders: technology assessment

Figure 2: Market leaders: technology assessment



Source: Ovum

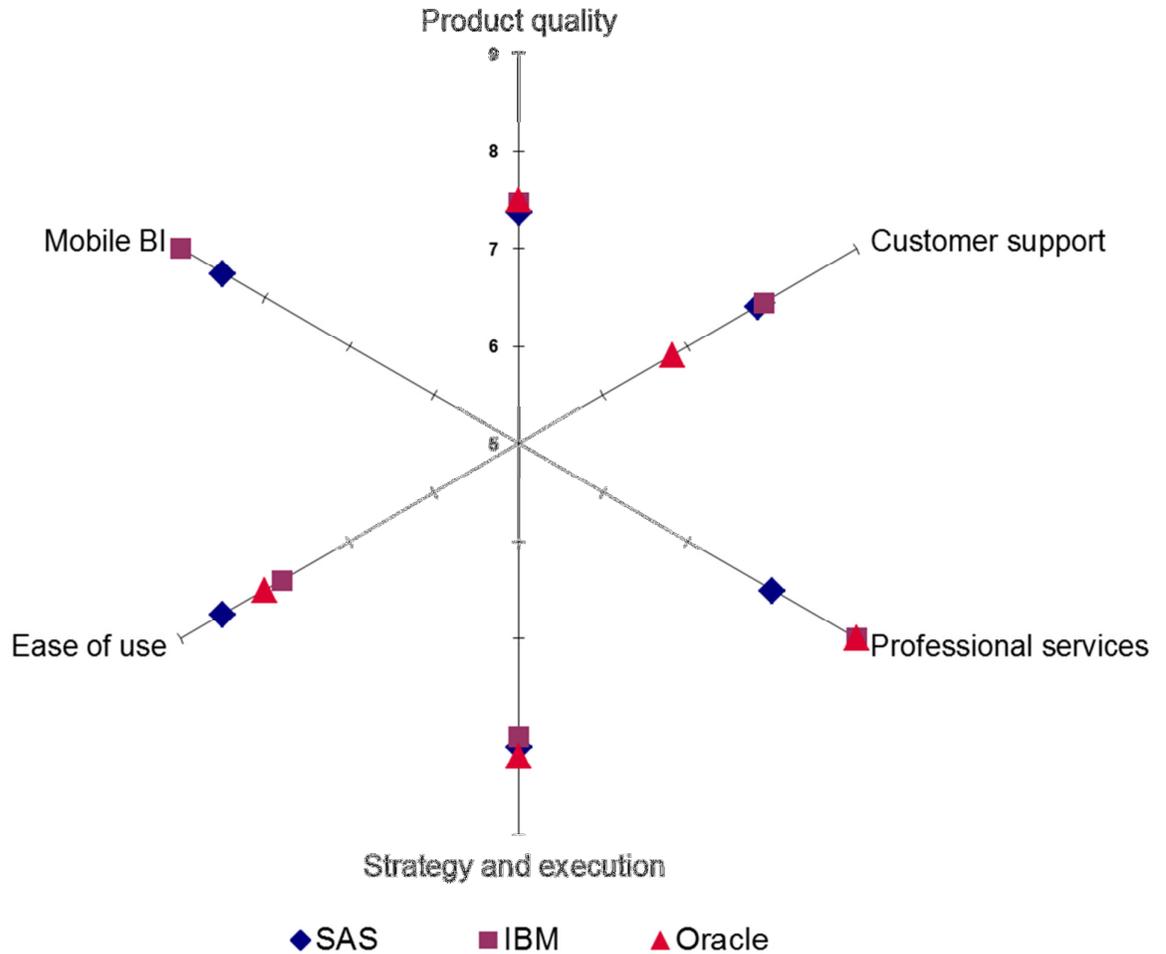
Figure 2 highlights the technology leadership of Oracle, IBM, and SAS. Of the three, SAS features on the graph in all seven categories, while IBM features in six. The total technology scores for IBM and SAS are close. However, the two vendors outperform each other in different areas. SAS trumps others in information delivery. IBM appears slightly better positioned than its competitors in advanced analytics, while Oracle comes closest to offering a true 360-degree view of the customer and of operations.

As telcos become more experienced and sophisticated in their use of analytics, Ovum expects that the importance of having a 360-degree view of the customer and advanced analytics capabilities will rise dramatically. Accessing a complete and actionable view of the customer experience in realtime will be

an important capability in improving business effectiveness and efficiency. Given the long-term importance of using more robust statistical techniques for forecasting, other vendors should extend their capabilities in this area, either through partnerships or in-house development.

Market leaders: strategy assessment

Figure 3: Market leaders: strategy assessment



Source: Ovum

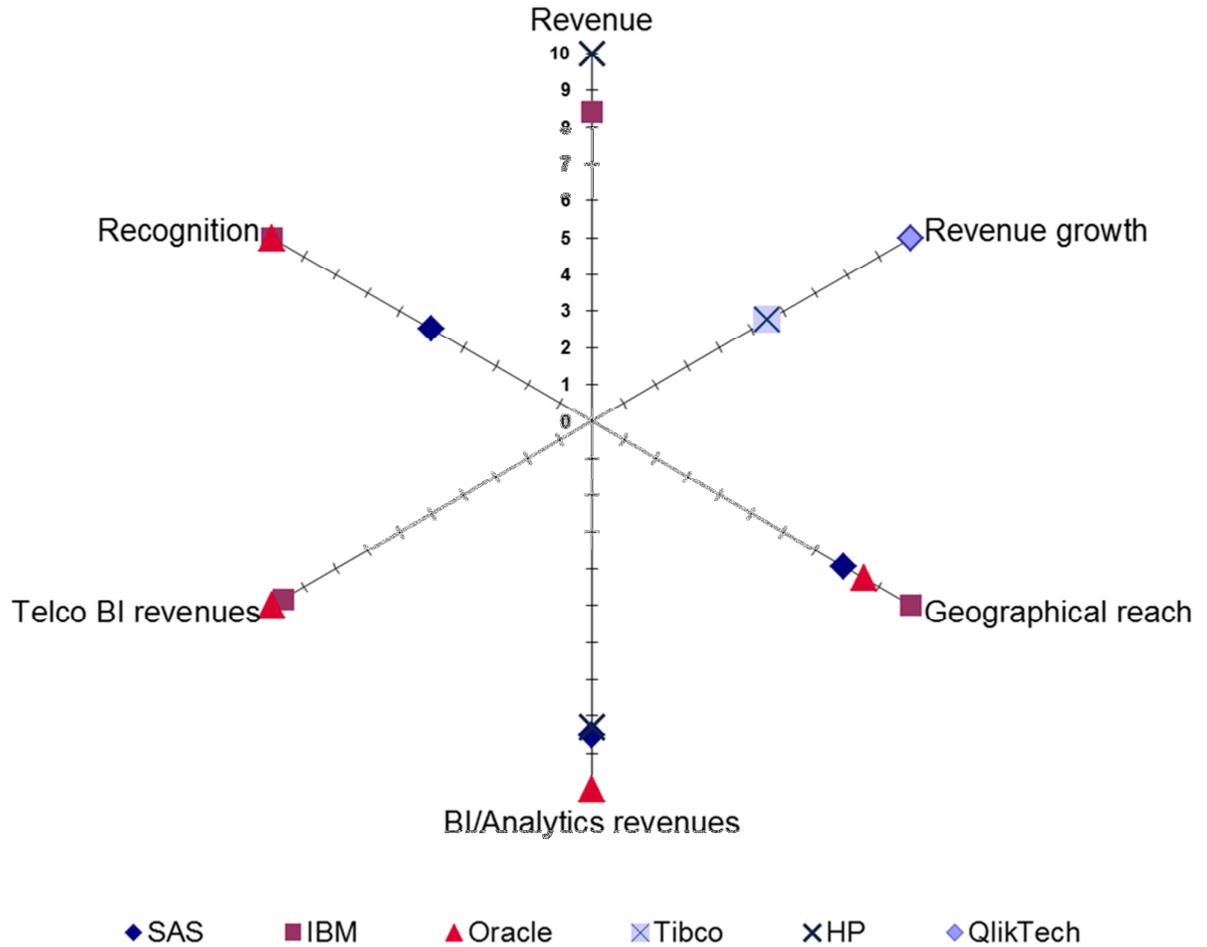
IBM scored highest overall in the strategy assessment, as shown in Figure 3. IBM and SAS scored highest in most of the individual categories, but Oracle scored highest in strategy and execution, because of its OCDM offering. Given that these vendors have robust product suites and long histories of success with telcos, their high marks in our strategy assessment are not surprising.

Telcos' decisions about BI and analytics solutions are strategic rather than technology-driven, more so than decisions about other solution areas. Consequently, telcos have a strong appetite for good professional and technical services during implementation and usage. Recognizing this need, IBM and Oracle offer comprehensive services to support implementation, customization, and ongoing support.

Ease of use is an important consideration, because advanced analytics have traditionally been complex, and accessible only to relatively small numbers of users within telcos. SAS outdoes other leading vendors in this category with simple and intuitive drill-down capabilities. As telcos continuously increase the number of departments and teams that access BI and analytics solutions, it is of utmost importance that vendors minimize the amount of intervention or training required to use their products.

Market leaders: market impact assessment

Figure 4: Market leaders: market impact assessment



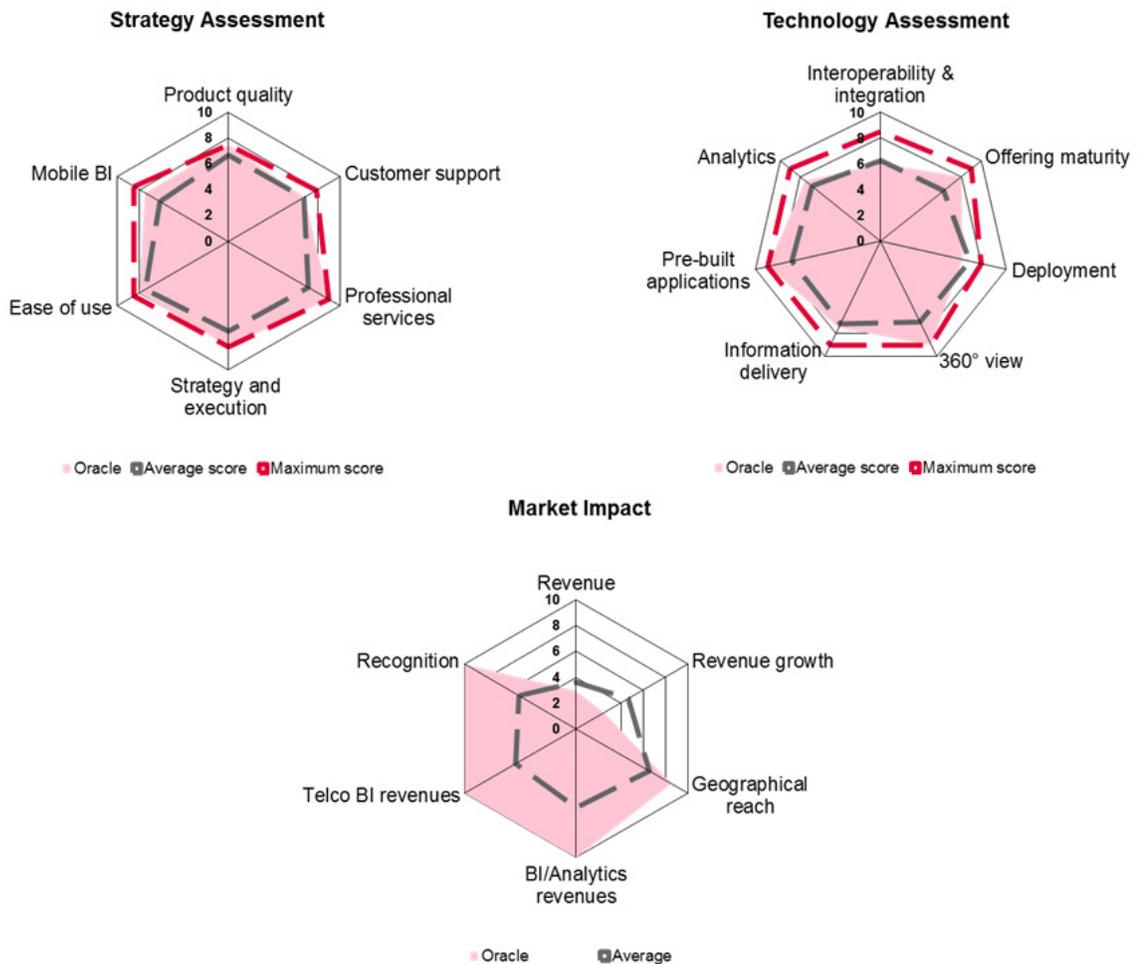
Source: Ovum

Our ranking of IBM, Oracle, and SAS as market impact leaders is not surprising, given their respective sizes. By Ovum's estimates, these vendors' telco-related BI and analytics revenues are the highest in the market. HP is the largest vendor, with the highest global revenues, and scores highest in this category. QlikTech, the smallest vendor, has recorded the highest revenue growth rate in this category. As smaller vendors have a mathematical advantage in revenue growth, these scores are not unexpected. The success of these vendors, and others profiled in the report, suggest that the uptake of BI and analytics by telcos is growing rapidly. Ovum believes that most telcos will purchase a new solution or expand an existing installation during the next 12–18 months, and that vendors have ample growth opportunities in the long term.

VENDOR ANALYSIS

Oracle

Figure 6: Oracle radars



Source: Ovum

Oracle's packaged offering, OCDM, is one of the most sophisticated and all-encompassing pre-built models available to telcos today. Introduced in May 2010 and updated several times since, OCDM is rated among the top solutions in our technology assessment and received the maximum scores for their pre-built applications and 360-degree view of the customer. The solution is intuitive and user friendly, which makes it easy for non-technical users to create and analyze reports quickly. Along with its strong solution offering, Oracle also offers telcos a comprehensive portfolio of implementation and professional

services. Ovum rates Oracle well above average in other client-engagement criteria such as product quality, customer support, and ease of use.

From a technical perspective, OCDM is built on three layers: a foundation layer (a standards-compliant relational database), an analytics layer, and a presentation layer. OCDM is intended to be deployed with far less professional services support than required with a traditional approach, in which the data warehouse would be built from scratch. OCDM features pre-built data cubes and data mining models, including 1,500 tables and 30,000 columns, and supports more than 1,000 telco-specific KPIs. By leveraging these pre-built capabilities, telcos can focus their resources on configuring the solution to their specific requirements. OCDM has also been certified as conforming to the telecommunications industry's TM Forum Information Framework (formerly known as the Shared Information Model standard). This eases interoperability with packaged and legacy OSS and BSS systems.

The combination of OCDM, Oracle Exadata, and the Oracle BI foundation represents a comprehensive data warehouse and BI solution for the telecommunications industry. Ovum believes that within two to three years, the boundaries between analytical databases, BI platforms, and analytics applications will become blurred. As that occurs, Oracle appears to be in the best position among BI mega-vendors to serve a variety of analytic requests, from ad-hoc to structured, with closely integrated infrastructure and tools that share interfaces and metadata. Oracle will continue to focus on building more adaptors so that telecommunications service providers can easily integrate data from different sources, and it will continue to extend its system to incorporate additional realtime features and Big Data.

Recommendation: leader

A well-established and well-respected vendor in the telecoms industry, Oracle offers telcos a robust solution for collecting and analyzing data in a single location. OCDM supports end-to-end customer lifecycle management along with marketing and network performance analytics with tools and capabilities that are well aligned with telcos' goals. Ovum believes that telcos considering moving beyond departmental analytics to enterprise-wide analytics should consider Oracle.

APPENDIX

Summary scores

Table 2: Ovum Decision Matrix: BI and analytics for telcos 2012–2013: vendor scores

Vendor	Technology assessment	Strategy assessment	Market impact assessment
SAS	8	8	6
IBM	8	8	8
Oracle	8	8	7
Tibco	6	7	2
HP	6	5	5
QlikTech	5	6	3

Source: Ovum

Further reading

Telcos Unlocking the Power of Prediction, IT012-000056 (July 2012)

Empowering Operators with Subscriber Data Management, IT012-000034 (January 2012)

Global Telecoms IT Spending Forecast Through 2016: Analysis, IT012-000058 (July 2012)

Ovum Decision Matrix for Business Intelligence 2011/2012, IT014-002594 (March 2012)

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Ovum Consulting

We hope that this analysis will help you make informed and imaginative business decisions. If you have further requirements, Ovum's consulting team may be able to help you. For more information about Ovum's consulting capabilities, please contact us directly at consulting@ovum.com.

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