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The 2018 State of Business Intelligence Reporting

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Survey Methodology

Narrative Science deployed the survey online and collected the responses on November 21, 2017- November 29, 2017. A total of 403 completed surveys were received, with a 4.8% margin of error. The respondents were users of our Dynamic Narratives extensions for BI Platforms including Qlik Sense, Power BI, Tableau, MicroStrategy, and SAP BusinessObjects Lumira. This report reflects the key insights that we gathered from that survey and is supplemented with third-party research as noted throughout the document.

Introduction

Reporting, or the tasks involved in the analysis of data and distribution of insights, has been around for quite some time. What's recently changed is the ever-increasing amount of data to report on, the computational power to more efficiently crunch that data, and the availability of tools to better house, access, and analyze it.

Historically, "BI reporting" had been a capability delivered only by traditional reporting powerhouses that query and report on systems-of-record data, or of course, the tried-and-true spreadsheet. However, now many subcategories of BI, such as data discovery vendors, utilize reporting capabilities in some shape or form. BI vendors are also increasingly integrating Natural Language Generation (NLG) into their data visualization and reporting capabilities to increase adoption of their tools (BI adoption is currently hovering at only 25% of employees[1]) and make insights easier to consume for end users.

The following questions remain:

- **With all of the advancements in the data analyst toolkit, will BI adoption grow?**

- **Is the business able to make better decisions, based on the increasing availability of data and the insights that data holds?**

- **What does the future look like if reporting tasks could be increasingly automated?**

We surveyed over 400 business intelligence users to answer some of these questions and get a handle on the current state of reporting. **Respondents came from companies of all sizes and self-identified into 3 primary roles:**

1

REPORT AUTHORS
Create reports or configure dashboards for others in their company

2

BI ADMINISTRATORS
Charged with managing the infrastructure that supports reporting

3

BUSINESS DECISION-MAKERS
Read and utilize reports that others create to make business decisions

Most reporting is performed in a centralized function that supports multiple lines of business (73%) while the remainder work is generated in a single line of business (20%) or by consultants who perform reporting activities for clients outside of their company (7%).

It's clear that there is no "one-size-fits-all" type of report, with organizations performing a mix of reporting. Scheduled reports are distributed on an automatic basis and are typically published via controlled production tables and dashboards. Ad-hoc reports tend to be exploratory in nature and give more control to users who interact with and drill down into data and visualizations directly. In our survey, scheduled reporting appears to edge out ad-hoc, with 63% of respondents citing a majority of their reporting is scheduled.

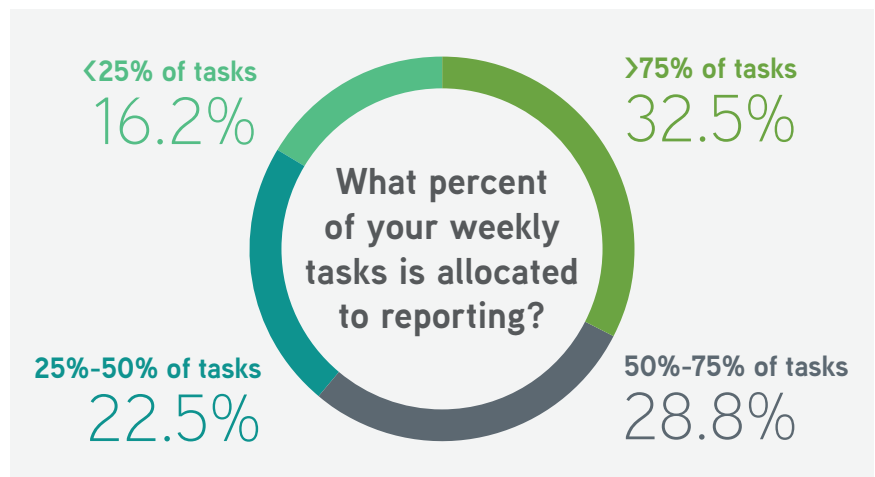1. Gartner, Survey Analysis: Why BI and Analytics Adoption Remains Low and How to Expand Its Reach (2017).

Report Authors
Need More Time to Perform Deeper Analysis

Respondents from this group mostly had "analyst" in their title, including Data Analyst, Business Analyst, Operations Analyst, and Research Analyst. Regardless of title, it's no surprise that those who identify as Report Authors spend most of their time, well, reporting.

In fact, 61% of respondents said more than half of their weekly tasks are dedicated to reporting.

Almost one-third of respondents said they spend over 75% of their time doing so!

‹25% of tasks
16.2%

›75% of tasks
32.5%

What percent of your weekly tasks is allocated to reporting?

25%-50% of tasks
22.5%

50%-75% of tasks
28.8%

With all this time spent performing manual reporting tasks, these individuals are unable to execute aspects of their job they see as more valuable.

The #1 biggest pain point for this group is "Having enough time to conduct an in-depth analysis of the data to provide deep insights to the reader."

Other top pain points include "accessing the data needed to create informative reports," and "writing reports that are simple enough for my target audience to read." Report Authors want to deliver relevant, informative, and consumable reports to their business counterparts, but lack the time necessary to do so.

Biggest pain points in regards to reporting

Having enough time to conduct an in-depth analysis of the data to provide deep insights to the reader

53.8% Agree or Strongly Agree with this pain point

Accessing the data I need to create informative reports

41.2% Agree or Strongly Agree with this pain point

Writing reports that are simple enough for my target audience to understand

39.4% Agree or Strongly Agree with this pain point

Given that Report Authors value insights driven by a high depth of analysis yet are consumable for their target audience, it's no surprise that, if given more time or help to conduct reporting, the top priority would be to "perform deeper analysis and include more data in their current reports," and their next priority would be to "better explain the data in the report so a less technical reader could understand it."
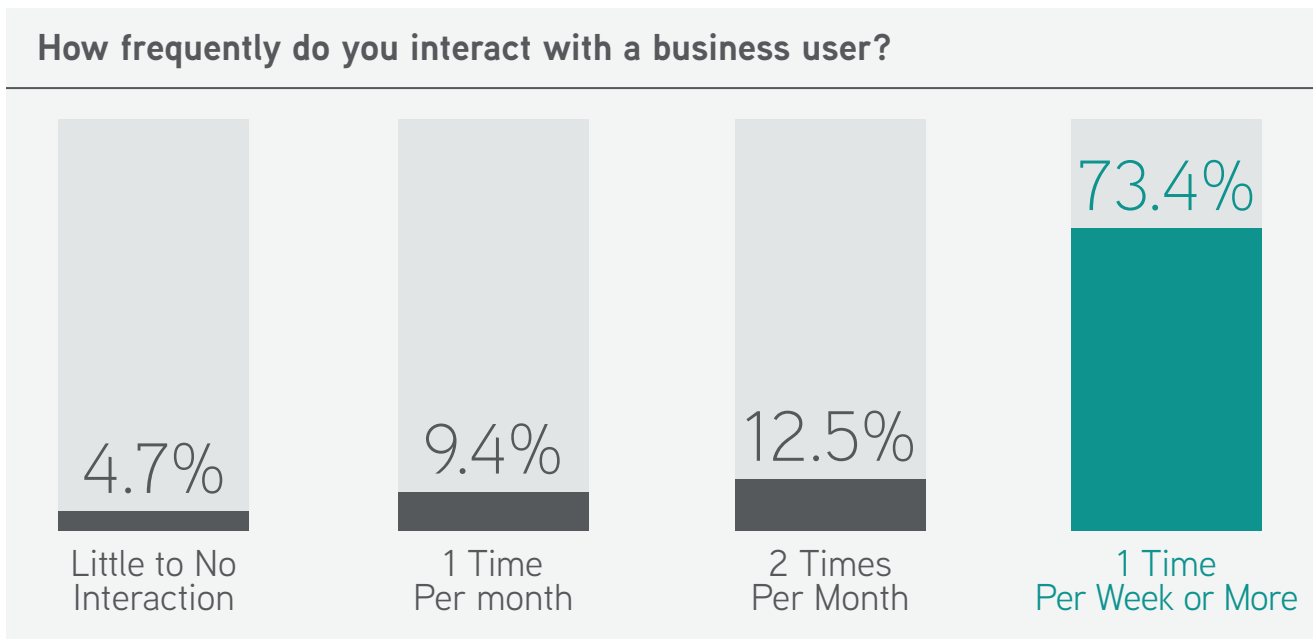
BI Administrators
Wearing Many Hats, Actively Interacting with the Business

Respondents that answered affirmatively to: "I am charged with the infrastructure that supports reporting," or what we refer to as "BI Administrators," have a variety of positions, including Director of BI, Director of Technology, Analytics Team Lead, and Manager of Enterprise Systems. These individuals have many responsibilities on their plate, such as choosing the relevant BI tools, installing those tools, connecting them to data, performing ETL work, and extending the BI tool to be able to connect to outside sources of data, including SQL-based and cloud sources.

In addition to overseeing and maintaining the infrastructure, BI Administrators are also actively interacting with their business counterparts.

Instead of operating in a technology operations silo, 73.4% of BI Administrators are interacting with business users on a weekly basis.

How frequently do you interact with a business user?

4.7%	9.4%	12.5%	73.4%
Little to No Interaction	1 Time Per month	2 Times Per Month	1 Time Per Week or More

Similar to Report Authors, the majority of respondents in this group highly value the depth of analysis contained in their reports. When asked if they could automate written reports, a majority ranked "High depth of analysis (i.e.: going beyond descriptive analytics)" as the most important value criteria they would like to see from automation, followed by the ability to customize the analytics, and the reduced time required to create reports.

Given the multiple hats BI Administrators typically wear, automating high-value reports is an attractive option, enabling them to spend their time keeping the BI infrastructure running smoothly and perhaps, allowing them to interact with the business even more.

Business Decision-Makers
More Relevant Explanations, Please

Out of all of the groups surveyed, Business Decision-Makers had the widest variety of titles, including Category Manager, Finance Director, Head of Innovation, CFO, and Managing Director.

No matter their business unit or industry, across the board, Business Decision-Makers are clear that they want better explanations in their reports, with the majority citing their biggest pain point is that their reports only contain the facts and not the "why."

Half of Business Decision-Makers cite the pain point that their reports are mostly numbers, with not enough qualitative analysis. Additional pain points include the lack of additional analysis, as well as the time it takes to read and understand the relevance of the report.
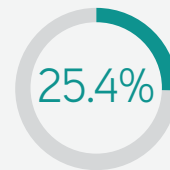
What are your pain points in regards to reporting?
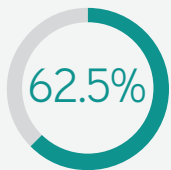
62.5% say the report contains mostly facts about "what" happened, not "why" it happened.

50% say the report is mostly numbers and does not include enough qualitative analysis.

25.4% say it's time consuming to analyze the report and understand why it matters to their work.

Although business users want more relevant explanations in their reports beyond the number-oriented reports they typically receive, they aren't using the tools that enable them to receive those explanations. Excel ranks first as the primary method that Business Decision-Makers receive reports, followed by dashboards and presentations that get shared electronically.

Despite wanting reports that include context, they are receiving spreadsheets filled with numbers they need to interpret and dashboards with visualizations they need to understand.

In what format do you receive reports? (from most common to least common)

1 In an **Excel file** that gets sent to me or that I can download

2 On a **dashboard** that I access on my computer or personal device

3 In a **presentation** that gets shared with me electronically

4 In a **written document** that gets shared with me electronically

5 Written in the body of an **email** that I receive

6 On my company's **internal portal**

A Better Way to Communicate Insights

Per our survey, it appears that Report Authors, BI Administrators, and Business Decision-Makers all have similar goals when it comes to reporting: wanting reports that are rich in context and don't take long to create or interpret. Given this, it is surprising that Excel still ranks as the top way Business Decision-Makers receive information.

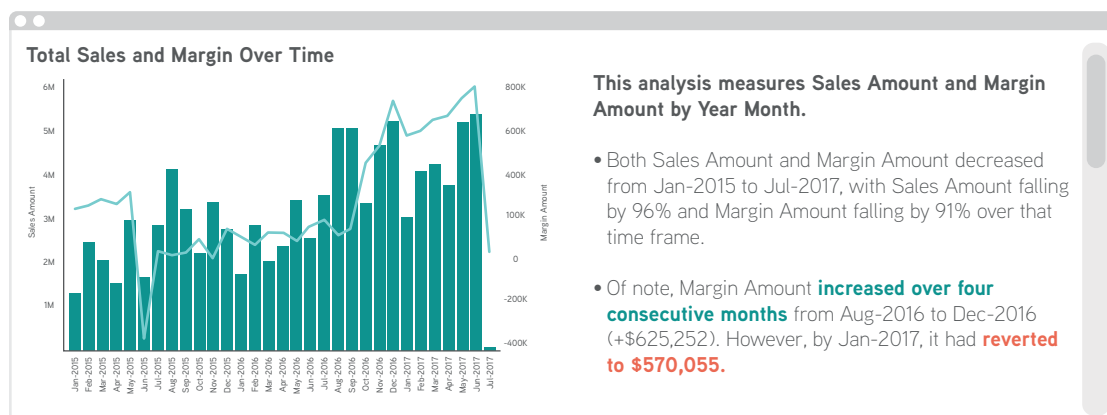**Report Authors** don't want to spend time configuring another dashboard that doesn't get utilized.

\+

Business Decision-Makers don't want another spreadsheet that they need to spend time interpreting.

In order to increase adoption of business insights across the organization, there needs to be a better way to communicate insights.

At Narrative Science, we believe that language is the optimal way to deliver timely, relevant, and intuitive information. Our Natural Language Generation (NLG) technology generates automated narratives that are customized for each intended audience. These data-driven narratives identify what is most important and interesting in the data and transform those insights into contextually-rich language that sounds like it was written by a human. Clients appreciate the standardization and consistency that machine-generated narratives afford them.

Data analytics platforms are also integrating Narrative Science's NLG technology to enhance the user experience and increase adoption. By incorporating NLG within business intelligence tools, users are able to receive real-time, interactive explanations of their data and visualizations, and easily share them in narrative form so they don't need to annotate dashboards or manually create presentations. These NLG integrations come out-of-the box for many leading BI platforms and can also be delivered as an API so businesses and technology vendors can embed the technology directly.

Per Gartner, by 2020, natural language generation and artificial intelligence with be a standard feature of 90% of modern BI platforms.[2]

Total Sales and Margin Over Time

This analysis measures Sales Amount and Margin Amount by Year Month.

- Both Sales Amount and Margin Amount decreased from Jan-2015 to Jul-2017, with Sales Amount falling by 96% and Margin Amount falling by 91% over that time frame.

- Of note, Margin Amount **increased over four consecutive months** from Aug-2016 to Dec-2016 (+$625,252). However, by Jan-2017, it had **reverted to $570,055.**

NLG can be seamlessly integrated into existing data analytics platforms, automatically explaining insights not obvious when looking at the chart alone.

Conclusion

In summary, let's look back at our original questions.

1

With all of the advancements in the data analyst toolkit, will BI adoption grow?

Per our survey, the active interaction between Business Decision-Makers and BI Administrators, as well as the desire for all groups to want similar objectives from their reporting initiatives, signifies a positive outlook for an increase in BI adoption. Additional advancements to the data analysis toolkit should be aimed to enhance the relevance of insights for the Business Decision-Maker and ideally, can be seamlessly integrated into existing applications and workflows.

2

Is the business able to make better decisions, based on the increasing availability of data and the insights that data holds?

The reliance on Excel as the primary way the business receives reports is alarming and doesn't help Business Decision-Makers with their number one pain point: receiving reports that only contain facts and not the "why." In tight partnership with the business, Report Authors and BI Administrators should continue to explore and implement reporting methods that provide the business with context-rich and consumable information to aid in better decision-making.

3

What does the future look like if reporting tasks could be increasingly automated?

Too much time spent reporting is a huge pain point for all groups, and automation can help free up time and resources so that Report Authors and BI Administrators can conduct more high-value analysis and incorporate additional data sources, and Business Decision-Makers can spend their time doing their jobs, not interpreting reports.

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