How organisations should improve data synthesis to avoid being 'data rich' but 'information poor'

Description

Organisations often "get stuck" with data by gathering and sorting so many data points that it becomes easy to miss the opportunities to create valuable information, says Dr Paul Thurman, Professor of Management and Analytics at Columbia University.

Dr Thurman joined keynote speakers from Google, Intel, IBM and MIT as well as data strategists, Chief Data Officers and data scientists from all over the world at the QS EduData Summit 2022, heldÂ on 8-10 June at the United Nations Delegates Dining Room in New York.

Dr Paul Thurman, who is Chair of the QS EduData Summit Advisory Board, spoke to QS in the week prior to the Summit about the greatest challenges for organisations looking to improve their data management and synthesis and the data skills gap between institutions and employers:

What are the biggest barriers to organisationsÂ â?? and particularly universities â?? making more use of their data to shape future strategy and direction?

The biggest barrier to organisations making more use of their data to inform future direction and strategy is that most are data rich but information poor.Â In fact, if you think about a hierarchy of how data evolves as it's used, we start with data, and we process or summarise it to create information.Â This information, then, if used properly, can help us create knowledge for the purposes of strategic planning and goal setting.Â This knowledge, in term, over a longer period, will eventually become institutionalÂ wisdom, which can create platforms for growth and leadership in the long term.Â Thus, this data-information-knowledge-wisdom pathway only creates value if you can get past the data level.

However, many organisations â?? not just universities but for-profit and not-for-profit institutions â?? get stuck at the data level and they only focus on analysis of the data, not synthesis of these results into information.

They focus most of their energies into collecting and sorting data, often to an extreme. Then, since they have collected so much data, the 'where to start' question for the analyst becomes a difficult one. How do we organise the data?

What views or 'slices and dices' are important? Many times, this leads analysts back to collecting more data! And thus, we never get out of the data level and into something more meaningful at the information and knowledge levels. For example, knowing that our admissions are up 5% is a data point. Knowing that it's lower than all our key competitors is a key bit of information that we can use to inform and create strategies for how to become more competitive. Thus, organisations need to move from data to information â?? quickly, and with good analysis â?? so that we can move this analysis to synthesis: information we can use to help inform our future directions.

Do you think that students, particularly those who have graduated since the pandemic began, have different expectations of what they want from an employer?

â??I believe graduates of the COVID era do have different expectations of employers, and I don't believe these changes in expectations are unique to just recent graduates. I believe many employees or perspective employees have changed their employer expectations since the pandemic began. One of the most obvious is around work location. COVID taught us, for several types of jobs, that being 'there' wasn't necessary. We took classes, attended meetings, conducted job interviews, finalised contracts, got hired and promoted, and built high-performing teams without having to be in a physical working space â?? or physically proximate â?? to do so. Thus, graduates likely expect more geographical freedom and flexibility if they are in jobs that do not require physical presence to be successful.

In addition, as a continuation or perhaps more as an acceleration of the 'millennial effect', graduates expect to move up the ranks more quickly now that they have this flexibility to work in more 'comfortable' surroundings. If I can work anywhere I want, get my job done for my team more quickly without having to travel, commute, etc, then why shouldn't I be able to rise through the ranks more quickly? And if I need to acquire new skills to help me be successful, then I expect my employer to offer me â?? or offer me access too â?? a portfolio of upskilling and credential offerings, without requiring me to get another degree, that can help me get up-to-speed quickly. Since many of these types of upskilling programs have come about during the pandemic â?? when a great deal of educational offerings were put online, almost instantaneously â?? it only makes sense that recent graduates would want to use these capabilities to 'keep up' with their competition.

Finally, another expectation that has changed somewhat is that it should be 'easier' to change jobs. With many interviews online, now, graduates could become more 'portable' in terms of their willingness to change jobs given opportunities in the marketplace. If I don't have to change my workplace, and I can work online with my team and add value, then I may want to seek the firm with the best educational opportunities, advancement possibilities, and, of course, compensation and benefits package. This isn't a new effect â?? especially with what we saw with millennials before the pandemic â?? but to some extent, the pandemic exacerbated these changes in expectations or at least in the impact they can have on job seekers.

When it comes to data analytics and data science, do you think there remains a skills gap between the knowledge and experience which students graduate with and the expectations of employers?

The gap between 'supply of' and 'demand for' data science skills is widening in higher education. More and more employers are demanding higher levels of data analysis skills and competence based both on their own emerging needs and on the relatively un-skilled labour forces being graduated from institutions of higher learning. This is one reason why so many universities and colleges are offering an array of non-degree online, certificate, and 'credentials' courses to alumni. For example, one of the first online upskilling courses which Columbia Business School offered to its alumni was a course in data science and analytics.

Degree-programme directors are also responding to this demand for more data science skills by programming 'boot camps' and other deep-dive courses and programmes offered to students before they enter degree programmes â?? sometimes as a requirement for admission â?? or as part of 'orientation' programmes. In the past these orientation programmes focused on Excel skills, basic accounting, and finance principles, and perhaps some marketing and operations. However, more and more students are coming to degree programmes with some background in these topics but still need a bit more depth in tools and applications before they can successfully complete, say, an MBA programme.

But employers are the ones really driving this demand for analytics skills.

> Many are coming to universities and colleges looking to recruit graduates but making completion or certification of data science skills a prerequisite to obtaining a job interview. And for their existing labour forces, they are asking schools to provide the aforementioned credentials and certification opportunities.

Thus, until this gap is closed â?? perhaps via employer-school partnerships â??filling this gap will be a challenge for employers but an opportunity for schools that can offer quick-hit, non-degree upskilling in this and other fields.

Dr Thurman spoke at the QS EduData Summit at the United Nations Delegates Dining Room in New York from 8-10 June 2022. We also recently spoke to fellow QS EduData panelists and speakers Ria Cheruvu, AI Ethics Lead at Intel, and Nick Creagh, QS Chief Data and Analytics Officer. Registrations are still open to access on-demand content from the QS EduData Summit 2022.

Find out more about QS EduData 2022