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State of Data Science and Analytics

Data is the lifeblood of digital transformation

80% of organizations leverage data across multiple organizational processes



IDC's Digital Transformation Platform



Survey respondents indicate data is being used across all business functions





There are approximately **54M** data workers worldwide

Regional Distribution of Data Workers Worldwide









Data workers spend **90%** of their work week on data related activities



Searching for and preparing data are the most common activities regardless of role of data worker



44% of time is **being wasted** every week because data workers are unsuccessful in their activities





Top challenges cited by data workers are indicative of underlying issues that are responsible for failures





Variety of data sources, diversity of data types, data volumes, multiple targets for analytics, and data science outputs result in complex solutions







88% of data workers, approximately **47M** people worldwide, use spreadsheets for data activities



Spreadsheet functions are used as a proxy for data preparation, analytics and data application dev tools:

The most used spreadsheet functions by **50-70%** of users include data summarization, datetime manipulation, transpose, lookup, conditional formulas.

Data workers that use spreadsheets are spending **60%** of their work week (**24 hours**) in spreadsheets



Most frequently used methods of getting data into spreadsheets lack control and governance, which can lead to data compliance and trust issues



Inefficiencies are also reflected in the use of spreadsheets when source data is updated:

Workers are spending on average, **7 hours per week manually updating** formulas, pivot tables, cell and sheet references.



The State of Data Science and Analytics: Key Findings



Data is becoming increasingly important to success in the digital economy

Users across all geographies, company sizes, industries and departments use data



Data workers spend the majority of their work week on data activities

More time is being spent on analytics than on data science or application development



Complexity, diversity and scale are top challenges for data workers, resulting in inefficiencies and wasted time

Users have to overcome skills gaps, learn and use multiple tools to work with data Searching for and preparing data are the most frequent and the most inefficient activities



Users resort to the ubiquitous spreadsheet in face of complexity

Resulting in a lack of data and analytics traceability, uncontrolled distribution and time intensive effort



People and organizations are still resistant to change

Inefficiencies are costing time and money, restricting opportunities for simplification



Call to Action – Reduce friction, address data activity inefficiencies to improve worker effectiveness

Reduce friction within data related activities to simplify solutions, improve productivity and the lives of data workers:



Friction of having to use multiple tools: consolidate activities onto one end-to-end data platform.



Friction of skills gaps: look for platforms that **offer self-service access to data** preparation, analytics and data science.



Friction of productivity: platforms focused on **ease of use and automation** to improve opportunities for success.



Friction of data trust: platforms that implement control and provide end-to-end traceability.

Data workers say the **top 3 barriers** to bringing in a **new** tool:



These three barriers are the **result** of the friction currently **being experienced** by data workers.

Multiple tools result in higher maintenance and training costs

Manual activities are costing people time = money

Multiple tools and incompatibility challenges integration

Business cases for a new tool that reduces friction can be quantified by the cost of data worker failures: the opportunity cost of wasted time.



Survey demographics by country and role







Source: IDC Data Preparation, Analytics and Science Survey Commissioned by Alteryx, February 2019 N=836

Survey demographics by department and industry



Survey demographics by company size



