

A Comprehensive Quantitative Assessment of the IBM Cognos Analytics Value Proposition

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Abstract

Analytics is game-changing and can produce valuable insights from the ever-growing volume, velocity and variety of data. Business Intelligence (BI) provides the foundation for many types of Analytics. It enables companies to deliver exceptional customer experience, enhance marketing effectiveness, increase operational efficiencies, reduce financial risks, improve product quality and reliability, and so on. But businesses are also challenged to generate time-critical actionable insights and make a compelling financial business case for BI investments.

As an enterprise-grade centralized BI solution, IBM Cognos Analytics provides a data discovery and reporting platform. It enables users, without going to IT, to bring in their own data, explore it, and leverage and merge it with other IT governed data. This could help users get fresh perspectives, enable executives to make better time-critical decisions, spur innovation and grow revenues/profits while potentially mitigating risks related to compliance, security and improper governance. But how to quantify this value?

The Total Value of Ownership (TVO) model presented here quantifies value holistically. It considers costs, productivity gains, risks and business growth. The 3-year business case for three configurations demonstrates the business value of IBM Cognos Analytics on premise and on the cloud. The ROI ranges from 159% to 218% for on premise, and is even better ranging from 246% to 617% for the cloud. The Payback Period is about one year or less for all cases.

The Total Value of Ownership (TVO) Model for IBM Cognos Analytics

The relentless rate and pace of technology-enabled business transformation and innovation are astounding. Several intertwined technology trends in Social, Mobile and Internet of Things (IoT) are making data volumes grow exponentially. The digital universe is doubling in size every two years and expected to reach 44 trillion gigabytes by 2020.¹

But to consistently extract timely insights from this growing data requires fast, cost-effective, highly-productive and reliable Business Intelligence (BI) capabilities. With self-service, IBM Cognos Analytics can enhance the user experience to meet this need for speed and agility while retaining the traditional BI capabilities for oversight and analytic trust. This BI platform and the data discovery capabilities of Watson Analytics – delivered through a continuous delivery model – can be a source of additional business value for organizations across many industries.

This paper uses a Total Value of Ownership (TVO) model that quantifies some of the key inter-related cost and value drivers/differentiators of the IBM Cognos Analytics solution. These cost and value drivers were identified through in-depth interviews with several existing IBM Cognos Analytics customers and BI implementation experts across multiple industries and company sizes, IBM input and other research. This holistic cost-benefit analysis examines various configuration sizes and delivery options including on-premise and cloud. The first step is to identify the key value and cost drivers of IBM Cognos Analytics.

¹[IDC Digital Universe, 2014.](#)

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IBM Cognos Analytics: Key Value and Cost Drivers

The TVO framework (Figure 1) with inter-related cost/value drivers is categorized by client benefits in each quadrant: Improved Productivity, Lower Costs, Risk Mitigation and Revenue/Growth. These drivers are arranged based on their business impacts: tangible or derived (along the vertical axis) and tactical or strategic (along the horizontal axis).

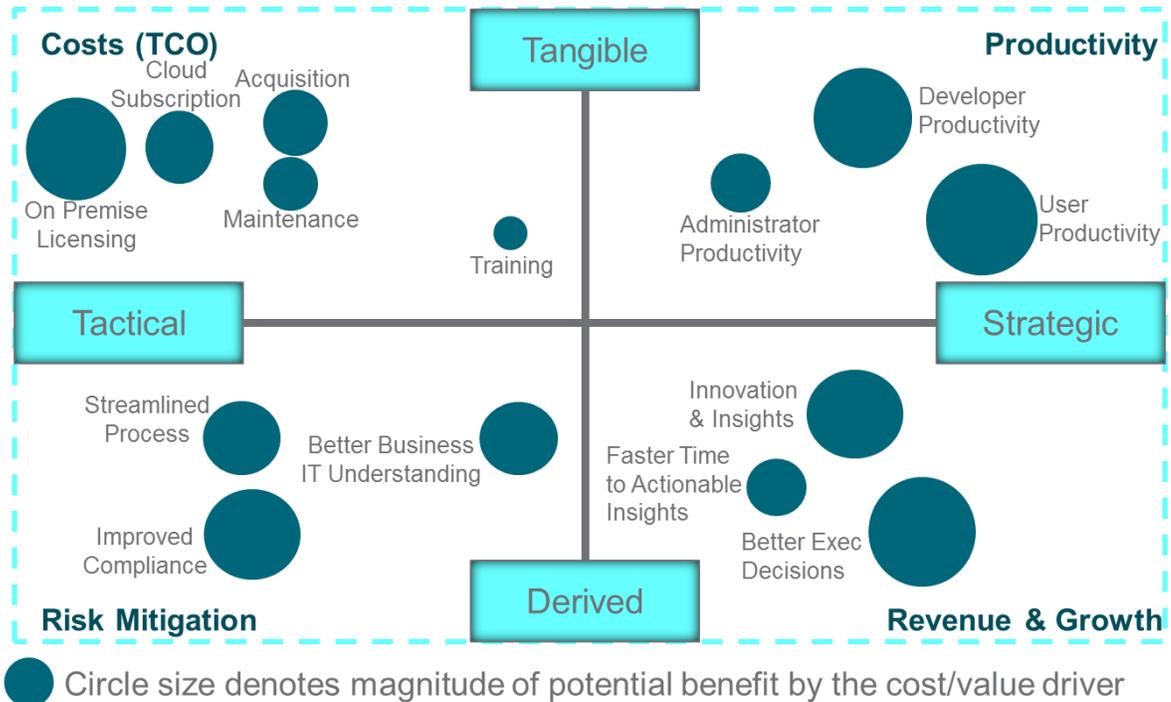


Figure 1: TVO Framework for Business Intelligence with Cost/Value Drivers

The cost/value drivers for IBM Cognos Analytics are depicted as a circle whose size is proportional to the potential impact on the corresponding client benefit as follows:

Improved Productivity: The TVO model breaks down and quantifies the value of productivity gains of administrators, developers and users.

Total Costs: For the on-premise solution, costs include: one-time acquisition costs for the hardware and software licensing, and annual costs for training, maintenance and operations. For the cloud solution, costs include: annual costs for training and subscription.

Risk Mitigation: A streamlined process eliminates superfluous tasks and permits current tasks. Better business and IT understanding/collaboration minimizes cumbersome iterations in rework associated with creating programs/reports. Together, these reduce risks associated with delays. Improved compliance promotes consistency and veracity of data and business insights for better governance and lower risks.

Revenue and Growth: Faster time to actionable insights enables greater organizational innovation and better and more accurate business decisions. These value drivers are key to spur growth, revenues and improve profits. The TVO model quantifies these sources of added value that is typically proportional to the size of the deployed IBM Cognos Analytics solution.

*A holistic
Total Value of
Ownership
framework*

*Cost/value
drivers
quantified
holistically*

*Benefits:
improved
productivity,
reduced costs,
mitigated
risks and
more growth/
revenue*

How IBM Cognos Analytics Features Improve Benefits and TVO

With a continuous delivery model, IBM Cognos Analytics provides the following features and client benefits:

Improved Productivity/Lower Costs: IBM Cognos Analytics is a single platform that delivers a range of managed reporting and self-service BI capabilities. This platform can improve the productivity of developers, administrators and users and lower associated costs by:

- Providing a single technology to learn, provision, support and manage
- Delivering scale and consistency across the enterprise and an efficient architecture to connect and unify all data sources
- Eliminating the need to install/manage anything on the user's side with a browser-based application
- Reducing Shadow IT in departments.

The visualization and usability features in IBM Cognos Analytics can further improve productivity and lower costs by allowing users to:

- Enable interactivity – content by default is connected and interactive
- Progress from consuming content to customizing content to creating and sharing content
- Understand the business at more granular levels with geospatial and mapping analytics capabilities provided by Mapbox and Pitney Bowes, included at no extra costs
- Display data automatically, in a simpler way for people to understand it, courtesy of the Visualization Recommendation Engine
- Reduce time navigating to the right content with Smart Search
- Generate visualizations based on keywords automatically with Intent Driven Authoring which also enables users to better understand the data and how it should be represented
- Create an animated story/presentation to better articulate/communicate the message in the data with Storytelling
- Capture or grab visualizations from any dashboards/stories (created by anyone) to drag and drop into stories with Pinning.

Also, the Central Repository with scheduling and bursting options ensures that anytime users run or are in receipt of a report/program, they get the most recent version. This can further improve productivity and lower costs by enabling the:

- Creation, updating and automatic distribution of reports/insights
- Improvement of operational efficiency as new reports/key business insights are automatically generated in a regular and routine basis
- Elimination of the need for deep technical skills to burst ("send out", "distribute" or "make available") reports/programs/insights tailored to the individual needs of thousands of stakeholders.

Risk Mitigation/More Revenue and Growth: Better compliance and governance with IBM Cognos Analytics across the enterprise can improve productivity and reduce costs, and also:

- Provide more control including fine-grain control over each user group's ability to create or consume data, reports, insights, etc.
- Promote consistency and veracity of data and business insights with better governance; preventing confusion, and reducing duplicate effort and/or rework
- Broaden the sphere and trust of creators (power users).

Single self-service BI platform for data discovery and reporting

Enhanced visualization, usability and story-telling features

Central repository and better compliance and governance

Centralized/
Streamlined
operations
expedite
solution
development

Substantial
reuse
streamlines
collaboration
and
communication

TVO analysis
for three
configurations
on premise
and on cloud

With centralized/streamlined operations, models developed once centrally can be easily reused and augmented. This can enable faster development, maintain synchronization with trusted sources, and provide the ability to:

- Govern the models centrally, promoting stability of key models
- Reuse a data module within another module and maintain the connection to the original or break the link if appropriate with linked modules
- Leverage the work of Power users across many users (business analysts) - Power users can develop a model for analysts, who can then make modifications and return the model, and it can then be shared with other users
- Expedite the development of the solution. Multiple people can work on the model: group A can develop the model, check in centrally, group B can then take and add some features, and both are available to group C. This eliminates the need to start the model from scratch.
- Understand the data and how it should be represented better with Smart metadata
- Improve collaboration and communication between Business and IT users.

Lastly, to potentially enable better time-critical executive decisions and drive innovation, data discovery features and intent-driven data module development allow the user to:

- Uncover new insights that are typically not available in existing reporting environments
- Define what is needed and data tables will be proposed as a data model to:
 - Provide specific suggestions to do the join and make sure the resulting solution is optimized for performance with Smart data joins
 - Scale-up to an enterprise model.

The TVO framework was customized to quantify the benefits from these IBM Cognos Analytics features for a range of configuration sizes and on-premise/cloud deployment models. The key model assumptions, results and discussions follow.

TVO Assumptions, Results and Discussions

The Cost-Benefit Analysis presented here quantifies the *Total Value (Total Benefits – Total Costs)* for Three Years of the IBM Cognos Analytics solution for on-premise and cloud deployments.

Assumptions: The three assumed configurations (small, medium and large) are shown in Table 1.

Assumptions	Small	Medium	Large
Number of Centralized Projects	80	400	2000
Number of Administrators	1	3	9
Number of Developers	3	10	45
Number of Users	40	200	1000

Table 1: Key Configuration Assumptions of the TVO Model for IBM Cognos Analytics

Licensing/subscription costs and appropriate discounts for IBM Cognos Analytics were provided by IBM. Other assumed costs including hardware acquisition, maintenance and training and data were included in the TVO model after research and interviews.

The assumed breakdown of the key tasks by staff roles is shown in Table 2. This helps quantify the productivity gains of the associated BI staff enabled by the IBM Cognos Analytics solution.

Key Tasks	Developer	User	Administrator
Requirements gathering	10%	10%	
Development and testing	85%		
Compliance and standards	5%		
Time spent in maintenance of the system			40%
Time spent in handling shadow IT			20%
Time spent in maintaining systems and supporting users			40%
Business Tasks and Customizing Reports (HR, Marketing, Sales, etc)		90%	

Table 2: Typical Breakdown of Key Tasks of BI Staff by Roles

Results: Key financial metrics for a 3-year time horizon in Table 3 include: Return on Investment (ROI), Internal Rate of Return (IRR), Net Present Value (NPV), Payback Period (PP) and TVO.

SMALL	On- Premise	On-Cloud
Return on Investment	159%	246%
Internal Rate of Return (IRR)	97%	424%
Net Present Value (NPV)	\$177,179	\$300,084
Payback Period - Months (PP)	12.97	5.17
Total Value of Ownership (TVO)	\$302,445	\$350,124
MEDIUM	On- Premise	On-Cloud
Return on Investment	198%	346%
Internal Rate of Return (IRR)	118%	469%
Net Present Value (NPV)	\$488,172	\$1,036,474
Payback Period - Months (PP)	11.69	5.12
Total Value of Ownership (TVO)	\$1,034,128	\$1,208,232
LARGE	On- Premise	On-Cloud
Return on Investment	218%	617%
Internal Rate of Return (IRR)	128%	629%
Net Present Value (NPV)	\$1,668,380	\$4,199,631
Payback Period - Months (PP)	11.14	4.73
Total Value of Ownership (TVO)	\$3,890,720	\$4,885,458

Table 3: Total Value of Ownership (TVO) Results for IBM Cognos Analytics for a 3-Year Horizon

Discussions: IBM Cognos Analytics delivers value to the entire enterprise including executives and all users/BI staff. This value and all financial metrics (ROI, IRR, NPV, PP and TVO) improve as the configuration size gets larger. So, clients who deploy IBM Cognos Analytics can start with a small configuration with lower costs and immediately experience the benefits, and then scale-up to larger configurations to further improve value while mitigating risks.

The cloud deployment model produces even greater value and better financial metrics including a much larger IRR and NPV and much faster Payback. This is largely because of the significantly less upfront investment needed with cloud deployments. The Payback Period is about one-year or less for on-premise and less than six months for the cloud. The on-premise vs. cloud breakeven from the TVO analysis occurs after about five years; making the cloud alternative very attractive for clients who have limited investment capital.

TVO influenced by detailed breakdown of tasks by key roles

ROI ranges from 159% (small) to 218% (large) for on premise

Even greater ROI for cloud ranges from 246% (small) to 617% (large)

Payback Period is about 1 year or less for on-premise and less than 6 months for cloud

Conclusions and Recommendations

Investing in Analytics is a game-changing opportunity for companies. An enterprise-grade Business Intelligence solution is the foundation for high value analytics in every industry. But as the volume, velocity and variety of data continue to grow and pace of business accelerates, businesses are challenged to generate time-critical actionable insights and make a compelling financial business case for BI investments.

IBM Cognos Analytics has several enterprise-grade and data discovery features to meet the need for speed and agility while retaining strong capabilities for oversight, trust and compliance. Self-service capabilities are designed to enhance the user experience on-premise or on the cloud. These features enhance productivity, reduce costs, mitigate risks and drive growth and profits.

The 3-year Total Value of Ownership (TVO) analysis of IBM Cognos Analytics presented here quantifies all these cost/value drivers holistically for three on premise and cloud configurations: small, medium and large. The ROI ranges from 159% to 218% for on premise. It is even better for the cloud and ranges from 246% to 617%. The Payback Period is about one year or less for on-premise and less than 6 months for the cloud.

Clients deploying enterprise-grade BI solutions should consider IBM Cognos Analytics for the following reasons:

1. The cost-benefit analysis and business case is compelling for all configurations.
2. The business value increases for larger configurations and for cloud deployments.
3. This investment is protected and can continue to deliver even greater value if and when new business requirements require additional capacity to scale to larger configurations.
4. It provides deployment flexibility on premise or on the cloud. The cloud is a very attractive option especially if upfront investment capital is an issue.

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Enterprise-grade BI critical for game-changing Analytics

Compelling business case with IBM Cognos Analytics with investment protection and flexibility

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