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A Sea of Data

Imagine you are on a beach vacation, standing with your toes on the edge of the surf. Then consider the vastness of the water before you. Consider how many drops of water fill the immense basin of the ocean. And then for just a moment, turn your thoughts back to work in your learning organization and the vast data set being collected on your company servers—HR data, LMS data, evaluation data—hundreds of new hires per week, thousands of learner registrations and even more evaluation responses.

A decade ago data flowed bit by bit and then byte by byte. Now it floods in at a megabyte pace, and there seems to be no end. In fact, 1010data, a cloud-based analytics provider, now hosts over 5 trillion records (that is with a t) and indicates that its volume grew by 33% last year (Harris, 2012). 1010data is only one company, but it represents the trend across the industry, that a tidal wave of data is imminent. A study by International Data Corporation (IDC, 2011) indicates that in 2010, the digital information in the world exceeded one zettabyte—more than 1 trillion gigabytes.

As you consider this flood of data, your peaceful beach vacation may seem more like Hokusai’s The Great Wave off Kanagawa in Figure 1. Just remember, you’re on vacation. You can get back to relaxing now—your data will be there when you return.

Figure 1. The Great Wave off Kanagawa by Hokusai.
But when you return the data will continue to accumulate. The question for most organizations is, “What should be done with the data?” The ideal answer is true for most businesses. “The data should be turned into information that leaders can use to make informed decisions.” With that perspective in mind, this whitepaper examines the role and function of a learning measurement leader within the learning organization. The purpose is to provide insights and guidance so organizations can develop sustainable measurement practices.

**The Analytics Role and Function Across the Organization**

Because learning is often a microcosm of other business functions, let’s first examine how other aspects of the business handle data and analytics.

Managing the tidal wave of data is usually the responsibility of the Chief Information Officer (CIO) or the Chief Technology Officer (CTO), depending on how the company is structured. They manage the technology that coordinates the flow of information into systems and the information that flows out via web-pages, statistics, graphs and reports. The skills necessary to manage the flow of data are substantially different from the skills needed to turn the flow of data into meaningful information that leaders can use to make decisions. But who is responsible for extracting useful information to help leaders make decisions about the business?

Peter Graham (2007) suggested a new chief role, the Chief Analytics Officer (CAO), when he described how to build an analytics organization. He wrote,

> “The CAO would oversee [the analytics] organization and provide business and technical expertise...[and] also provide analysis capabilities to other functional areas such as finance, sales and marketing, and direct data collection and information distribution through the creation of a robust analytic technology architecture.”

In essence the CAO would integrate data from different systems across the organization and provide value by coordinating the analytic efforts to produce valuable, actionable information.
Learning Analytics Role and Function

Assume for a moment that a similar role is responsible for the learning function. This role would have a variety of data responsibilities that would contribute to developing business intelligence for the learning organization including:

- collaborate with the CIO / CTO to organize learning data from HR, LMS and evaluation systems
- understand the business needs for the organization and align analytics processes to answer unknowns for leaders
- oversee a team of analysts who would leverage systems and analytic tools to manipulate and analyze data
- create value from lagging indicators by describing trends in the data and communicating information via dashboards and scorecards
- develop data-based feedback loops to contribute to continuous improvement efforts
- enable organizational management by developing predictive models, allowing the Chief Learning Officer (CLO) and business leaders to model various scenarios and make informed decisions based on outcomes

The primary responsibility of the role is to turn data into information so business leaders can make informed decisions about managing the business. In terms of benefits, a learning organization would use these services to determine which learning methodologies are most effective, which vendors provide the most value, where costs can be cut without impeding quality, which resources need additional training, and whether training is aligned with and achieving business goals. In this way, data analysis and information management lead to informed business management.
The Industry Focuses on Analytics

The competitive landscape is changing substantially and analytics is a key to future success. As an industry leader, IBM heralds change (Thibodeau, 2011). IBM intends to spend $20M by 2015 to acquire companies focused on analytics and cloud computing. Recall that IBM recently dove head-first into the analytics ocean by purchasing Cognos and SPSS.

Research confirms there is an increasing demand for analytics. A recent Harris Interactive survey sponsored by Human Resource Services, Inc. (HRS) found that workforce analytics are becoming much more important to the c-suite. William Zinke, President of HRS, stated that:

"HR analytics will be used to a substantially greater degree to increase workforce performance and to support strategic workforce planning, as well as in many other areas."

Some organizations have embraced the Chief Analytics Officer role, and they expect that it will help build competitive advantage by managing and analyzing information. Those organizations include: Draftfcb (Martinez, 2011), Visible Measures, Teradata.

However, the CAO role is not embraced by all. Tom Davenport (2007) counters Graham’s view of the value of the CAO by raising a question in the title of his article, “Does the World Need Another Chief?” As you might expect, Davenport’s answer is no. He advocates that the CEO or COO needs to be enthusiastic about measurement and support it. Why? He sees the biggest barrier to the CAO being the organization not the role. The organization, when faced with insights from analysis, often takes very little action. The lack of action, not the lack of role is the barrier to effective use of analytics.

Soon after Davenport’s article, a similar perspective appeared on the Decision Management Blog which advocated developing a Chief Decision Officer who would put analytics into action.
Tamar Elkeles, CLO of Qualcomm, holds a similar opinion.

“\textit{I think it’s the job of a CLO and their staff to fully understand, communicate and make decisions based on learning analytics. While there is certainly a lot of attention on learning analytics today (as well as overall human capital analytics), I don’t believe there is a need for a separate C-level role. It’s not one person’s job to be responsible for learning analysis and evaluation, it’s the job of everyone in the learning organization.}” Source: Personal communication 1/17/2012.

Not all organizations have an appetite for a new c-level position. Few organizations have hired a CAO and with limited seats at the boardroom table, it is unlikely that a Chief Learning Measurement Officer will rise. So, the issue at hand is not the value of the learning analytics role, but how that role fits within the organization. Most likely a role will exist as a director-level position within the L&D function or as a direct report to the CAO. Figure 2 shows two possible organizational structures for incorporating the role of a learning measurement leader. The first shows a reporting structure that aligns to the CAO. The second shows a reporting structure that aligns with the CLO. This second structure might also have a dotted line from the Director of Learning Analytics to the CAO. The director would have a team of project managers and analysts to execute the learning analytics strategy.

\textbf{Figure 2. Two Possible Organizational Structures.}
Are Businesses Ready for Analytics?

A recent search of Monster.com provided some interesting insight into the question, “Is the industry ready for analytics?” On January 20, 2012 a search for common analytics positions on Monster.com produced the results displayed in Figure 3.

One position, business analyst, is not displayed because over 500 requisitions were listed. The chart is ordered in descending order from highest rank to lowest (excluding business analyst). The results are somewhat surprising because they should mirror a typical organizational structure with a few positions at the top and many at the bottom, like the right half of a Christmas tree. The interesting aspect of these results is the extremely large need for director level positions. It seems thought leaders—those who can set strategy for measurement groups and build teams to meet business needs—are in demand as the industry moves toward data-driven decision making. Based on job requisitions alone, the industry is moving toward analytics.

**Figure 3. Analytics Job Postings on Monster.com**
Role and Job Description

KnowledgeAdvisors assists clients to develop sustainable measurement strategies. A key driver of sustainability is having a measurement group that has the knowledge and skills to evaluate training. Moreover, the leader of the group is responsible for understanding the business needs of the groups it serves and finding meaningful ways to communicate analytics information to leaders. Each member of the team plays a key role in making measurement sustainable. Below is an example of a partial job description suitable for a director of learning analytics within a learning organization.

Example: Director of Learning Analytics Job Description

Role Purpose:
The director is responsible for leading and driving the program implementation of cross-functional projects related to the learning measurement strategy, from planning, design and development to implementation and meeting program goals. The person provides strategic guidance for program solutions development.

Key Accountabilities:

- Set the strategic direction of the learning group with learning and business leaders
- Oversee the implementation of strategic measurement processes
- Ensure the learning measurement strategy implementation goals are achievable and met
- Identify and manage cross-project dependencies, risks, issues, requirements, design and solutions
- Oversee and direct the measurement team and / or project team
- Exhibit leadership qualities to mitigate project risks; plan for risk and develop strategies for dealing with potential risks
- Ensure execution of all projects within the strategy are carried out on time
- Support project-level activity to ensure the overall strategy goals are met, by providing decision-making capacity that cannot be achieved at a project level
- Facilitate integration and management of interdependencies between projects
- Plan and manage measurement team’s budget
Example: Director of Learning Analytics Job Description (continued)

Learning Measurement Leadership/Subject Matter Expertise
- Provide overall learning measurement strategic guidance, subject matter expertise, and leadership to implementation teams; collaborate with project teams to develop solutions
- Provide learning measurement consultation, coaching, and advisement to project teams
- Ensure success of the Learning Measurement Strategy vision
- Guide teams through solution development, with a vision for the end goal
- Identify key linkages, interdependencies, and impacts with other implementation work stream projects, to ensure attainment of learning measurement strategy goals

Stakeholder Management
- Identify key program stakeholders and their specific measurement priorities
- Develop a stakeholder management plan to tailor stakeholder engagement and communication to individual needs
- Manage changes and issues with stakeholders

Team Management
- Set individual team goals and objectives
- Identify appropriate recognition and rewards to drive collaboration across implementation tracks

Desirable Skills
- Strong experience in learning measurement
- Previous work experience in a training organization with measurement
- Strong analytical skills
- Strong leadership and presentation skills
- Experience implementing cross-functional programs
- Program and Project management – ability to multi-task and manage the program in an environment with rapidly changing priorities while still producing high quality deliverables on time; strong project management skills, with a solid understanding of project management processes
- Good financial skills, to oversee budget
- Strong problem-solving skills to coordinate and motivate a team effectively
Evaluator Competency Model

Many organizations find that sustainable measurement is elusive because they lack a measurement team or lack measurement skills within their learning and development team(s). KnowledgeAdvisors offers the Evaluator Competency Model (see Figure 4) as a framework for developing the specific skills and behaviors among individuals responsible for measurement. The model is based in research that defines the knowledge, skills, and behaviors required to successfully conduct evaluations. In addition to the model, KnowledgeAdvisors offers an online assessment tool so organizations can determine the depth and breadth of skills within groups.

Figure 4. KnowledgeAdvisors Evaluator Competency Model
The assessment aligns directly with the knowledge, skills and abilities within each quadrant. Below, each quadrant is explained in more detail.

- **Interpersonal skills:** Includes the capability to form trusted relationships with stakeholders, communicate effectively with client teams and clearly understand client needs for evaluation and decision making.

- **Business and technical skills:** Includes knowledge of evaluation methodologies and the ability to effectively integrate them into business processes (e.g. instructional design).

- **Evaluation planning:** Includes the capability to plan and manage complex projects as well as develop a robust evaluation plan, data collection and analysis strategies.

- **Evaluation implementation:** Includes the ability to design or leverage the appropriate measurement instruments, analyze results and tell the story to key stakeholders.

**Conclusion**

As businesses continue to gather data, the need to turn data into information will continue to grow. Some organizations are hiring a Chief Analytics Officer to oversee the transformation. Some thought-leaders are still skeptical of the value of the role. Within learning and development, there is an ongoing need to manage and transform data into information. Don’t expect a new role such as a Chief Learning Analytics Officer, but do expect that director level positions will be created in learning organizations to address analytic issues. KnowledgeAdvisors can help learning organizations assess the need for a sustainable measurement process, set a measurement strategy, and determine what roles and skills are lacking along the way.
What Can KnowledgeAdvisors Do for Your Organization?

KnowledgeAdvisors’ promise to clients is simple: We will improve learning effectiveness within your organization. How? There are many ways, but here are the most relevant with regards to creating a sustainable measurement process by building evaluation capacity in learning measurement roles:

- Allow KnowledgeAdvisors to assess your organization’s level of measurement maturity
- Engage KnowledgeAdvisors to conduct a measurement strategy with your learning and development group to create a sustainable measurement approach to meet the organization’s short- and long-term measurement needs
- Allow KnowledgeAdvisors to consult with you regarding the roles within your learning organization. Do you have a measurement group? What is the strategic role of the group? What roles are needed / not needed within the group?
- Engage KnowledgeAdvisors to assess measurement skills among your learning group using the Evaluator Competency Model

Contact Us

If you would like to learn more about how KnowledgeAdvisors can help you with measuring the effectiveness of training or with process improvements, please contact us. Additional information is available at www.metricsthatmatter.com and via direct conversations with John Mattox at: 1 312 676 4414 or jmattox@knowledgeadvisors.com
The Role and Function of a Learning Analytics Leader

References


