

Considering Job Changes in an Ever-Changing Environment

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Abstract

What is changing in our industry? The simple answer is... everything. Technology is quickly changing, employment laws are changing, sponsor companies are seeing more merger and acquisition activity than ever, and so are CROs and service providers. So how do you as the SAS programmer navigate all these changes as you contemplate career and job changes? See perspectives from executives in both pharma and service providers as they explore changes in our industry that are affecting hiring decisions and company strategies.

Introduction

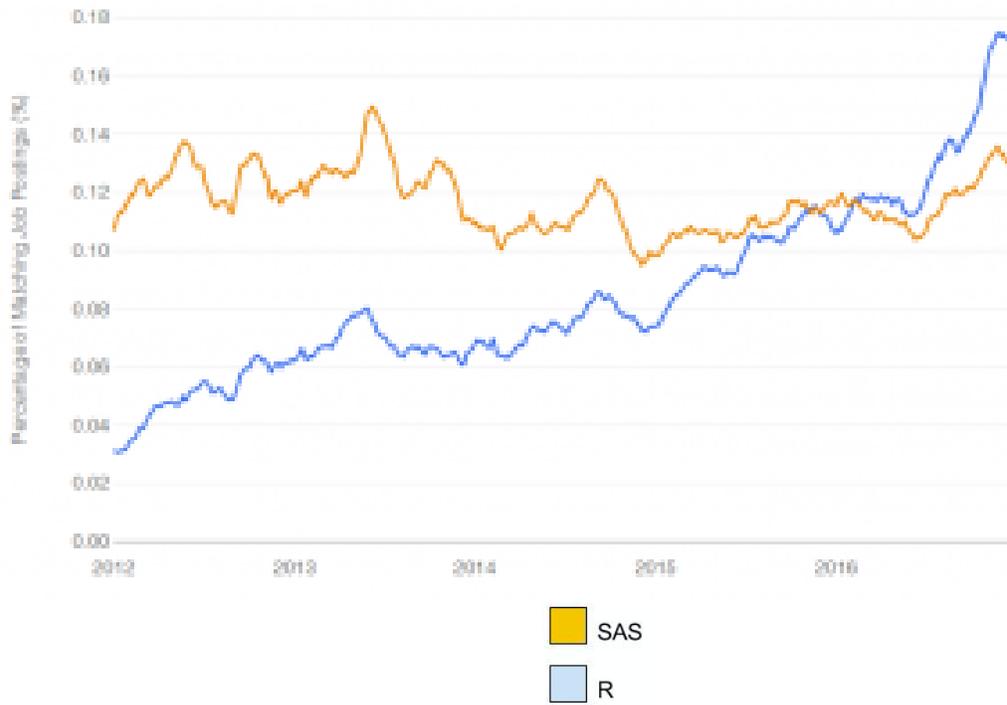
From the Career Planning and Changing Encyclopedia: “The very meaning of ‘career’ for most people is changing from being a single continuous activity to a succession of different activities in a rapidly changing environment. Career planning, therefore, will for most forward-looking individuals become a continuous activity repeated at regular intervals”. The median number of years that wage and salary workers have worked for their current employer is currently 4.6 years, according to an Economic News Release from the Bureau of Labor Statistics on Nov 1, 2018. What does that mean for job seekers in our industry as they explore opportunities within an ever-changing climate? Below we discuss just some of the variability we are seeing in our industry.

Turbulence is Everywhere

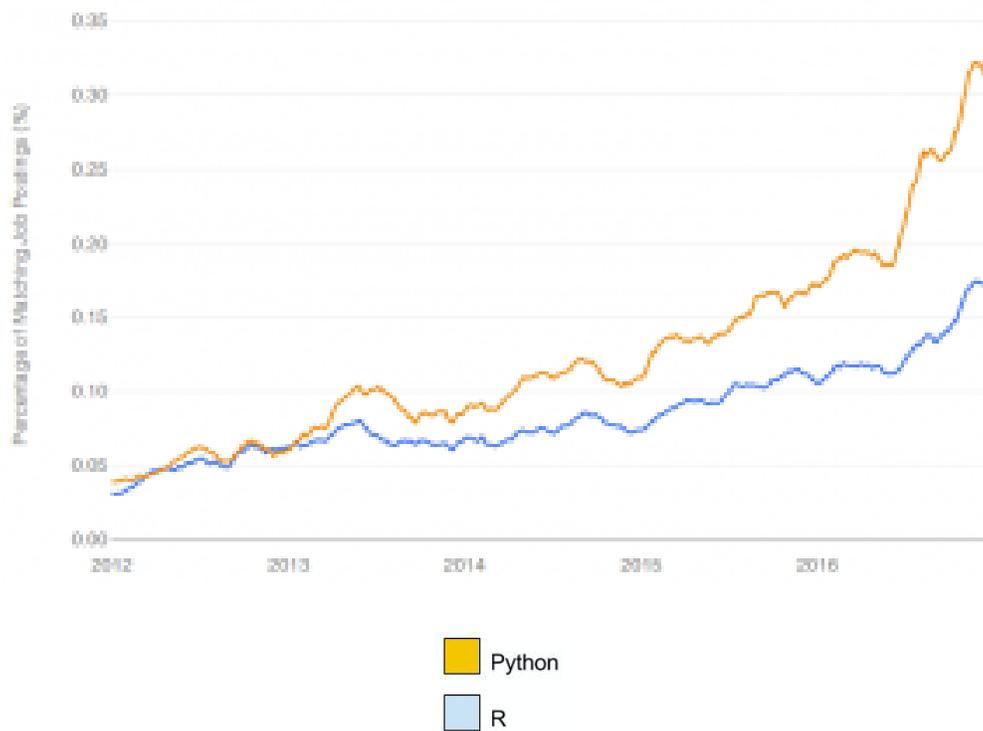
Software and Technology

SAS has been the market leader for many years. It offers a huge array of tools and functions and is easy to learn; however, it is very expensive, while alternatives R and Python are quickly taking hold as viable less expensive options. SAS is validated and is 21 CFR Part 11 compliant and the standard in our industry, while R and Python are open source and therefore by nature are difficult for validation/compliance. Open source tools like R and Python are overwhelmingly favored by professionals with 5 or less years’ experience, most graduates coming out of school have experience with at least one of them. While SAS continues to see strong support among professionals with 16 or more years’ experience, Python made noticeable gains here as well. Those with 6-15 years’ experience slightly favor R, but levels of support are within 5 percentage points among all the tools (Data@2018 Burtch Works LLC).

SAS is still the market leader in available jobs in our industry, and virtually all pharma and CROs use SAS. R / Python, on the other hand are better options for start-ups and companies looking for cost efficiency and have garnered the attention of some industry companies (Kathy – my company just recently licensed R). Also, the number of jobs for R / Python programmers has been reported as increasing over last few years. Below is a trend widely published on internet, which shows the trend for R and SAS jobs. Python jobs for data analysis will have similar or higher trend as R jobs.



This one on the other hand, now shows R in Blue and Python in Orange.



Source: r4stats.com

What does this mean as you explore the job market?

When you create quality production in SAS, you are known for getting the job done, why would you risk changing?

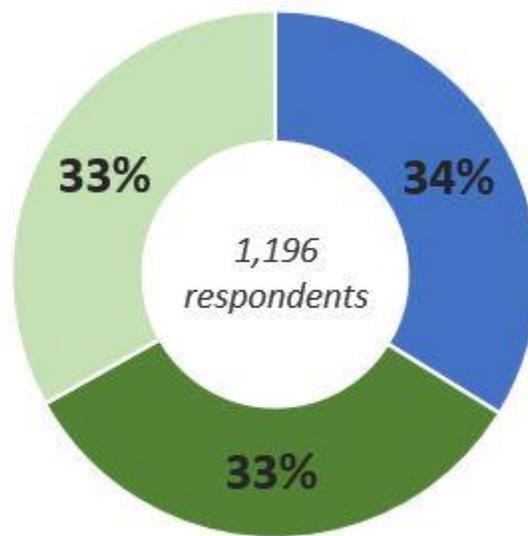
Most SAS jobs are posted on Indeed.com by larger, regulated organizations like pharmaceutical companies and CROs. SAS created the data submission method for the FDA, but it is now an open standard, and now the FDA is an internal user of R, so maybe things are changing. Recruiters are now starting to look for Python and R experience and are recommending adding these skills to your toolkit to increase your marketability, but of course there are still many positions available for SAS users. Skills such as building SAS applications and macros are also still in high demand.

Is SAS becoming a commodity? Is SDTM standardizing the way statistical displays are created and possibly decreasing the need for customized SAS outputs in the future?

One could assume that standardization of any form, as it has been in data management, minimizes the number of unknowns and dynamics in which one must adjust. The desire for quality – speed – to market continues to be a driver for new companies being founded, process and practice optimization, ease of use tools and systems, and the very definition of the resource types needed to manage operational requirements. Standardization has created the opportunity for additional tools to demonstrate value and cost efficiencies leading to an increase in use in submissions materials for publication and submission.

Data Science and Analytics users as well as academic settings are already demonstrating the change in the work place through standardization practices and the increased use of additional tools. In a preferred use survey executed by Burtch Works in 2018 surveying roughly 1200 respondents, there was a pretty clear spread of technology being used/preferred.

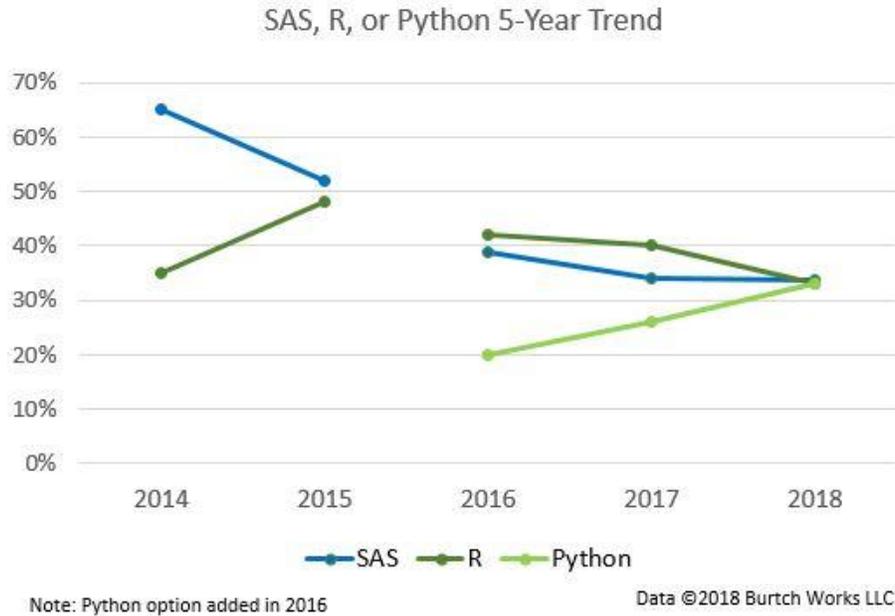
SAS, R, or Python 2018 Overall Results



■ SAS ■ R ■ Python

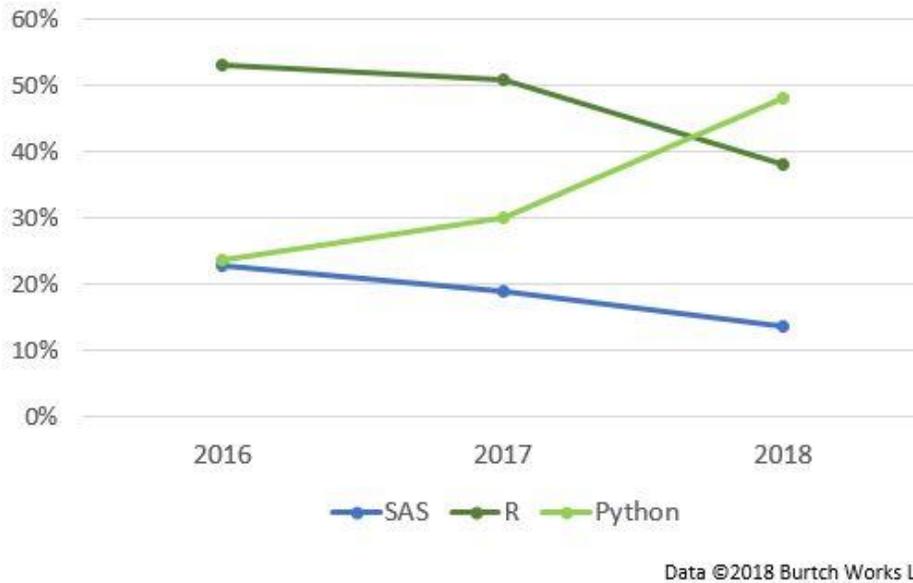
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Interestingly, when you look at the trend of use over the last 5 years, you can clearly see where if were or not engaged in advancing your own personal tool box, you may be aging yourself out.



Additionally, you could assess when these resources entered the workforce as it is associated to the change of both standards and a younger more recent resource to the workforce, it becomes even more evident.

SAS, R, or Python Preference Data Science & Analytics Pros with 0-5 Years of Experience 3-Year Trend



What should also be discussed is the impact of big data access, machine learning and the continued development and use of the Data Scientist role. Many of you may still be asking what exactly is a Data Scientist and is it really impactful to me as a traditional programmer (traditional analytics)?

Simply yes. Not dissimilar to what happened when EDC was introduced and the role of the traditional CRA and CDM were changed due to data access, system capabilities that made monitoring easier and less manual and so on.

With the development of tools that would automate the capture and storage of large volumes of data, the ability to slice and dice the various elements of data and to create both analytics and reports from these typically disparate sources potentially reduces the number of resources. Moreover with standardization of a majority of the data and the need and use for that data it could very well blend what the traditional programmer and the data scientist would do independently.

CROs and Service Providers

CROs and service providers come in all shapes and sizes, ranging from large global CROs to small staffing companies, and everything in between. Big providers seem to be getting even bigger (e.g. Chiltern acquired by Covance, Novella acquired by what is now IQVIA which was the merger of Quintiles and IMS Health), and more small specialty providers come into the market every day. How do you navigate through the field and understand what jobs are available? How do you find companies? How do you understand the job market?

Jobs are changing. Some jobs are client-specific, and some are project-based. You will hear the term FSP, what does that mean? FSP stands for functional service provider, however every FSP means something different to just about everybody in the industry. How do you tell the difference between jobs?

- Network. Attend conferences such as PharmaSUG. Talk to the exhibitors, they represent companies large and small within our industry
- Social Media. Use LinkedIn, explore job postings
- Job boards. Explore job boards
- Recruiters. Listen to them, they often have the best insight into the details

The trend in CRO jobs, particularly in programming, is moving towards remote or home-based positions. They tend to target employees with more experience that are capable of being self-motivated and have the discipline to work remotely. They are also good training grounds, and the more entry level positions tend to be office-based.

Big Pharma, Small Pharma, and Biotechnology

Like the CRO market, there's lots of M&A activity in the pharma/biotech industry. Pharma is constantly reinventing themselves; biotech and small pharma are being gobbled up. Examples – Celgene acquisition by BMS, PaxVax acquired by Emergent BioSolutions. Pharma will ramp up and hire several people directly, only do downsize and turn to the CROs to streamline. Examples include the GSK/Parexel and Astellas/Chiltern partnerships where pharma staff were converted to CRO employees. How can you navigate the changes? A lot of the activities listed above also apply here. In addition, read the industry news such as FiercePharma and BioPharmaDive.

Most pharma/biotech jobs tend to be office-based or on-site and require significant experience. There's a sense that these jobs, particularly in small biotech where drugs fail every day, can be volatile. However, they may also be higher paying opportunities.

Employment Laws

There have been several lawsuits and verdicts in recent years that have steered employment decisions away from long-term full-time contracts. It's becoming increasingly difficult to find long-term full-time contract opportunities that last longer than a year. Contractors can make more money, but If you want to be a contractor, be prepared to take on several part-time assignments and spend more time doing your own business development. And as a contractor, be prepared to pay for all your own expenses such as IT equipment and benefits. New rule of thumb – no more than 50% of income as a contractor can come from 1 source.

Social Forces

Global resourcing strategies are being employed and have been for a while. As this is not new news or new, it is still prudent to highlight that these too are changing our work environments. Some of you are US based resources, some of you are not. In either scenario you have been and continue to be impacted by global resourcing practices. In our current climate we are all sensitive to the reduced number of visas, modified behaviors of organizations trying to capitalize on onshoring vs. offshoring resources to gain cost advantage. We're all trying to manage the fluidity of our current political climate and the impact of having resources in other countries. Companies are considering many

aspects when thinking about resourcing in this case... where else can I gain an advantage. This has been touched on in the demographics, tools and systems, and the exposure happening within academic settings. All of this will be impactful in a social sense.

When considering demographics, it's no longer an age or where you're from. It's all of the aspects of what your experience is, what your academic experience has been, what expertise you can bring forward (this not necessarily equaling years in service as in the past), what is the breadth of the service you offer (refer to data scientist vs. just a traditional programmer), what is your motivation, and so on. These are changing times with the advances and use of a variety of technologies, a change dynamic in the human element, and a continued press to find any competitive advantage in staffing, product, and performance.

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