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Business Intelligence: Take Command of Your Data

Samuel Botts
Chief Operating Officer
ASHLIN Management Group, Inc.
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CONTENTS

Executive Summary.....	1
What Are We Supposed To Do With All Of This Data?	2
Are We Really Using “Key” Performance Indicators?.....	2
Have We Trained Our Managers To Use Data Wisely?	2
Are We Using The Right Tools To Capture And Report Our Data?	3
But The Data Analysts Don’t Understand Our Programs!.....	5
How Will We Ensure We’re Using Best Practices For How We Use Data?.....	6
Conclusion	7
References.....	7



This paper was written for leaders within organizations who recognize the need to do better in creating and executing a fundamental strategy for using data to effectively manage programs and make impactful decisions which drive desired outcomes. In its 2018 Wisdom Of Crowds® Business Intelligence Market Study, Dresner Advisory Services reports that "Making better decisions" and "Improving operational efficiencies" are the top objectives firms have for using Business Intelligence¹. The purpose of this paper is to provide a model for implementing a practical data driven strategy for achieving these objectives and driving outcomes.

EXECUTIVE SUMMARY

References to Artificial Intelligence, Deep Learning, Machine Learning, Business Intelligence, Data Analytics and Data Visualization are fairly commonplace in business, yet despite their power to help organizations be better, many organizations still lack the ability to unlock this potential to advance themselves ahead and optimize their operations. There is an overwhelming need for senior and mid-level managers to acquire the skills to be able to use data correctly in setting course. All too often data is used intentionally, or unintentionally, to support a foregone conclusion that was determined prior to having the data available.

There is also another, more systemic issue around why organizations might not be using data to effectively drive performance and outcomes: lack of confidence the data in and of itself can sufficiently explain outcomes. Therefore even though the data may tell one story, there is a rationalization that the data is not telling the "complete" story. While there is no doubt that there can be explanations for events that may not be captured in the data we collect, in certain instances, it is a slippery slope when we fail to recognize the power of data to provide insights to better understand the drivers of outcomes.

What is needed in order to remove these obstacles to creating a true data-driven culture is a sort of level-setting initiative to redefine how organizations use data. Managers need to receive training on how to look for relationships, patterns and insights that can be translated into insights that facilitate proper decision making. Furthermore, having the right tools and knowing how to extract insight from them will allow organizations to make better informed decisions that positively impact outcomes. Once that is all in place, a mechanism for ensuring standardization and sustainability for how the organization uses data is crucial for long term success.

In this paper we first define what is meant by the term Business Intelligence. Using this working definition, we will then seek to layout a process for how organizations can implement a data driven decision-making strategy, starting with training. Next, we will present how to use powerful tools for capturing and reporting data to facilitate the decision-making process. We will then follow this up with a discussion on the role of the "data translator", introduced in an article by strategy consulting firm McKinsey & Company. Lastly, we will talk about the concept of a Business Intelligence Center of Excellence, which organizations can leverage to establish standards for integrating data analytics into the decision-making process.



WHAT ARE WE SUPPOSED TO DO WITH ALL OF THIS DATA?

Business Intelligence is the term referring to an entire collection of tools, processes, resources and models that organizations can use to assess and evaluate data for the purposes of extracting deep insights which will lead to optimizing operations, creating competitive advantage and establishing business sustainability. In a 2014 survey, by strategy consulting firm, McKinsey & Company, only 18% of companies indicated, "...they have the skills necessary to gather and use insights effectively. ...". Put another way, over 80% of companies do not feel they have the skills to gather and use insights effectivelyⁱⁱ.

Why are organizations challenged at using data to gather insights that effectively improve their business? The answer involves many factors but predominantly the issue comes down to 1) a lack of understanding of what data is truly relevant to the decisions that need to be made and 2) not having a firm grasp for what relevant data, once defined, reveals about one's processes or outcomes. Because collecting data can be expensive, all too often there is a tendency to use more of an "excavation" approach as opposed to a more surgical approach, to collect as much data as possible to avoid missing something that might be needed later. This overabundance of data can create the misperception that it has some significance. What managers are left with is way more information than they can reasonably be expected to process.

Are we really using "Key" Performance Indicators?

There is a reason why we use the word KEY in talking about Key Performance Indicators (KPI). By inference, it says there might be some data that is available that is not exactly essential to assessing the performance of the project or process being monitored. When managers are presented with superfluous data, it makes it difficult to focus on the *right* data. They either end up using the wrong data to make a decision or find the data to be "useless" in helping them gain meaningful insights. Therefore, managers discount it in favor of other methods that are more familiar (e.g. "gut feeling", personal experience, history).

Have we trained our managers to use data wisely?

Since managers are ultimately the ones who need the data to make decisions, it is important for them to make clear to their teams what data they need to see. For managers to do this, they need to receive the proper training. Managers, especially at the senior level, receive training in a number of cross-functional areas including finance, HR, organizational change, marketing, sales and operations but rarely is the case that managers receive specific training on how to read and interpret data to inform the very decisions they are responsible for making within any of those functional areas. There are 5 primary questions any manager should be able to answer with

confidence to make effective decisions about their projects and ultimately their respective organizations. Those questions are the following:

5 Questions to Ask About Data to Make Effective Decisions

1. Precisely which performance indicators are truly important and how do I interpret their measurements?
2. Are the performance indicators related to each other and if so, how does each effect the other?
3. What are the performance indicators saying about success (or lack of) as it relates to goals and objectives?
4. What underlying drivers are influencing the performance indicators?
5. How can I use the performance indicators and underlying drivers to predict what will happen?

Anytime a manager is presented data, his/her preparation for that meeting should be focused on getting answers to these questions, either directly or indirectly. Instead, in many cases, more time is spent looking at numbers that may or may not even be relevant to what really matters. It sets management up to have a "rear-view mirror" perspective. Looking at data from events that have already occurred can be necessary. However, without any regard to what is ahead, it is a gross underutilization of the power of data to impact change. The power is not in being able to measure what has already occurred; the true potential lies in being able to use data to more accurately predict what *will* happen in the future. Business Intelligence gives us the tools to use data now to predict the likelihood of outcomes. We can run scenarios to determine how to optimize outcomes by making certain adjustments.

Another challenge is managers may not always feel comfortable in their command of the skills required to fully understand data. The good news is that nobody expects the managers to be data scientists or data analysts (unless that was their specific role). How managers need to use data requires an entirely different skill set that is highly trainable.

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Organizations must make this training a priority and provide a means for managers to receive the training. In order to be effective, the objectives of the training must include the following: *5 keys to using data effectively to make decisions; Overview and primer on how to use Business Intelligence tools such as dynamic dashboards, pivot tables, descriptive statistics and predictive analytics in extracting insights that influence decision making and ; an overview of the area of data translation and the role of the data translator.* Details pertaining to course design, format and delivery all can be made at the organizational level based on the needs and resources of the organization. However, organizations should consult with an outside vendor in order to get an objective assessment of needs and a tailored solution for how those needs can be addressed by the provider.

Are we using the right tools to capture and report our data?

Today there exists a plethora of Commercial Off the Shelf (COTS) products that organizations can purchase to have ready-made Business Intelligence (BI) solutions at their disposal to process and report all of the data that has been collected for a particular project.

While they span the gamut in terms of capabilities, price, complexity, usability, tools and features, they all, for the most part, make an assumption that the organization is poised in some way, to use the tools available in the toolkit. Just having the tools does not address the issue of being able to use data to inform the decision-making process. First the organization needs to get to a place where it is efficiently using data and the complement of

tools to interpret it. It is the equivalent of purchasing a Formula 1 race car when you have just started getting into racing. Most will tell you that you want to gradually work your way up rather than go to the most expensive piece of equipment on the market, and that would be smart advice.

“

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Similarly for organizations that do not have a history of using data efficiently, a simpler solution might be a better place to start. According to the 2018 Dresner Study, dashboards, reporting, and end-user self-service, were the top three most important technologies and initiatives strategic to Business Intelligenceⁱⁱⁱ. Our experience has shown, that used properly, very powerful tools can be utilized for business intelligence that are cost effective and very easy to use. Using these tools, live dashboards can be created, powered by relational databases, with the ability to drill-down and filter data at the click of a button. While organizations might need to engage an expert to set these systems up initially, the investment can be significantly less than full-blown enterprise solutions which might not be the optimal choice for the organization given where it is at currently in its BI learning trajectory. Because these systems can be tailored to the needs of the organization, they lend themselves more to an agile approach in their development with a significantly lower investment.

Additionally, because these tools utilize an interface that most users would be familiar with if they have used software like Microsoft Excel, the learning curve for using the dashboards is much flatter than most larger enterprise solutions. Again, for organizations just starting to embark on a purposeful strategy to use data throughout to drive decision making, this is attractive. It negates the need to learn a new business practice and learn a new software platform at the same time. Having to do both can be daunting, resulting in an even



longer adoption period as managers and staff struggle to make the time to carry out their responsibilities while learning the new platform. A stepwise approach is the smarter approach as managers can simply focus on learning the new business process and less time on learning the platform to implement it. This is also better because as managers become more proficient and comfortable with using data to make better decisions, they will also be in a better position to evaluate more powerful enterprise solutions when they “outgrow” the capabilities of these more “intermediate” solutions.

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But the data analysts don't understand our programs!

In an article appearing in the February 2018 edition of the Harvard Business Review, “You Don’t Have to Be a Data Scientist to Fill This Must-Have Analytics Role”, the authors, from McKinsey & Company, introduce the role of a data translator. The article goes on to describe a data translator as helping to, “...ensure that the deep insights generated through sophisticated analytics translate into impact at scale in an organization.”^{iv} The article describes these translators as playing “a critical role in bridging the technical expertise of data engineers and data scientists with the operational expertise of marketing, supply chain, manufacturing, risk, and other frontline managers.” To understand the importance of the translator one only need to understand the parable of the blind men and the elephant. The point is that each man’s experience and perspective shaped the truth of what he believes the elephant represented. Similarly, within organizations, the data team and the program managers rely on their own experience and perspective to form their respective interpretations about what the data means. This is where the translator does her work. Because of a very unique blend of skills and experiences in data and operations the translator brings to the team, she is able to process information using the perspective of both groups and arrive at insights that the team would likely not have been able to discover in her absence. The translator knows where the data team might be describing an observation that may have no relevance for the team of program managers and conversely where the program managers are relying on information that might not have significance for the data team. The translator’s role is to use her unique experience to help the organization avoid these sorts of errors and instead provide a nexus for the teams that will lead to the right decision being made.

4 Skills of Data Translators

1. Domain knowledge
2. Strong acumen in quantitative analytics and structured problem solving
3. Project management skills
4. An entrepreneurial spirit

According to the HBR article, the type of skills that an organization should seek in identifying someone to serve in the role of a translator should include the following:

1. Domain knowledge
2. Strong acumen in quantitative analytics and structured problem solving
3. Project management skills and
4. An entrepreneurial spirit

There is a fifth skill however that McKinsey does not mention but is perhaps one of the most important and that is an expertise in understanding human behavior. It is this skill that will allow the data translator to more



quickly arrive at insights that explain the observations presented by the data. In most cases the data that is of interest in an organizational context is generated by people. Whether it is measuring their performance, their feedback, preferences, attitude and behavior, it all comes back to trying to understand human behavior and its relation to the outcomes we are seeking to produce. The degree to which a data translator possesses this skill, the more valuable she will be in her ability to move the organization forward using data as the engine.

While having the in-house expertise has its advantages for many companies in the process of revamping their business intelligence processes, utilizing the skills of an outside consultant may prove to be the wiser decision. Consultants that specialize in data translation already have the requisite skills that companies will need to extract value from this role. There is also a level of accountability coupled with the ability to operate outside of organizational confines that result in the consultant being able to offer truly unencumbered, objective insights that an “insider” may not be in the position to see or bring to light.

How will we ensure we're using best practices for how we use data?

Through the creation of a Business Intelligence Center of Excellence (BICOE), organizations have the opportunity to create an internal think tank focused on how to use data. In larger enterprises these can also be referred to as Business Intelligence Competence Centers or BICCs. In as early as 2001, research consulting firm Gartner Research began advocating that companies need a BICC to develop and focus resources to be successful using business intelligence.⁹ This internal unit should be a cross functional team whose role is to establish a set of standards, protocols and best practices for how the organization will use data-driven decision-making throughout the organization. Through the BICOE, organizations can set up training, provide resources and maintain a portal that all staff, consultants, vendors and even clients of the organization can access in order to align themselves with the organization's business intelligence strategy. In addition to selecting stakeholders to serve on the BICOE panel, there are several components that the BICOE would want to put in place to serve as the business intelligence strategy for the organization.

Those components should include the following:

- Standards outlining the use of data in the decision making process
- Resource library with samples of business intelligence tools such as a dashboard
- Peer to peer discussion forum for posting and answering questions related to using business intelligence practices



CONCLUSION

In conclusion, the key take-away from this paper should be that if organizations are serious about unlocking the potential within data to improve processes, programs and performance, then deliberate, specific steps need to be taken to establish a data-driven culture. With this paper we attempted to provide a roadmap that leaders can use as an approach to create the foundation for achieving that objective. Through training, the right tools, data translation and a Center of Excellence, organizations can begin to change course and start to use data intelligently to extract insights and use those insights to make impactful decisions to deliver results that will drive the organization to best-in-class status.

ASHLIN Management Group is a management consulting firm specializing in providing business intelligence and virtual learning solutions to Government entities and small to mid-size organizations. ASHLIN's approach to business intelligence is to empower decision makers with meaningful insights that have the potential to create pivotal outcomes. Our ability to translate the science into actionable items on the operations or program side of the house, is what sets ASHLIN apart from its peers.

As organizations evolve and continue to deeply integrate data into their processes, ASHLIN is there as a trusted value partner leveraging information to better understand how to arrive at solutions intelligently.

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