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The Evolving Profession of Competitive Intelligence -- Evidence from Online Job Posts

Linnaea Hance
Georgetown University, Washington, D.C., United States
ljh62@georgetown.edu

Qingjiu (Tom) Tao
University of Delaware, United States
qtao@udel.edu

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ABSTRACT Over the past 40 years, the competitive intelligence (CI) field has evolved along with technology and market dynamics. Revisiting Dr. Craig Fleisher's (2008) analysis of CI's legitimacy, this study explores the current and future state of the profession. Analyzing data from a comprehensive job postings dataset, the research uncovers significant growth in CI roles, with job postings nearly doubling from 2010 to 2020. Key insights reveal increased demand for data science and machine learning skills and highlight industries like healthcare, pharmaceuticals, and tech as leading employers. Contrary to perceptions of a shrinking field, our findings show a steady increase in CI job opportunities and provide a detailed profile of ideal CI candidates as well as a landscape of the CI job market.

KEYWORDS: Competitive Intelligence, Job Market, Employment Trends, Longitudinal Database

INTRODUCTION

Over the past forty years, the competitive intelligence (CI) career field has encountered waves of changes resulting from rapid development in technology and fluctuations in market acceptance. As time went on, these changes have influenced the progression of the CI career field by driving innovation and improvements, while at the same time leaving behind a gray area surrounding what both full- and part-time CI practitioners bring to the table (Calof, 2020). Dr. Craig Fleisher (2008), assessed the state of CI against "the five commonly accepted and applied standards required for a particular activity to be termed as a legitimate profession." Our research will revisit these standards, in particular "Position of the Occupation in the Labor Force" (Fleisher, 2008), and will close this gap of understanding by applying employment trends to define today's CI professional and the future of the career field itself.

While most of the CI researchers and practitioners would argue the CI field has been growing over the last four decades, there is no longitudinal, concrete evidence yet to show that trend. Some would even argue that CI as a profession is in decline. Calof and Wright (2008) provide insights into the field of CI from various angles. The authors trace the origins of CI, explore practitioner and academic views, and emphasize the multi-faceted role CI plays in modern organizations. They also highlight the need for CI practitioners to stay updated, as new fields of study become part of the CI framework.

The inclusion of CI has made its way into most major companies to some extent, but it is true that the profession itself still lacks overall direction. In a 2019 JISIB editorial note, Klaus Solberg Söilen (2019) mentioned "CI has become an ever more important part of employees' jobs, as a function," suggesting that CI as a standalone profession hasn't gained significant momentum. Instead, the progression of the competitive intelligence (CI) career field is evident with the establishment of standard roles such as "Competitive Intelligence Analyst," "Manager," and "Director."

Our research challenges the belief that CI is declining, aiming to clarify misconceptions by addressing key questions regarding the profession's evolution, current status, and the necessary skills for a successful CI career. Specifically, we would like to explore:

- How did this profession evolve over time? Is the CI job market declining?
- According to the job market, what does it take to be a CI Professional?

LITERATURE REVIEW

Competitive intelligence (CI) literature published over the past thirty to forty years offers a glimpse into how the career field has evolved, from its roots as a new, unfamiliar strategy to its recognition as an essential business practice. A review of this existing literature brings to light current information gaps and possible problem areas to explore through research and analysis. Before understanding what disparities may remain within the CI career field, one must first understand its history to recognize how the profession has progressed and grown over time.

Early History of CI

Known prior to 1980 as a strategy called competitive data gathering, CI began to seriously emerge as a profession in the 1980s and 1990s, congruent with the rise of data analytics. In 1999, Dr. John Prescott published one of the first major articles on the CI profession. In his article, he outlines the progression of the intelligence field, beginning with its roots from Sun Tzu's *The Art of War* and how the basics of military intelligence played a crucial role in the development and practice of what is now known as competitive intelligence.

Prescott (1999) goes on to categorize the evolution of CI into four stages: competitive intelligence gathering, industry and competitive analysis, competitive intelligence for strategic decision making, and competitive intelligence as a core capability. According to Prescott (1999), the first two stages took place throughout the 1960s to the 1980s as companies were just beginning to conduct competitor analysis and create semi-formal units within their organizations. At this point, the use of competitive intelligence was limited and the occupation served "primarily [as] a library function," where "the involvement of top management in CI towards the decision making process was limited" (Tsokanas & Fragouli, 2012). By the time Prescott's article was published, he positioned the current state of CI development at the third stage, "competitive intelligence for strategic decision making," arguing CI was only being implemented in conjunction with other efforts. He (Prescott, 1999) alluded to the future need to develop CI-specific skill sets by mentioning that analysts should be proficient in "forecasting, profiling, financial analysis, and statistics" in addition to "a mindset oriented toward developing implications and recommendations." However, because so many were still attempting to decipher what CI was, the specific types of skills required for this profession were unclear.

It was during this same time that CI-focused professional organizations, such as the Strategic and Competitive Intelligence Professionals (SCIP) and the Academy of Professional Intelligence (ACI), began to form. Offering education, certification, and networking opportunities, these types of organizations are vital to the legitimacy of any career field, which is why Prescott (1999) labeled the founding of SCIP as a key defining event in the evolution of CI. Although some experts have noted how the progression of CI in the 1990s was represented by a major uptick in SCIP membership, that surge waned shortly after. It is possible this decrease could be attributed to the idea that participation declined as a result of the 2001 recession "when organizations reduce staff numbers of what they deem less-essential functions" (Fleisher, 2004, p. 58). Though the

establishment of SCIP did help to increase CI popularity by building a professional community, competitive intelligence as a core business capability was still on the horizon.

After the turn of the millennium, it was evident how much the advancement of the Internet began to shape the career field. Experts explained how "over the past two decades, competitive intelligence (CI) [had] grown from a small area of interest into an internationally recognized and practised discipline," much of which was attributable to the Internet (Teo & Choo, 2001). Not only did the Internet influence the way CI was conducted, but the massive amounts of readily available data truly pushed CI to evolve into what it is today.

Steady Progress

As the early 2000s progressed, the CI career field made some major strides. Craig Fleisher (2004) published a journal article addressing trends in the field, aiming to reach an assessment on the state of CI while highlighting the lack of educational opportunities for CI professionals. By this time, Fleisher (2004) noted that organizations were "increasingly seeking to better understand how they [could] leverage their value propositions in the marketplaces," and were beginning to realize "they need[ed] to exploit and tap into the wealth of data and informational resources that exist[ed] both within and outside their organizational domain." This included international organizations, as companies in China, South Africa, and France began recognizing CI as a corporate function (Bao, 1998; Tao & Prescott 2000; Sewdass & Du Toit, 2014 and Smith & Kossou, 2008).

Craig Fleisher's research also found there had been progress made in incorporating CI into university curriculums, but many struggles remained. He (Fleisher, 2004) scrutinized the lack of formal CI-focused education and training despite a rising interest in the profession, arguing four main issues: (1) lack of formal course offerings at the post-secondary education level; (2) lack of agreement on what should be taught and whether CI should fall under business management or information science; (3) ambiguity surrounding the profession itself; including the fact that some "question whether CI is even a legitimate discipline, practice, profession, field, or area of study;" and (4) declining interest in CI "when organizations reduce staff numbers of what they deem less-essential functions." By bringing these issues to light, Fleisher pinpointed specific deficiencies in the career field that needed to be addressed in the coming years.

Industries at the forefront of establishing CI as a formal business practice within their organizations were "high-technology electronics, fast-moving consumer goods, integrated energy, and pharmaceuticals" (Fleisher, 2004). With their increased resources and higher levels industry competition, these large, multi-national companies such as Boeing, Motorola, and Procter & Gamble paved the way to making CI an essential business function. As these companies began to incorporate CI, the expectation of a CI practitioner was adjusted accordingly. As a result, the demand from companies, especially in certain industries, changed the way CI professionals approached the occupation.

As time went on and the CI field continued to mature, "CI roles began to emerge as more than just a skill set in companies but a viable discipline and human resource with a title focused on intelligence" (Bulger, 2016). Literature published during this time focused on cultivating a more established career field rather than attempting to define the profession and create a place for it in business. As a frequent author of CI-related literature, Craig Fleisher became one of the major influencers in this realm by constantly outlining improvements that could be made now that CI was gaining momentum. In 2003, he co-edited a CI book with David Blenkhorn addressing enduring issues in the CI career field, where the two (Fleisher & Blenkhorn, 2003) profile potential "Standards of CI Professionalism" and the associated criteria once the position earns the title of an official occupation in the workforce, which included "agreed-upon and mostly consistent job descriptions for practitioners."

As the field progressed, "CI professionals began providing intelligence not only on competitors' strategies, but on their tactics; not just on macro-level issues

like long-term investments, but on micro-level issues, like pricing and product positioning" (McGonagle & Misner-Elias, 2016). Yet even with steady progression the field still experienced its shortfalls. By 2013, the objectives of CI were clear, but professionals encountered some "confusion on how the CI process should be structured" (Pellissier & Nenzhelele, 2013). Common understanding throughout the CI community still hadn't been achieved, with expert opinions varying significantly on number of phases, type of process, and their approach to executing CI. In a review of trends in CI peer-reviewed research, one author (Du Toit, 2015) admitted "there is little known about the extent of competitive intelligence research and competitive intelligence as an academic study field." Du Toit (2015) also pointed out that "since competitive intelligence is an interdisciplinary subject field, competitive intelligence professionals usually have a variety of educational backgrounds and many do have postgraduate degrees." On top of that, "the intelligence skill set [had] become more complex than in the past and more encompassing in terms of required skills needed to become a true decision influencer within organizations" (Bulger, 2016). Later on, Jonathan Calof (2020) highlighted the need for "further evolution in CI in the context of integrating across functions and the skill set of tomorrow's CI professional being more in analysis, developing insight, and becoming a more effective communicator of these insights to decision-makers." Research conducted during this time helped CI become a more focused career field, but in many aspects the profession was still left up to interpretation.

Recent Progress in CI Career Field Research

Various experts over the past decade have attempted to re-assess the state of the CI career field since the early 2000s. In 2015, a group of experts (Gračanin et al., 2015) argued that "until recently, only few researchers focused their research on identifying the relationship between strategic management process and activities that management undertake in order to understand their competitive environment. Competitive intelligence is the connection between these two processes." However, although "most… large companies in developed countries are using some types of CI techniques…very little is known about the evolution of CI activities and programs" (Gračanin et al., 2015). This is evidenced by continued confusion throughout the 2000s regarding the job title, required skills, and expectations of CI professionals within many companies.

In 2021, Crayon, in collaboration with SCIP, published a report outlining trends and best practices in the CI field. The report was based on a survey of approximately 1,000 companies and disclosed statistics on CI budget, metrics, trends, and perceived value, such as the fact that company stakeholders who agree CI is important to the success of their business jumped from 85% in 2020 to 92% (Crayon, 2021). These insights are key to understanding just how much the interest in CI has accelerated in recent years and whether management and leadership believe it is an effective strategy for their companies. Although it provides the most recent snapshot of the CI field, the Crayon report fails to collect insights on company expectations for their CI professionals' skills and experience, nor does it provide insight into the job titles or position descriptions of these individuals.

Attempts to Address the Problem Statement

The previously aforementioned literature offers a comprehensive glimpse into the state of the CI career field, but what it shows is a lack of consistent understanding on how individual CI roles are currently measured. We know CI has gained momentum as a profession – there is an abundance of literature illuminating the impact CI can offer a business, including ways CI can be integrated into an organization and suggested processes to follow – but there is a gap in literature addressing the expectations of a CI professional. While a general understanding has been achieved, the qualifications, skills, and job titles of CI professionals differ significantly. Because "the intelligence skill set has become more complex than in the past and more encompassing in terms of required skills needed to become a true decision influencer within organizations,"

the need for a standardized understanding of the role itself is even more imperative (Bulger, 2016). The skills of a CI professional can vary greatly, often being summarized into the soft requirement of strong decision-making abilities or an analytical mindset. This, coupled with the fact that the U.S. Bureau of Labor Statistics (2021) has yet to classify Competitive Intelligence as an official occupation, leaves a disconnect between companies with high demand for CI and CI practitioners themselves.

Some small-scale research has been completed to address this topic by attempting to characterize what it means to be a true CI professional. First, a paper written on the capabilities of CI practitioners in South Africa sheds light on the fact that no set framework exists for the skills and capabilities CI practitioners should possess (Mabe et al.). In their research, conducted via comparing semi-structured interviews to job announcements, the authors (Mabe et al.) found that "probing and relationship building (networking) were the most required skills for CI practitioners in order to foster collaboration; these skills did not reflect in the job advertisement as the most required." This is something SCIP (n.d.) has also placed high emphasis on, agreeing "the modern CI function demands talented utility players with the ability to build relationships across the organization." However, "according to the job advertisements, the most required were strategic thinking, communication and marketing" (Mabe et al.). It is this disconnect between CI professionals and the companies driving the demand for CI that needs to be resolved.

In 2018, competitive intelligence company Cipher, along with Dr. Qingjiu Tao from James Madison University, published a white paper titled *CI State of Play* surrounding the practice of CI in the life sciences career fields. The publication addressed CI priority functions within pharmaceuticals and biotechnology organizations, as well as the skills, educational background, responsibilities, certifications, and general career paths of CI professionals to "offer immediate recommendations for improving CI functions within any relevant company" (Cipher, 2018). For this purpose, reports such as this could be used by CI professionals and companies alike to understand the demand for CI and identify trends within the field. For instance, the report included a breakdown of common degrees achieved by CI professionals. It acknowledged that to recruit the right people, companies searching for CI professionals need to understand "while undergraduate and graduate degrees in CI are available from select colleges, those thrust areas are also often paired with or supplemented by business, marketing, security, or business analytics programs" (Cipher, 2018). The conclusions of Cipher's research were both applicable and actionable, but the scope was too narrow for widespread application.

Missing Piece of the Puzzle

Through a review of prominent literature, it is evident this type of snapshot into the CI career field on a grander scale does not exist. It is the intent of the research questions to produce a similar product with a wider scope that encompasses all of CI professionals. This paper has a two-pronged goal: (1) to close the information gap between CI professionals in search of a job and companies with open CI positions through real-world, large-scale, longitudinal data set and (2) to provide a market-base view of what it truly means to be a CI professional today.

METHODOLOGY

Approach

The data being used in this study was pulled from a database of longitudinal online job postings hosted by Lightcast, formerly known as Burning Glass, an analytics software company that focuses on labor market analysis. The expected outcome of this analysis yielded conclusions regarding which companies are driving CI demand and will explain what these companies are looking for in a CI professional. Some experts have applied this methodology of analyzing job posting data to pinpoint required skills, education levels, and certifications of potential job candidates in different industries (Goldfarb et al., 2021; OECD, n.d.).

Sources & Data

The data set was gathered using a Labor Insight™ tool created and marketed

by Burning Glass Technologies, which "is used by hundreds of educational institutions, HR departments, and workforce development organizations to support initiatives that align with today's job market" (Burning Glass, n.d.). This tool was chosen as a source for data because it has a positive track record of providing consistent case studies for universities to guide curriculum planning and investments in new programs, and for companies to assess workforce skills and guide strategic decisions.

The data collection was completed by Burning Glass Technologies, who maintains a database of over one billion job postings by web-scraping – a term for the process of collecting data from thousands of websites – which is performed every day to ensure the database remains as current as possible (Brüning & Mangeol, 2020). After web-scraping, Burning Glass performs de-duplication to eliminate repeated postings appearing on multiple websites (Brüning & Mangeol, 2020). Burning Glass then performs text parsing to "'read' the job postings, identifying relevant information such as the job title, occupation, education and skill requirements" (Brüning & Mangeol, 2020). This process is entirely automated, employing algorithms to find and categorize the information (Brüning & Mangeol, 2020).

The job posting data was pulled from the Labor Insight™ tool, which accesses the aforementioned database, in two ways. First, a search was performed for job postings that reference CI as a keyword. Second, a separate search was performed for job postings that list CI in the job title. This distinction helps differentiate between the "true" CI positions, meaning full-time CI analysts, as opposed to positions where an individual is expected to perform some aspect of CI as part of their broader job duties. In an attempt to capture change over time, data was pulled from 2023, 2021, 2019, and 2016 to represent present day (2023), two years ago, four years ago and seven years ago. Given the time constraint, we only picked the data from April 18 to June 16 each year.

Analytical Design

During the analysis phase, this data was studied for patterns and themes that may answer the research questions. To start, we examined the amount of CI-related job postings per data set to note any trends in overall demand of CI services. The use of Alumni Analysis offered the ability to draw quick conclusions on these numbers, as the charts provided visually depicted trend data for easy digestion.

The analysis of the raw Excel data was manual, where the job descriptions were scoured for common key words or recurring topics. This data was more difficult to accomplish as this took a great deal of time to analyze. For that reason, MAXQDA software was used to assist with the text coding of common words and phrases.

The analytical design differs from that of other researchers because of its ability to view a widespread amount of data, capturing almost the full spectrum of online job postings within the United States job market. While the analytic approach is common, the amount of data analysis performed is unique and significant.

LIMITATIONS

Although the most appropriate choice, there are certainly limitations to the analytical design and source of data.

First, the data itself poses some restrictions. The data set is still a sample and may not offer an all-encompassing statistical representation of the entirety of job postings available. In addition, data may not be equally available in each job posting or companies intending to hire internally may not advertise their openings online, introducing opportunities for missing information that could skew conclusions.

Second, the Burning Glass Labor Insight™ tool and database has its limitations. In their research, Brüning & Mangeol (2020) noted the Burning Glass Technologies data can fluctuate and is "less reliable when only looking at a short period of time." However, "by studying *relative* differences in the demand for qualifications and skills across states, occupations, and time, we avoid a bias arising from these factors as long as they affect the variables we study equally" (Brüning & Mangeol, 2020).

The chosen analytical design aimed to alleviate any lasting effects from these limitations by reducing subjectivity and providing an accurate representation of the CI profession.

Analysis and Discussion

The following data analysis addresses the problem statement by defining the attributes companies are searching for in today's Competitive Intelligence (CI) professionals. Furthermore, the analysis offered insights on industry trends such as what types of companies are driving CI demand and outline specific qualifications companies are expecting from their CI professionals.

Part I: Reflecting on the Past Ten Years

To begin, initial analysis was conducted on data spanning the course of ten years, from January 01, 2010 to June 16, 2021, providing a long-term strategic summary of prevailing trends in the career field. Two overarching categories of job postings were pulled from the Burning Glass database for this particular period: postings with CI included in the job title and postings that indicate "Competitive Intelligence" as a key word, either in the job description or list of skills. These categories help to differentiate full-time, dedicated CI professionals and positions that require part-time CI as part of the job function.

Dedicated Competitive Intelligence Professionals

In total, from January 2010 to June 2021, 9,082 job announcements were posted that listed CI in the job title. The total number of posts per year experienced a dip in 2016 then again in 2020, as seen in Figure 1 below.

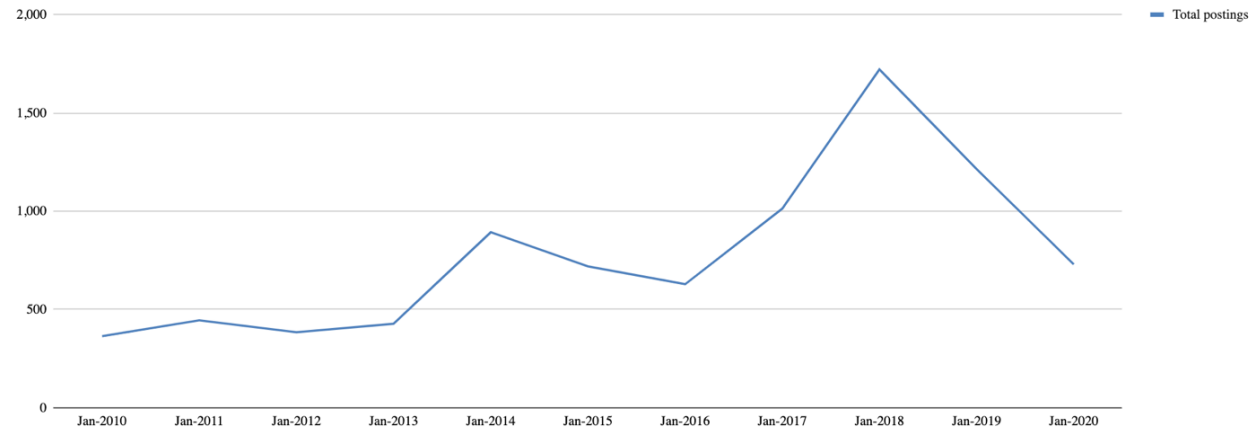

Figure 1. Time Series Analysis – Number of Full-time Job Postings Per Year, January 2010 to January 2020

While the roughly 40% decrease from 2019 to 2020 is likely a result of hiring freezes and job loss fueling unemployment during the COVID-19 pandemic, which peaked at 23 million job losses in April 2020, the dip in dedicated CI positions from 2014 to 2016 does not match national trends (Georgetown University Center on Education and the Workforce, 2020). Instead, trends during this time revealed an increase in job openings to their "highest levels since…2000, indicating a rise in the demand for labor" (Bureau of Labor Statistics, 2017). That being said, the increase was a small one. The Bureau of Labor Statistics (2017) also notes "in 2016 the growth in average monthly job openings slowed to 5.2 percent, compared with 17.6 percent in 2015. Annual hires also had smaller increases, up by 1.1 percent in 2016 versus 5.8 percent in 2015." The dip in CI postings during this time could be attributed to a temporary decrease in demand for these positions; if companies are generally hiring people at slower rates than they did in 2014 and 2015, CI just may not be a current priority.

For those companies that posted openings for what can be considered "true" or full-time CI positions, the top resulting job titles were Competitive Intelligence Analyst, Competitive Intelligence Manager and CI director. The respective salary and education requirements of these positions can be seen in Table 1 and Figure 2.

Table 1. Market Salary for Dedicated CI Position, January 2010 to June 2021

	CI Director	CI Manager	CI analyst
Median Advertised Salary	170.0K	143.1K	106.2K
Max Advertised Salary	255K-500K	220K-500K	160K
Minimum Advertised Salary	119K	70K	50K

From these results, one can see companies expect most dedicated CI professionals to hold at least a bachelor's degree and on average, depending on job location, can expect a salary of $80,660. Those who hold a master's degree can expect a higher salary, but that is not necessarily the case for those holding a doctoral degree, suggesting companies may not place as much emphasis on higher education of their dedicated CI professionals as they do on experience.

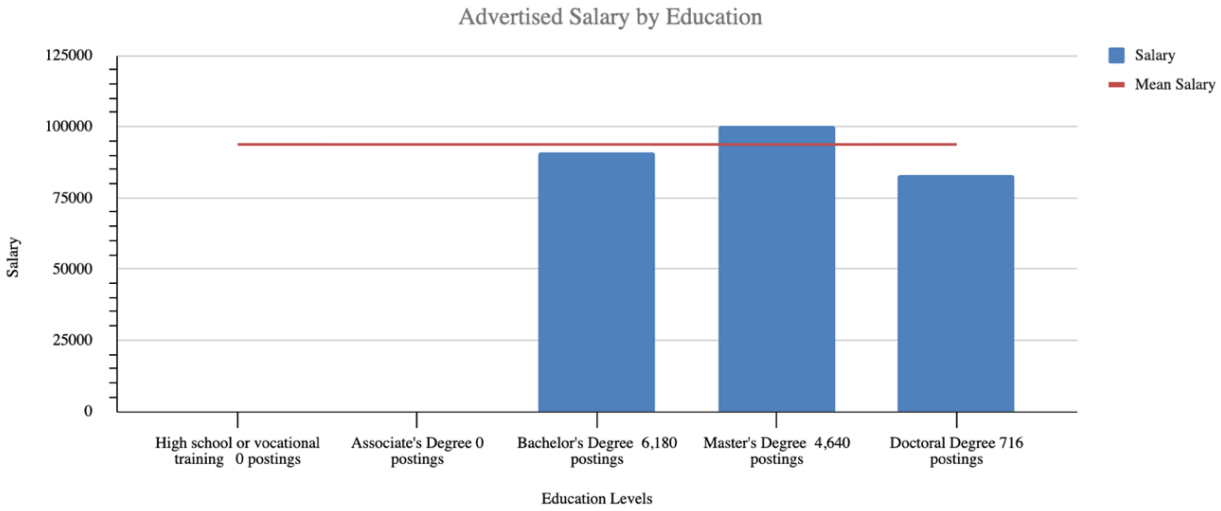

Figure 2. Advertised Salary of Dedicated CI by Education Level, January 2010 to June 2021

Note. 95% of records have been excluded because they do not include both a degree level and salary information. As a result, the chart may not be representative of the full sample (Burning Glass Technologies, 2021).

True, full-time CI professionals should strive to possess the skills companies are searching for, but there may be times CI professionals don't know what those specific skills are. Below are three separate charts depicting specialized, baseline, and software skills listed in these job postings. Jobs with less than three skills listed were not included in these charts.

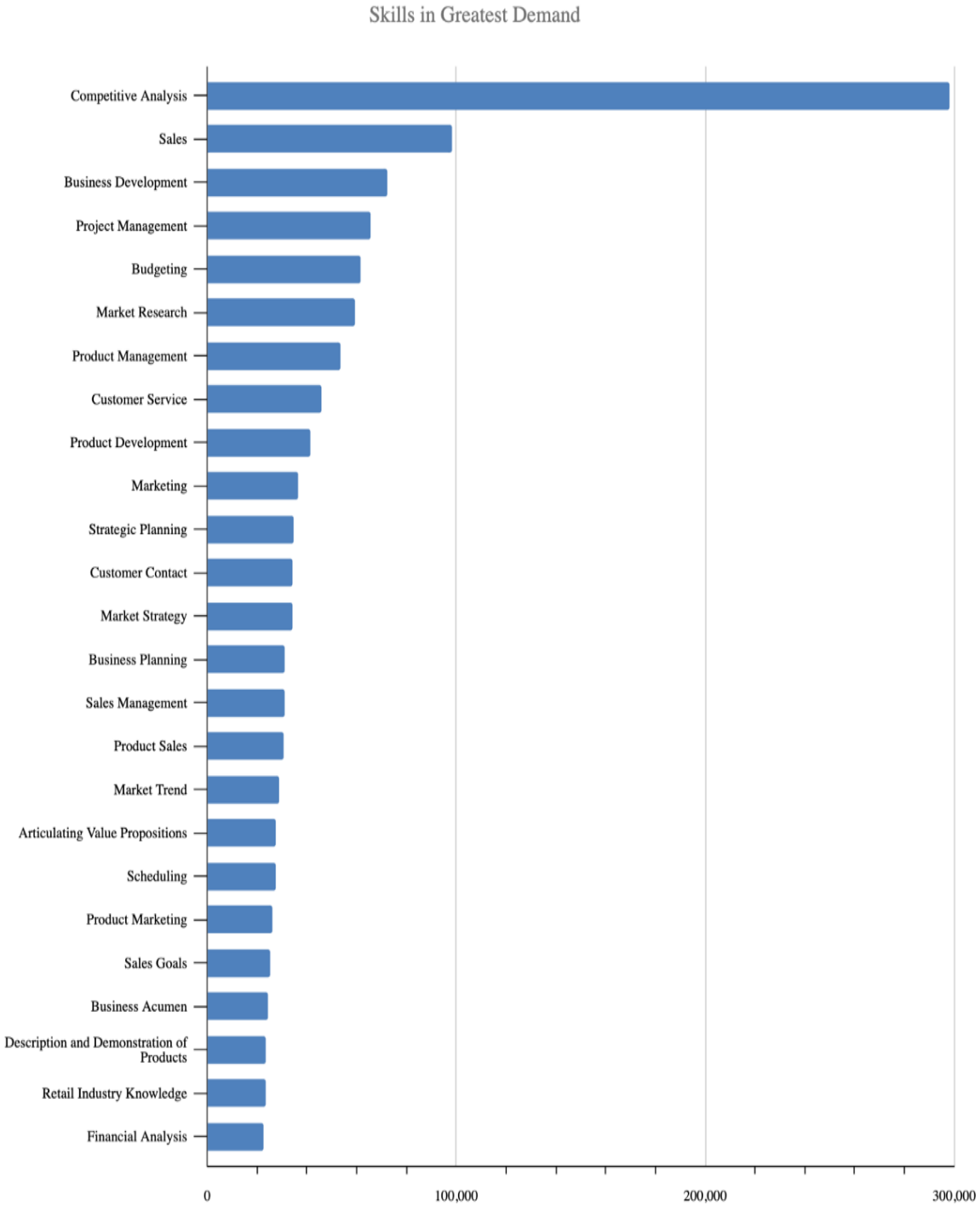

Figure 3. Specialized Skills in Greatest Demand for Dedicated CI Employees, January 2010 to June 2021

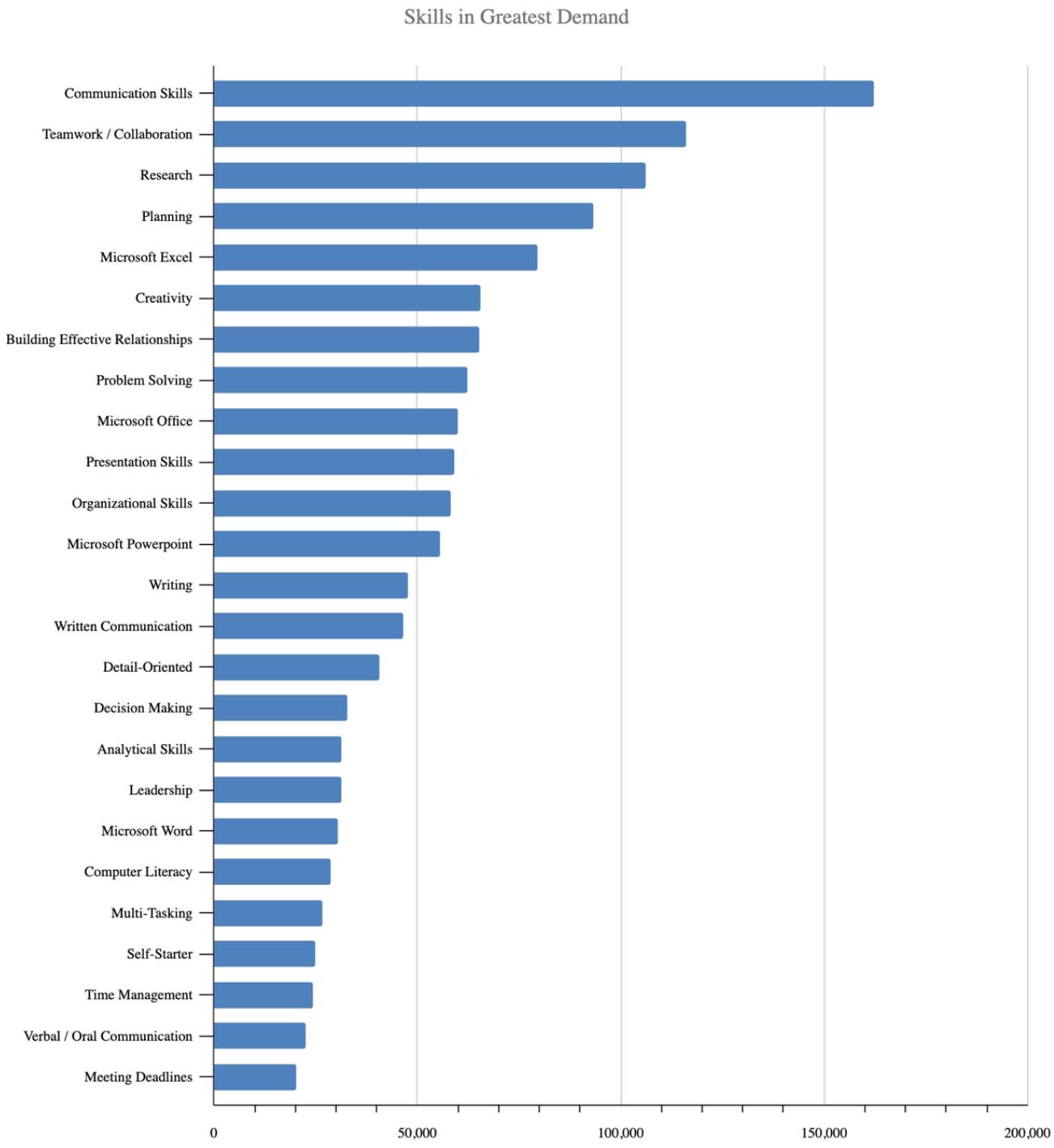

Figure 4. Baseline Skills in Greatest Demand for Dedicated CI Employees, January 2010 to June 2021

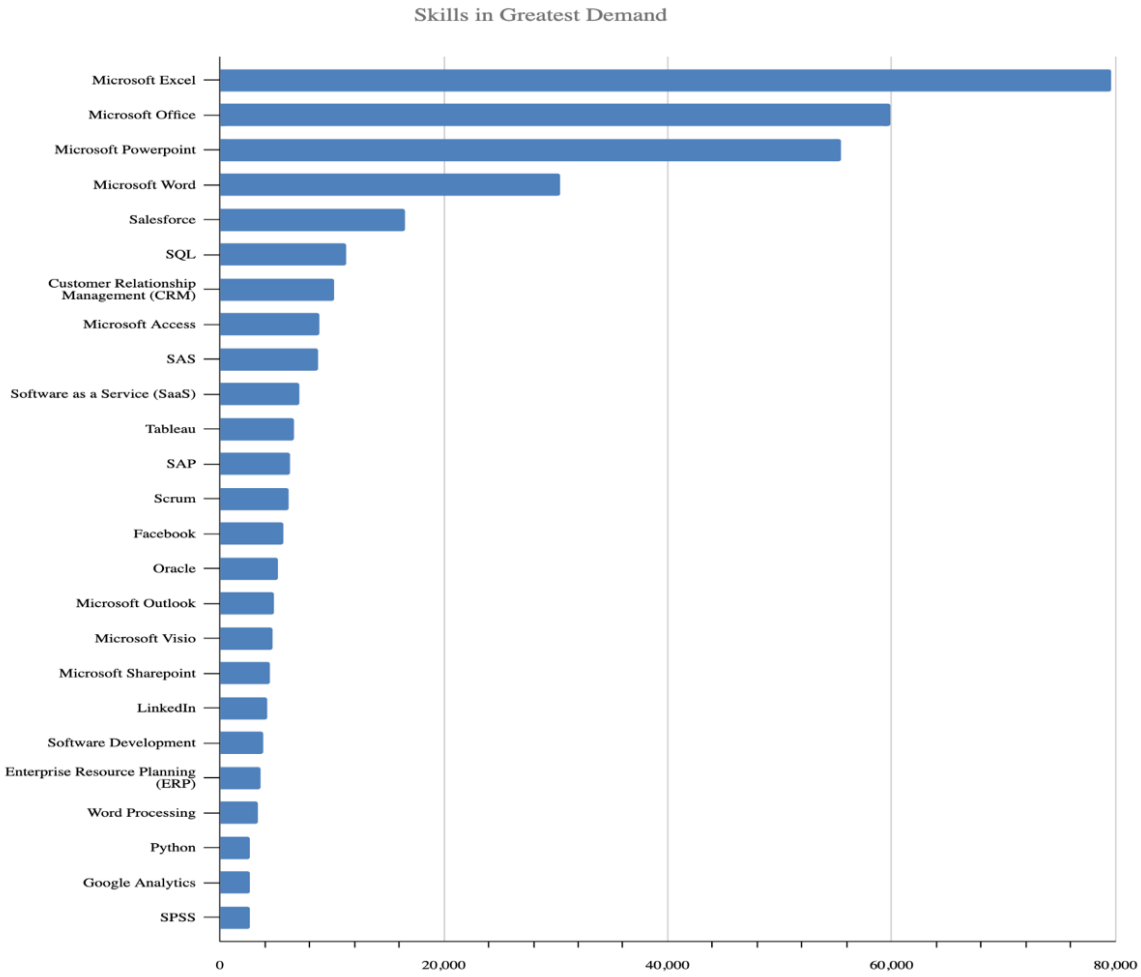

Figure 5. *Software Skills in Greatest Demand for Dedicated CI Employees, January 2010 to June 2021*

From this information, one can deduce that at a basic level, companies are looking for dedicated CI professionals who are solid communicators, are proficient with Microsoft Office, have hands-on research and competitive analysis experience, and thrive in team atmospheres. The definition Burning Glass uses for "Competitive Analysis" as a skill is "a method invented for analyzing online algorithms, in which the performance of an online algorithm… is compared to the performance of an optimal offline algorithm that can view the sequence of requests in advance" (Burning Glass, 2021). In other words, this skill is closely synonymous with the ability to conduct both online and offline competitor research. CI professionals can apply this information to guide personal development and highlight strengths. For instance, individuals can make sure there is a mention of previous competitive analysis experience on their resume. According to the data, this would be much more impactful than a reference to pricing or budgeting experience. This data also reveals that although proficiency in niche applications and skill sets such as Tableau and SQL is encouraged, it has not been required by most companies over the past ten years.

The Burning Glass data also provided insights into regional trends, depicting which areas of the United States over the past decade have driven the demand for dedicated CI.

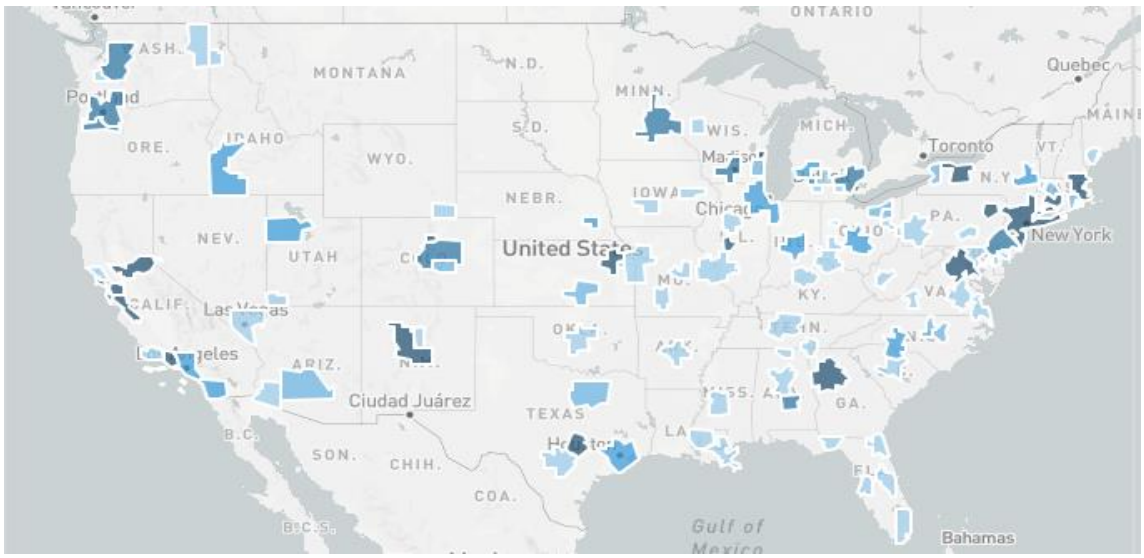

Figure 6. Concentration of Dedicated CI Job Postings in Metropolitan Areas, January 2010 to June 2021

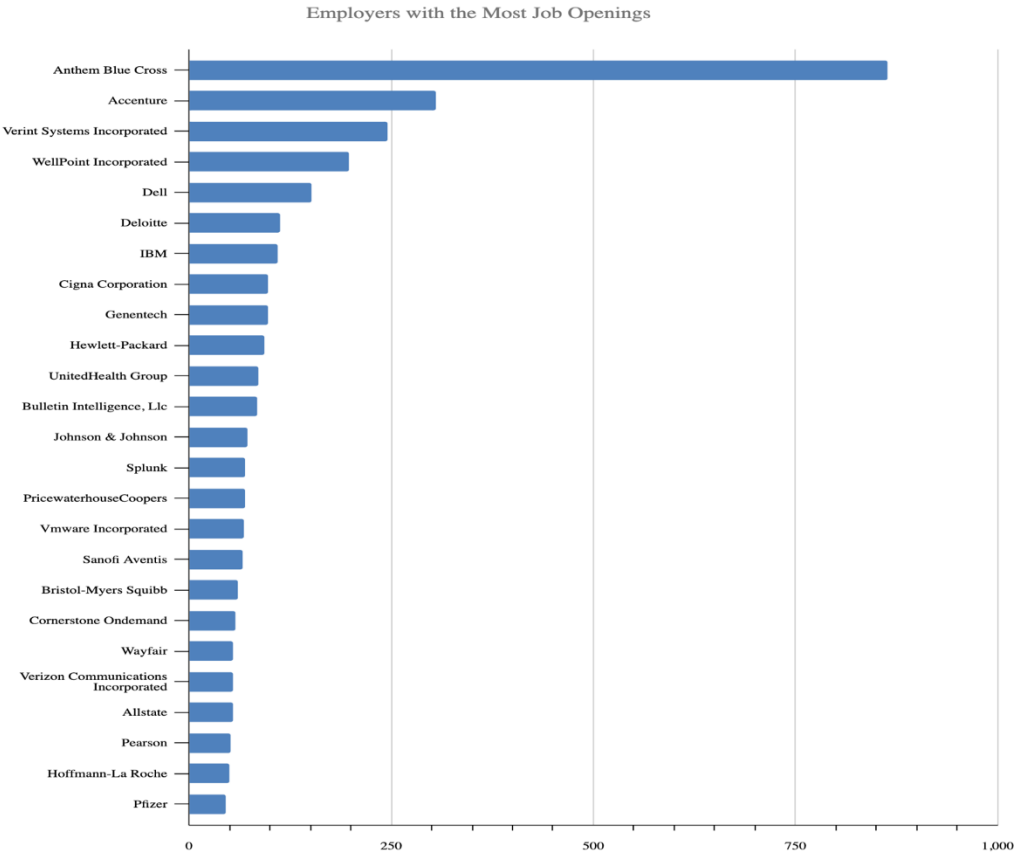

Figure 7. Top Employers with Dedicated CI Job Openings, January 2010 to June 2021

Figure 6 indicates the metropolitan areas with a much-higher-than-average amount of postings included San Francisco/Oakland, New York City/Newark/Jersey City, Boston, Washington, D.C., San Jose/Sunnyvale, and Austin. These concentrations match with the headquarters and footprint of companies who posted the most openings, in industries ranging from health insurance (Anthem Blue Cross) to software analytics (Verint Systems) to consulting (Accenture) to computer technology (Dell and Hewlett-Packard). With this information, one can deduce that over the past ten years, the demand for dedicated

CI has been driven by these industries, and the most opportunities for CI professionals are available in these metropolitan areas.

Competitive Intelligence as a Skill Set

The same analysis was conducted on 308,564 job postings from January 01, 2010 to June 16, 2021 where "Competitive Intelligence" was listed as a key word. For these jobs, an individual may not be considered a CI professional but is expected to perform CI in some capacity. The same decreases in job postings are evident in 2016 and again in 2020, as seen in Figure 8, though not as drastic as the dips experienced for dedicated CI positions (16.04% decrease in 2020 as opposed to 38.87%).

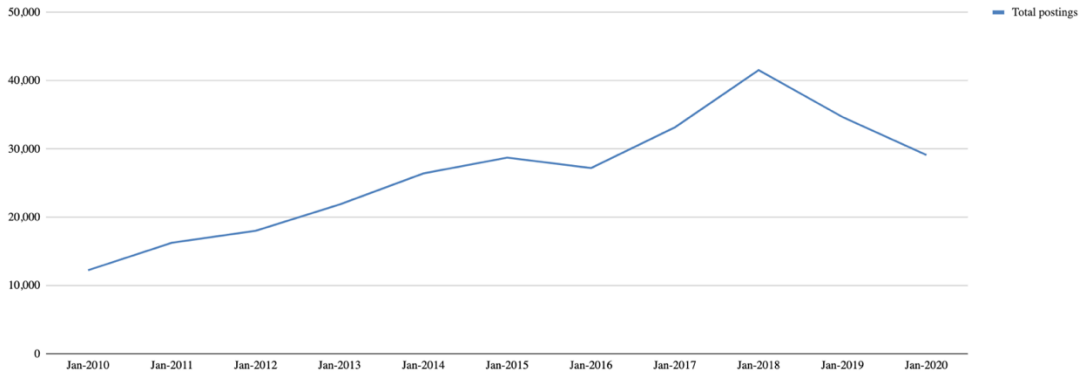

Figure 8. Time Series Analysis – Number of Part-time Job Postings Per Year, January 2010 – January 2020

Analysis revealed the top positions mentioning CI as part of job expectations were Marketing Manager, Business Development/Sales Manager, Sales Representative, and Product Manager. The following salaries and education expectations were revealed for this category:

Table 2. Market Salary Percentiles for Part-time CI, January 2010 to June 2021

25th Percentile	$46,978
50th Percentile	$72,486
75th Percentile	$98,523
90th Percentile	$122,476

Note. Market Salary is calculated using a machine learning model built off millions of job postings every year, and accounts for adjustments based on locations, industry, skills, experience, education requirements, and more (Burning Glass Technologies, 2021)

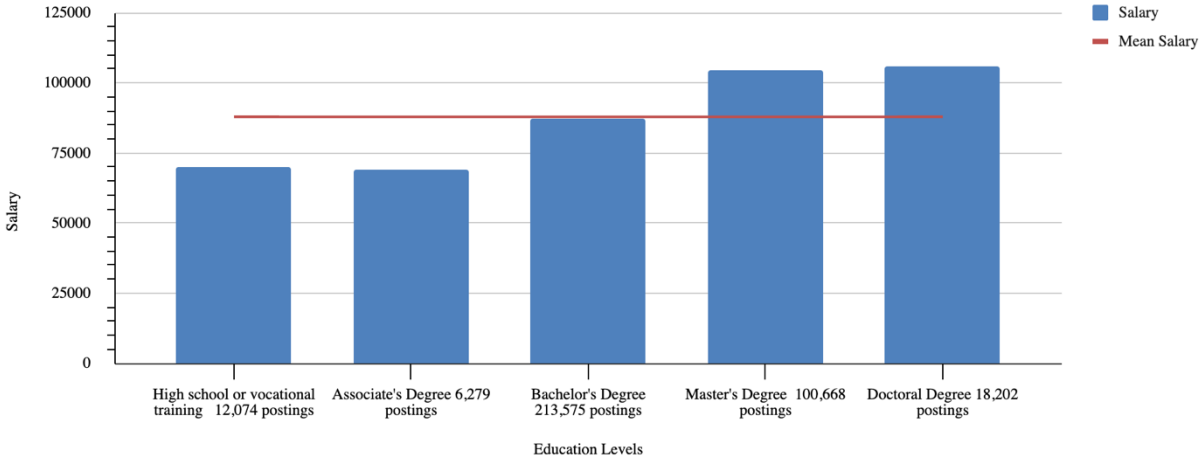

Figure 9. Advertised Salary of Part-time CI by Education Level, January 2010 to June 2021

Note. 94% of records have been excluded because they do not include both a degree level and salary information. As a result, the chart may not be representative of the full sample (Burning Glass, 2021).

By reviewing these results, one can see that for companies who would like their marketing, business development, sales, and product managers to possess some sort of proficiency in CI, individuals are expected to have a bachelor's degree and will likely earn an average salary of $72,486, depending on location. Those who hold a master's or doctorate degree can typically expect a higher salary. As for competency, the three charts below depict the general, soft, and technical skills that companies expect of these part-time CI professionals.

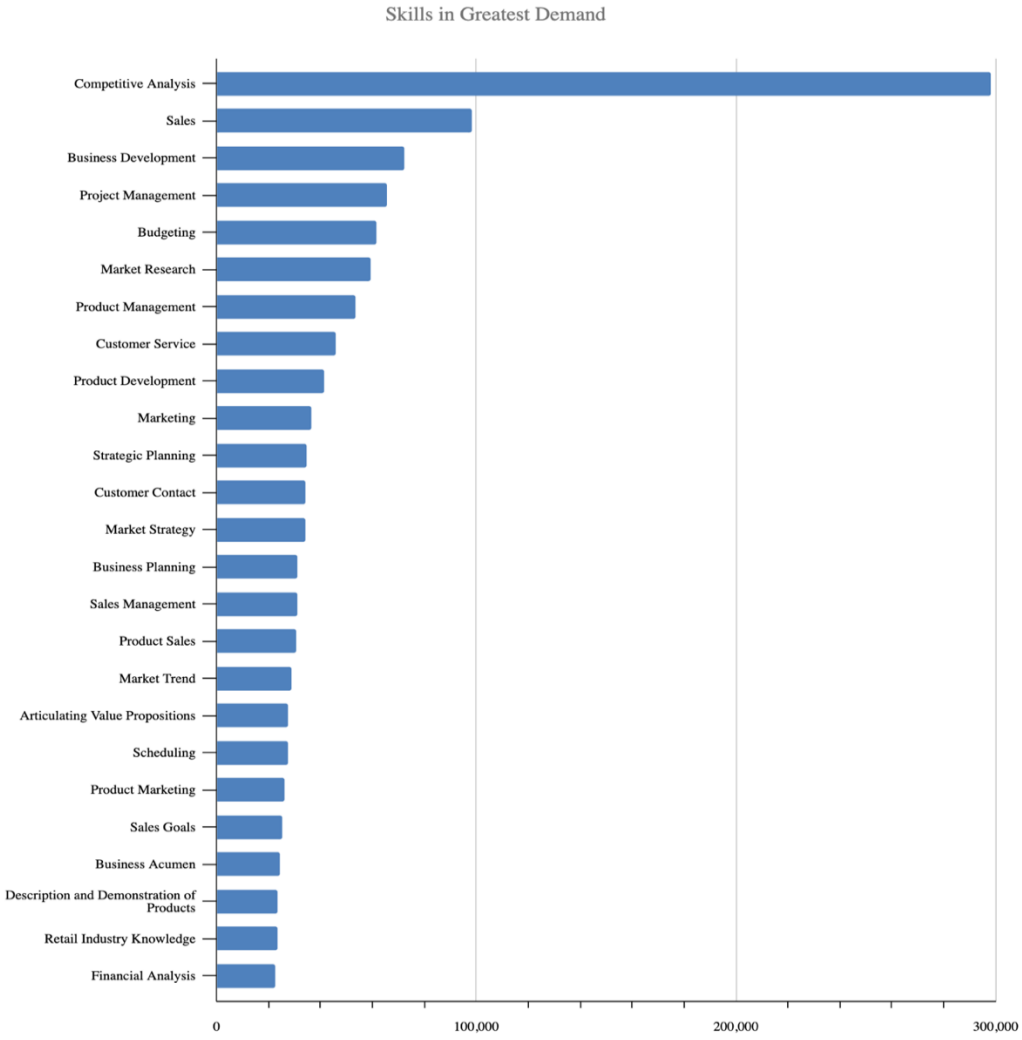

Figure 10. Specialized Skills in Greatest Demand for Part-time CI Roles, January 2010 to June 2021

As one may notice, the skill expectations are almost identical between full and part-time CI professionals. Those in marketing and sales who are expected to satisfy a CI function or provide CI inputs as part of their position are also expected to have some sort of competitive analysis experience, communicate effectively, be proficient in Microsoft Office, and work well in teams. However, there is a higher emphasis on sales experience for these individuals with research experience being less of a concern. This suggests that CI proficiency is expected for various other roles in the business career field, and should be regarded as a common ability that is not limited to those who are interested in a career path dedicated to CI.

The top metropolitan areas with a much-higher-than-average demand for marketing, business development, and sales managers who have the ability to practice CI are New York City/Newark/Jersey City, Chicago, and San Francisco/Oakland.

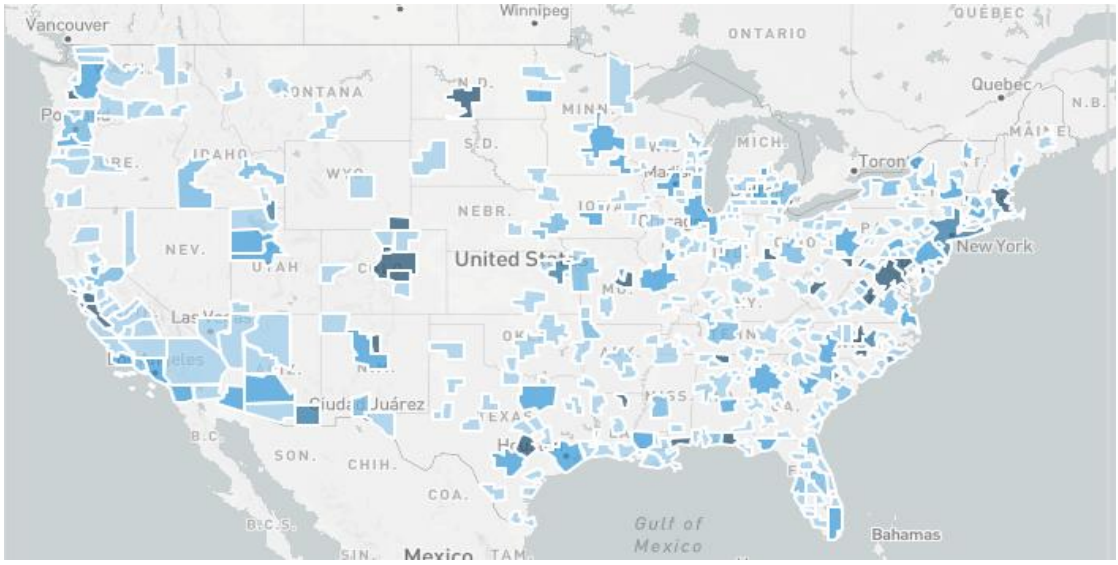

Figure 11. Concentration of Part-time CI Jobs in Metropolitan Areas, January 2010 to June 2021

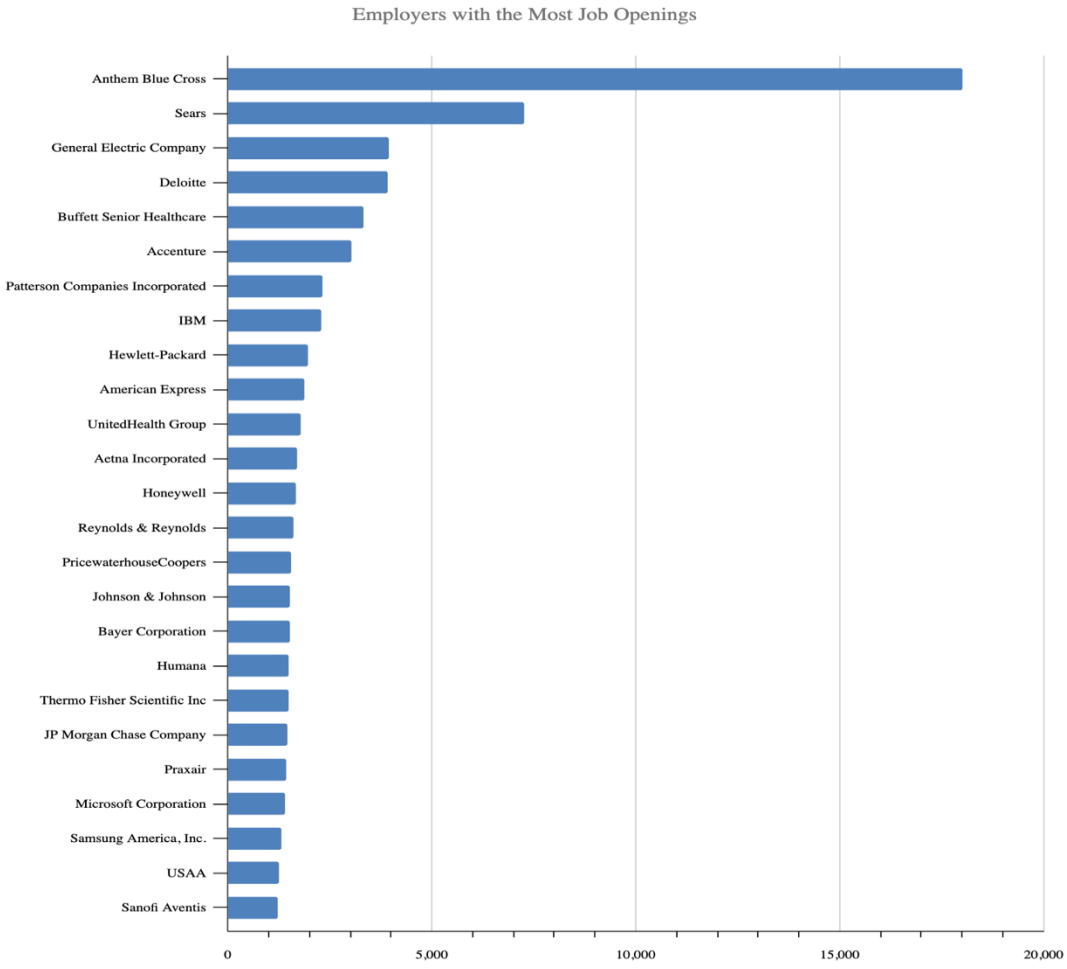

Figure 12. Top Employers Mentioning CI in their Online Job Postings, January 2010 to June 2021

Most companies who posted the greatest number of job announcements mentioning CI, apart from Sears in Chicago who was second behind Anthem Blue Cross in total postings and IBM who is headquartered in New York City, do not have headquarters located in these top metropolitan areas. The fact that consulting

companies Deloitte and Accenture posted the fourth and sixth great number of announcements could account for additional positions in New York City/Newark/Jersey City, Chicago, and San Francisco/Oakland.

This data also shows the industries of healthcare insurance and computer technology are clearly driving the demand for CI, as over half of the top twenty companies on the list fall into one of these two industry categories. However, medical supply, pharmaceutical, and financial companies also play a large role in demand. This data indicates these industries value marketing, business development, and sales representatives who possess CI skills, which is reflected by their highly competitive atmospheres.

Part II: Taking a Closer Look at the Full-time CI Professional – Using Changes in Job Descriptions to Identify Recent Trends

To gain a better understanding of recent changes that have occurred within the career field over the past two-to-seven years, secondary analysis was performed on smaller samples of job descriptions from 2016, 2019, 2021 and 2023. The range from April 18 to June 16 each year was purposely selected because according to Forbes, "Springtime has always been a smart time to seek out a new job… There is a pre-summer push for companies to search and recruit for talent. When summertime arrives, hiring traditionally slows down and the window of opportunities practically closes during August" (Kelly, 2021). These samples provide a near-accurate representation of an entire year's data; however, it is important to note that this data may not be fully representative of all job postings made that year.

To narrow the focus, this secondary analysis was performed only on those job postings with CI listed in the job title. Below are the total number of postings recorded for each time period:

Table 3. Tracking Changes in CI job descriptions from 2016 to 2023

	2016	2019	2021	2023
# of Ads	141	339	172	259
Data Science	0	4	4	8
Machine Learning	2	2	9	5
Analytics	20%	29%	38%	72%
Consulting	5%		7%	39%
Senior Positions	21%	17%	37%	51%
AI	0	3	18	5

From this initial count, one can see the number of postings more than doubled from 2016 to 2023, suggesting dedicated CI professionals have still been gaining momentum at companies across the board. However, a dip in postings with CI in the title took place from 2019 to 2021. As mentioned previously, one possible reason this may be the case is a result of hiring freezes during the COVID-19 pandemic.

According to Northeastern University (Miller, 2020), data science was named the number one job on Glassdoor from 2016 to 2020. Additionally, "the U.S. Bureau of Labor Statistics reports that the demand for data science skills will drive a 27.9 percent rise in employment in the field through 2026" (Miller, 2020). Despite this, there is no mention of data science yet in the 2016 job postings, suggesting this growing trend had not made its way into the CI professional's expected skill set. In 2019 and in 2021, data science was mentioned in four postings each. In 2023 though, the mentioning increased to

8. Although these numbers are quite small, upward trends in the importance of analytics are also prevalent, with job descriptions that mention analytics as part of the advertised role increasing from 20% in 2016 to 72% in 2023. These numbers suggest a data science background as a CI professional isn't being required by most companies today, but a growing emphasis on analytics may make data science more of an expectation in the future.

Consulting positions have also gained significant momentum recently. A jump from 5% to 39% over 7 years could suggest this type of CI role could be growing in the next three-to-five years with companies seeking strategic insight from their CI staff.

The emergence of AI and Machine Learning also shows an upward trend over the last seven years. The mention of machine learning techniques increased from two postings in 2016 and 2019 to nine postings in 2021 and 5 in 2023. However, we will need longer time horizon to confirm this trend.

Some trends, however, do not appear to have changed. Preferred degrees by companies have maintained the trend of industry-specific education and not necessarily CI-focused education. For instance, companies in the pharmaceutical industry prefer someone with a life science degree, and law firms are looking for CI professionals with law degrees. This unchanged preference suggests companies would rather have someone filling a CI role who is familiar with the competition and has niche background knowledge of customer insights, rather than a CI expert with no experience in the industry.

The experience level companies are looking for in their CI professionals also remains unchanged, with the majority of companies searching for individuals with three to six years of experience. In 2016, around 21% of job postings were seeking a senior- or director-level individual with more than seven years of experience. In 2019, that percentage dropped to 17%, and in 2021 jumped to just over 37%. These fluctuations are likely due to rotational hiring of senior positions within CI teams, however, the data might show companies are overall more interesting in the strength of a candidate's background than their experience level. For someone looking for a senior-level position, suggested searches on job sites should include the words "Principle," "Specialist," "Director," or "Lead" in the job title.

SUMMARY AND CONCLUSIONS

The above analysis provided the ability to view the CI profession through the lens of the employers by capturing national-level data covering almost all job announcements posted online over the past decade.

According to the data, the demand for CI has not yet recovered from its decline as a result of the COVID-19 pandemic, but increasing opportunities for consulting positions and rising employment rates may reverse demand in the coming months. The pharmaceutical, healthcare, and technology industries will continue to drive the CI job market in the near future, just as they have historically, with the heaviest concentration of roles in San Francisco and New York City.

Full-time or "true" CI practitioners should focus on gaining industry knowledge and should aim for specialized educational degrees that support this. Positions within a company that may require some level of CI but are not primarily dedicated to CI will likely fall under marketing, business development, and sales, where higher education can have more of an influence on salary. The top skills employers are looking for in both these positions are equivalent: solid competitive analysis and research experience, good communication skills, and the ability to work and collaborate in teams. Demand for data science and machine learning experience in job postings has increased over the past few years, though only slightly.

Even though the results weren't necessarily surprising, this information confirms various CI community suspicions regarding where the profession stands and where it might be headed. In addition, the results assist CI professionals in understanding what attributes and skills companies are looking for, helping the CI community define the true CI professional of today.

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