We analyzed 3,584 Jobs of 2 Top U.S. Banks to Accelerate Your Winning in Fintech Era

Summary	This report analyzed key fintech areas, and fintech hiring trends, and made insights and predictions about fintech development.
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Status	Version1.0
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Introduction

What is fintech?
Financial Technology, nowadays better known as 'fintech', describes a business that provides financial services by making use of modern information technology. Combining the business value of IT and finance, fintech is more and more powerful for enterprises to gain large profit and make strategic decisions.

Fintech Environment in Banking
With the rise of fintech startups, which directly compete with banks to sell financial services in efficient technical ways, traditional banking industry has been astonishingly affected. To survive the wave in fintech, the U.S. banks are making digital transformation seriously. Actions have been taken in multiple sectors from most routine customer transactions to marketing, underwriting, and servicing etc. Thus, the demanding positions in banking industry can to some extent represent the macroscopical hiring trends in fintech era.

What Insights We Figured out?
Under the big environment, opportunities and challenges coexist. It is important for people in fintech fields to understand the hiring trends and focus on improving the urgently demanded skills by the employers. We analyzed 4 fintech reports of World Economic Forum (WEF), and totally 3,584 posted jobs on the careers site of 2 of the top U.S. banks, which are BNY Mellon and Capital One, and then figured out the insight on:

- Key fintech areas
- Key fintech hiring trends
- Job demands distributions
- Core competitiveness in fintech

Key Areas of Fintech

Keywords in Fintech
To analyze the key areas in fintech, we wanted to firstly figure out the keywords in fintech. To achieve this, we turned to 4 authoritative reports from World Economic

. We built the weighted dictionary of top keywords that could be used to describe the fintech space with 3 different methods: **Word Count**, **TF-IDF**, and **Text Rank**, and then summarized the outputs to come out the overall results as Chart 1 shows.

Chart 1: Team#6.Created with abcya.com

Key Areas Analysis

According to `Chart 1`, it is obvious that the popular technologies such as AI and data science are closely related to the financial business, and we found the potential 5 key areas in fintech to be explored:

- **Data**: with the use of data analytics and big data technologies, financial companies will be able to make scientific strategic decision, and come up more profitable financial products to give customers more investment options.

- **Security**: with the large amount of online transactions and payments, security will have to become top concerns to maintain data and assets protection to gain customers' trust.
- **Digitalization**: financial companies are taking advantage of digital payments, cardless payments, mobile deposits, etc. The use of AI also promote the efficiency on analysis. Enterprises are also building integrated digital platforms for better inner resource management.
- **Insurance**: insurtechs companies are redefining customer experience through innovations such as risk-free underwriting, on-the-spot purchasing, activation, and claims processing, etc.
- **Retail**: innovative retail are rising taking advantage of automated manufacturing, digital distribution network, and blockchain.

Job Demands Distribution in Banking

As we mentioned above, U.S. banks are taking actions seriously in digital transformation, and taking advantages of technologies to promote financial services, so there should be a change reflected by recruitment. To explore the detailed job demands, we built a scraper to scrape the data from the careers sites of 2 top banks in U.S., which are BNY Mellon and Capital One.

Hiring Job Categories of BNY Mellon

`Chart 2` below shows the job distribution of BNY Mellon as of Feb 6th, 2018. We found that among the total 1,334 positions posted on the career site, the count of information technology related positions was 201, which accounted for 15%. That is not a small percentage apart from the jobs relevant to main banking business like asset servicing, finance and accounting, and the operational jobs. Besides, there were 14 positions in the digital category, which were related to digital analytics and data strategy.
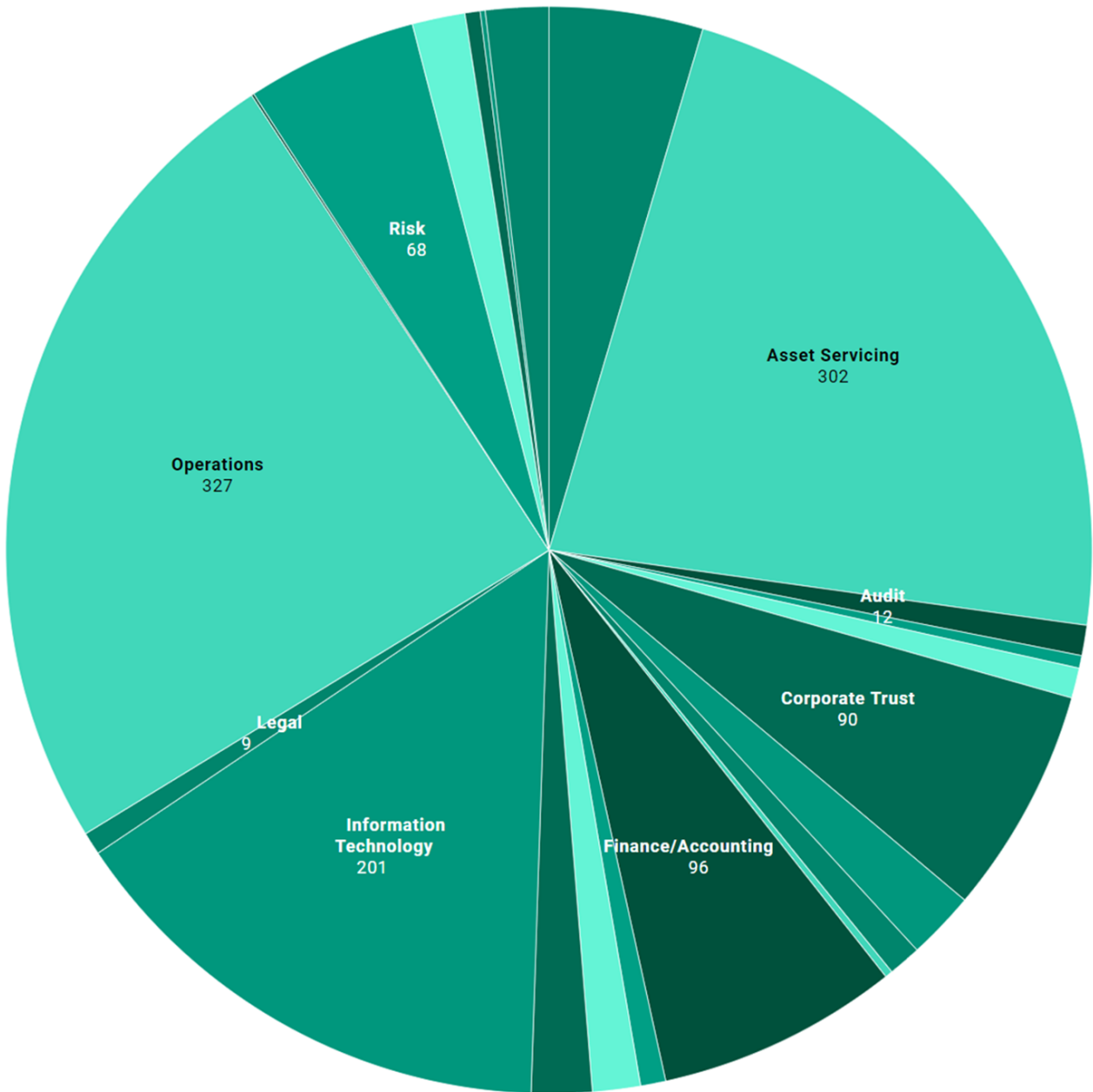
Chart 2: Team#6.Created with Datawrapper

Hiring Job Categories of Capital One

The job categories in Capital One are more detailed divided compared to BNY Mellon, shown as `Chart 3`. Engineering division is a striking among the other job categories. With 838 jobs related to software engineering, cyber engineering, system engineering and data management etc., the engineering category accounts for 37% in the overall posted jobs. Apart from that, the sub-divisions like software engineering and data science also occupy relatively big percentages, which are 5% and 6.5% respectively. It

is apparent that Capital One is more actively seeking for the skilled people with technical experience to help them promote their fintech transformation.
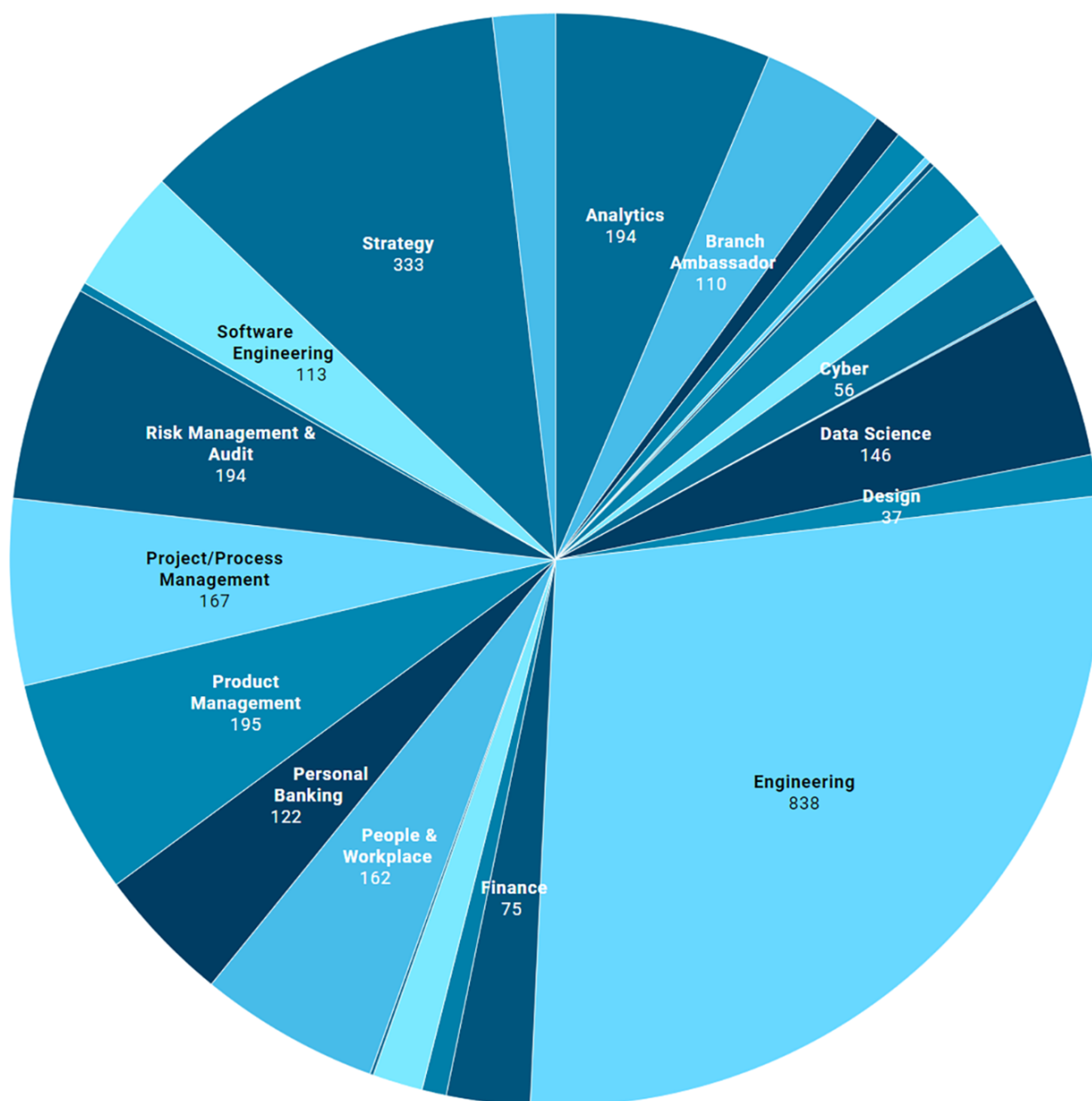

Chart 3: Team#6.Created with Datawrapper

Key Hiring Trends and Competitiveness

Based on the analysis of key areas in fintech and the job distributions of the two banks, we wanted to do some deeper research on the hiring pattern. The key point was to explore the connections between key fintech areas and the posted jobs of the financial

enterprises. To figure out the relationship, we scraped the detailed information of posted jobs of each bank, and mapped the keywords in fintech with the job information such as job title, job category, job description and responsibility, etc. To visualize the relationship, we generated `Chart 4` and `Chart 5`, each of them is a two-round pie chart. The inner round shows the main keywords, which represent the fintech areas to some extent, and the outer round are the job categories to which the mapped jobs belong.
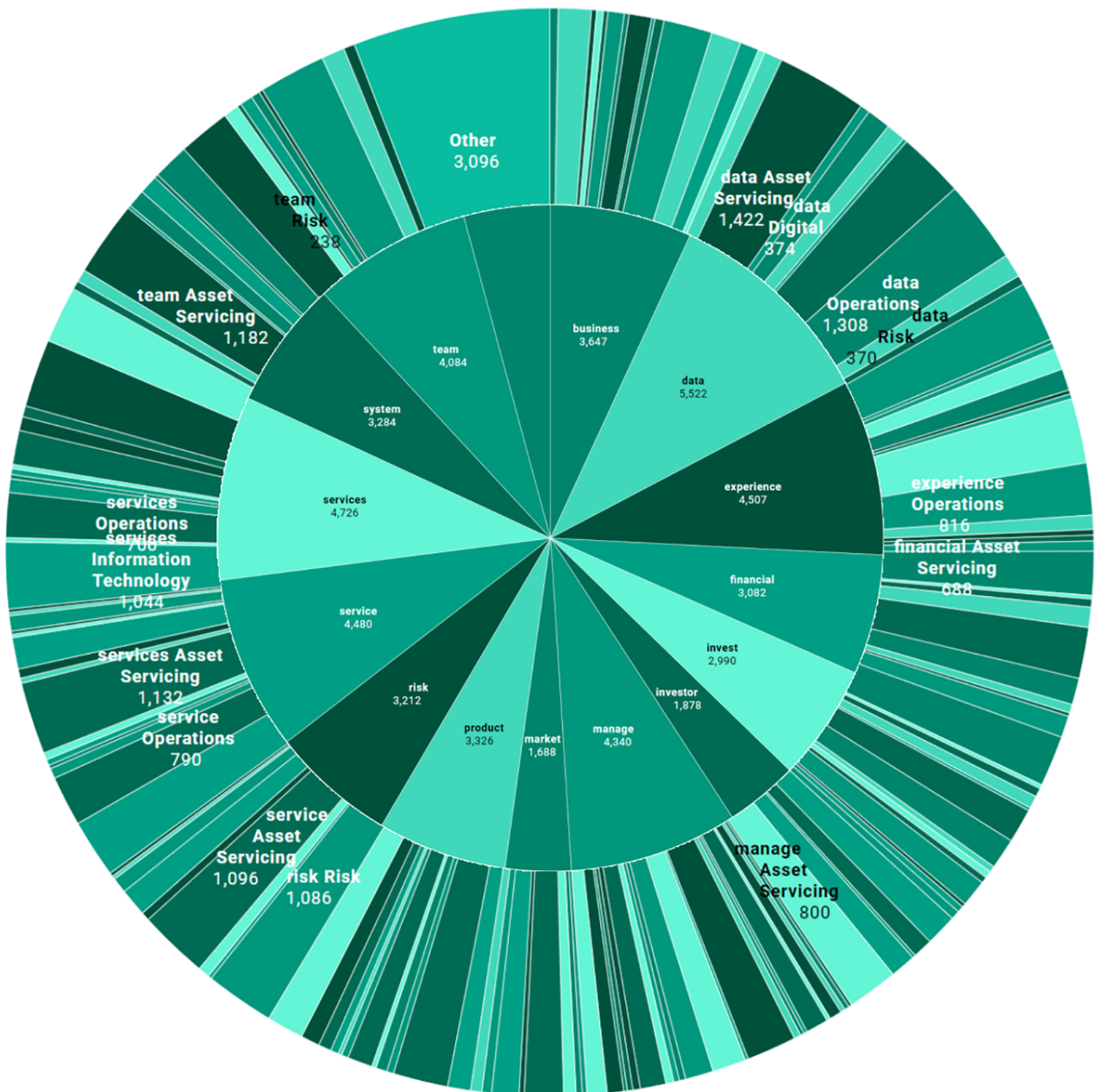
Hiring Trends of BNY Mellon

According to `Chart 4`, an analysis of BNY Mellon's 2,250 open jobs listing by divisions shows it is combining technology and finance and in the process of digitalisation.

Some key points from analyzing BNY Mellon's hiring data:

- BNY Mellon is actively seeking IT talents using data science methods and tools to achieve digital marketing analysis.
- BNY Mellon is building their own digital platform called NEXEN to implement digital innovation and create new products and services, and system related jobs like platform architect are being posted.
- Viewing from hiring trends, the total amount of technical jobs in BNY Mellon are still not the main section of the overall recruitments.
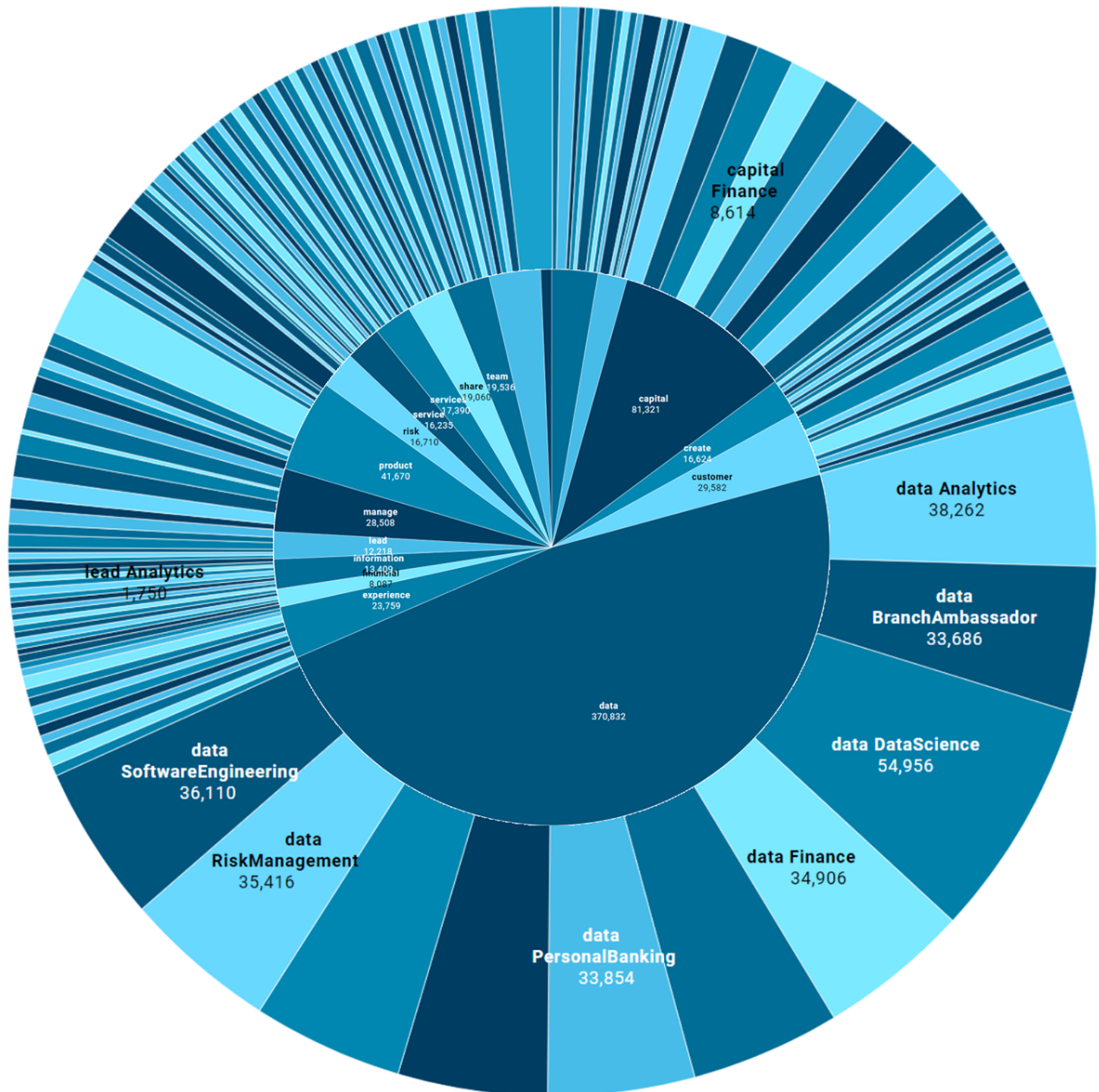
Hiring Trends of Capital One

Compared to BNY Mellon, Capital One is more enthusiastic about digital transformation. Shown in `Chart 5`, nearly 50% job information mentioned data, and the data related job categories accounts for large percentage as well, such as software engineering, data science, analytics, and other categories combining finance and technology. Some key points from analyzing Capital One's hiring data:

- Largely different from traditional banks, Capital One is more like a information-based technology company, which concentrate a lot on technology positions. It is more friendly to the people with technical and analytical skills.
- Capital One's strategy seems like not just from a digital identity services perspective but with the broader system or platform business.
- Capital One is building out their digital identity platform that it can potentially position as a service, and the system and digitalization specialists are urgently needed.

Actionable Insights and Prediction

According to all of the above analysis, including the key fintech area and hiring trends of the two banks, we can generate some insights on what core abilities should the job hunters in fintech field be equipped to gain more competitiveness among the numerous candidates. Although the data source of the job information is limited in this case, we can still predict the future strategic directions of the fintech industry to some extent, and speculate the future development of the fintech.

Competitiveness of Job Hunters

- **Payment Processing:** At the core of fintech is payment processing and it's a highly valuable skill that allows you to grow into several different roles including management, sales, marketing, project management, etc.
- **Machine Learning**: AI is driving innovation in fintech, machine learning is one of the most prefered skills from fintech startups to investment banks.
- **Big Data:** fintech generates massive amounts of data and success depends on making the most of that data.

- **Cybersecurity**: Innovative products and services are worthless if critical data cannot be kept secure. Security is a major concern for fintech companies and they are aggressively recruiting bright talent in this niche.

Predictions

- **Platform is a rising service:** more and more companies in fintech fields are building own platform to promote financial services with technology, and the digital financial platforms maybe core services in the future.
- **Digital Banking**: future banks may be almost completely digital because of the mobile and automatic technologies like AI, machine learning and mobile payments.
- **Digitalization determines benefit**: in the era of fintech, the enterprises which are taking more actions in digitalization and focusing on technical talents recruitment may gain more profit.