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Data Swagger: Cultivating Data Literacy to Drive Digital Transformation

Janmae Pagador
San Diego State University, jpagador@sdsu.edu

Nelson Huynh
San Diego State University, nhuynh5159@sdsu.edu

Darshan Davis
San Diego State University, ddavis7833@sdsu.edu

Kaveh Abhari
San Diego State University, kabhari@sdsu.edu

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Data Swagger

Cultivating Data Literacy to Drive Digital Transformation

Janmae Pagador, jpagador@sdsu.edu; Nelson Huynh, nhuynh5159@sdsu.edu; Darshan Davis, ddavis7833@sdsu.edu; Kaveh Abhari, kabhari@sdsu.edu; San Diego State University.

Data literacy is the ability to understand and communicate with data. Since the amount of data is growing at an unprecedented rate, it has become necessary to process, understand and use data in an effective and efficient manner. That said, the problem now faced is the transformation of current and future employees to see value in data, and be willing to not only effectively use it, but trust it so that they can become data literate. Prior research argues that because employees who have access to data do not see its true value; they are therefore discouraged from using it all together. We devise that promoting data literacy will allow for smoother responses to challenges such as data application contextualization and personalization, improve intradepartmental and interdepartmental data communication and thus lead to easier paths to meeting organizational goals through data-driven decision making. Data itself is there: tables, charts, statistics, system-generated insights; however, what is not there is the link between personal drive and data applications. Our study presents the barriers to data literacy and explore frameworks that allow employees to organically develop data literacy.

Based on a case study of two Business Intelligence units affiliated with a U.S. Government agency, we identified major factors such as lack of motivation to understand data, resistance towards change, and lack of knowledge on how to contextualize the value of data. We believe these factors go hand-in-hand with each other and therefore this challenge requires a systematic approach to data literacy and training. To develop a practical framework, we consider Jack Mezirow's Transformative Learning Theory and recent developments in data democratization, work culture, and corporate education models. Transformative Learning Theory has three common themes that we use to further support our case. First is the centrality of experience—a learner's desire to use their own experience to validate data in front of them. Second is critical reflection—examining assumptions and changing beliefs and behaviors through reflection and dialogue. Third is rational discourse—discourse being a key factor to transformation of an individual's learning, which in our case is data. These themes inform a systematic approach that allows an organization, especially government agencies, to become data literate.

Our work is driven by the fact that the term 'data literacy,' along with data science, is no longer relevant to solely IT Departments. It is relevant to every single member of a functional organization. We propose an experience-centered, reflection-driven, and cooperative approach to data literacy training and thus builds employee trust—rather than making data and data tools available and expecting employees to use and trust data. There is this misconception that organizations should be looking for "data-driven" people to join their team, when in reality they should be looking for people that are able to drive data themselves, because data by itself is not driving anything. There is not a lot of research and information out there as to how organizations can transform their employees' introspection about data. Hence, why we seek to develop a training module that normalizes the exchange and understanding of data across every organizational level.